Questioning the Case for Free College

PRICES, FINANCIAL AID, AND STUDENT DEBT IN PUBLIC HIGHER EDUCATION

By **Jason D. Delisle**
with **Andrés Bernasconi** *and* **Preston Cooper**

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AMERICAN ENTERPRISE INSTITUTE

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Foreword

Federal free-college policies are now at the center of the Democratic higher education agenda. Sen. Bernie Sanders helped move the idea into the mainstream during the 2016 presidential campaign, and other lawmakers have since worked to advance the policy in Congress. Joe Biden effectively put free college on the ballot in 2020 when he fully endorsed Sanders' original proposal to give federal matching grants for states to provide free tuition at public colleges and universities. A Democratic victory in Congress and the White House in 2020 would all but guarantee that such a policy is enacted.

In response to the growing support for a federal free-college policy, I have assembled a collection of reports on the topic that were published over the past two years by the American Enterprise Institute, AEI's *National Affairs*, or the Brookings Institution. This research offers a critical look at the arguments that brought free college to the top of the national agenda. The reports also offer insight into the details and mechanics of the free-college plans and assess whether they would accomplish what their proponents claim. Many of the reports identify unintentional but significant trade-offs of a national free-college program.

The first report in this compilation, "The Cost of Free-College Plans," which appeared in the spring 2020 edition of *National Affairs*, offers an overview of the basic design of federal free-college proposals like those advanced by Sanders and Biden. It highlights that these plans would be optional for states and then explores the complications that this key feature entails. The report also details how the federal government would match state spending on free college under these plans and how that design would interact with existing financial aid programs. Lastly, it uncovers surprising features of some of these plans, such as the requirement that states cover much or all of students' living expenses while enrolled, not just their tuition.

The second report, "Evidence Against the Free-College Agenda: An Analysis of Prices, Financial Aid, and Affordability at Public Universities," which was originally published by AEI in May 2020, explores a key claim underlying the free-college agenda: whether rising college tuition prices are as severe as proponents believe. The evidence presented in this report reveals that tuition prices are much lower than advocates allege. In fact, after factoring in historic increases in financial aid provided directly to students, tuition has remained almost flat at public colleges and universities since the mid-1990s.

The third report in this volume, "Free College and the Debt-Free Fantasy," also published by AEI, examines another argument that free-college proponents make. In their view, rising tuition prices at public colleges are a major cause of the rapid increase in outstanding student debt over the past two decades, which now stands at over $1.5 trillion. Free college is supposed to solve this so-called student debt crisis. However, no more than 15 percent of the student loans made each year are issued to the students who would qualify for federal free-college policies. Most student debt is issued to graduate students and students attending private undergraduate institutions, groups that would not be eligible for free college under any of the most prominent free-college proposals. Free college is thus unlikely to have much of an effect on the student debt crisis, contrary to what its proponents have promised.

The last two reports in the volume, "Lessons from Chile's Transition to Free College" and "International Higher Education Rankings: Why No Country's Higher Education System Can Be the Best," provide an international perspective to the free-college debate. Chile's transition to free college

in 2016 is a particularly useful case study for US reformers because the country's higher education system shares many features with the US, such as relatively high tuition and generous means-tested student aid policies.

The last report looks at the bigger picture of international free-college policies by using data from the Organisation for Economic Co-operation and Development. It illustrates how different values that policymakers pursue in higher education systems often work at cross-purposes. Countries that pursue free-college policies tend to ration access to universities to keep government costs down, and these countries tend to produce fewer citizens with postsecondary credentials. Countries where colleges and universities charge tuition, on the other hand, produce more degrees, as tuition revenue allows them to expand capacity and serve more—not fewer—students.

The findings and themes in this volume should give policymakers pause as the free-college agenda gains momentum. The current pricing and financial aid system in the US appears to be working much better than free-college advocates claim. To be sure, there is much room for improvement in the existing college financing system, but its underappreciated successes point to more moderate reforms, not the sweeping changes envisioned in free-college proposals. Moreover, many of the reports in this compilation suggest that the trade-offs and unintended consequences that arise from free college could exact a heavy toll on the US higher education system. In fact, free college may not leave most students better off in the end.

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The Cost of Free-College Plans

Jason D. Delisle

This report was originally published in National Affairs *in spring 2020.*[1]

Free college has become a mainstream progressive policy idea. What started as a fringe proposal from Sen. Bernie Sanders in 2016 became a plank in the platforms of a number of Democratic presidential contenders in 2020. In addition to Sen. Sanders, Sen. Elizabeth Warren and Mayor Pete Buttigieg enthusiastically endorsed a federal policy to make public four-year colleges and universities tuition free. Democratic lawmakers in the House and Senate have also sponsored bills to advance such policies, such as Sen. Brian Schatz's (D-HI) Debt-Free College Act, which many of the 2020 Democratic presidential candidates cosponsored. Meanwhile, left-of-center think tanks, advocacy groups, and philanthropic foundations are building support for free-college policies. Should Democrats pull off a major electoral victory in 2020, free college will be at the top of their agenda.

The details of the free-college plans vary, but they share the same basic design. Under what proponents call new "federal-state partnerships," Washington would match state spending to completely subsidize tuition at public colleges and universities for in-state students. Participation in these new partnerships would be optional for states, and they could opt in only if they agreed to meet a range of new federal requirements.

These plans share the same central feature because they are motivated by the same definition of the problem. Their proponents argue that the root cause of runaway college prices is inadequate funding from state governments, a problem that cannot be solved by simply expanding existing forms of federal grant aid. They believe that more federal money, without strings attached, will only give states license to further "disinvest" in their universities, and tuition prices will continue to climb. In their view, therefore, a federal matching grant that requires states to boost university funding—enough to bring tuition to zero—would solve the problem. (Nearly all of these plans cover community colleges and four-year institutions, but this discussion will be limited to the provisions that apply to four-year institutions.)

Thus far, conservatives have responded to these proposals by challenging the merits of free college generally. They say free college would be wasteful because not everyone should pursue a bachelor's degree. Or they argue that the policy is akin to Robin Hood in reverse because working-class taxpayers would underwrite college degrees for their higher-earning peers. Perhaps these arguments will resonate with voters and carry the day, but they are abstract and ignore deeper problems with the free-college agenda.

A more compelling critique would take up the details of these plans and the diagnosis in which they are rooted. In fact, existing financial-aid policies are working much better than the free-college advocates acknowledge. Reformers would do well to expand on our current system's underappreciated successes through incremental changes rather than layering on a vast new system of matching grants and price controls that stands to introduce a host of unintended consequences.

Disinvestment and Aid

Free-college advocates place much of the blame for rising tuition on state governments. States typically fund their university systems with annual appropriations to offset some portion of what students would

otherwise have to pay to cover the full cost. These appropriations averaged $7,853 per full-time student in 2018. Free-college proponents argue that states have cut (or failed to adequately increase) these funds to such a degree that institutions of higher education have no choice but to raise tuition to cover their costs. In theory, matching grants would convince states to increase direct funding to public universities and bring tuition prices to zero.

Most observers accept that inadequate funding is the main culprit behind rising tuition at public universities. And state funding surely plays a role. But there is more to the story than advocates have let on. As Andrew Gillen of the Texas Public Policy Foundation has shown,[2] the claim is often based on cherry-picked periods, such as the years during and immediately after the recession in 2008. Those making this claim also tend to base their analyses on an unconventional measure of inflation that gauges university expenses, not a broad set of prices like the Consumer Price Index or the Personal Consumption Expenditures Price Index (PCE). Using a higher rate of inflation underestimates how much states have actually increased their budgets for universities.

Correcting for these distortions reveals that state funding on a per-student basis is substantially higher today than in 1980, the earliest year for which data are available. (This report adjusts for inflation using PCE.) Today's average is $1,600 higher per student in inflation-adjusted terms than the $6,171 that states provided in 1980, but it is about $700 below the two peaks in 2001 and 2008 that followed periods of strong economic growth. Current funding is also more than $1,400 above the recent low in 2012 that followed the Great Recession. In other words, state appropriations to colleges and universities tend to rise and fall with economic cycles, but the long-term trend does not show a steady decline in funding on a per-student basis.

The argument that state-disinvestment critics are actually making, albeit implicitly, is that state funding has failed to keep up with public universities' spending. While state funding has indeed increased, even after factoring in inflation and rising enrollments, the underlying cost of higher education has grown faster still, which has fueled tuition increases. Free-college proponents view these rising costs as a problem to be solved with more government funding. Under their proposals, the growing difference between what universities spend and what states have provided in appropriations would now be fully covered by a new federal-state matching-grant program.

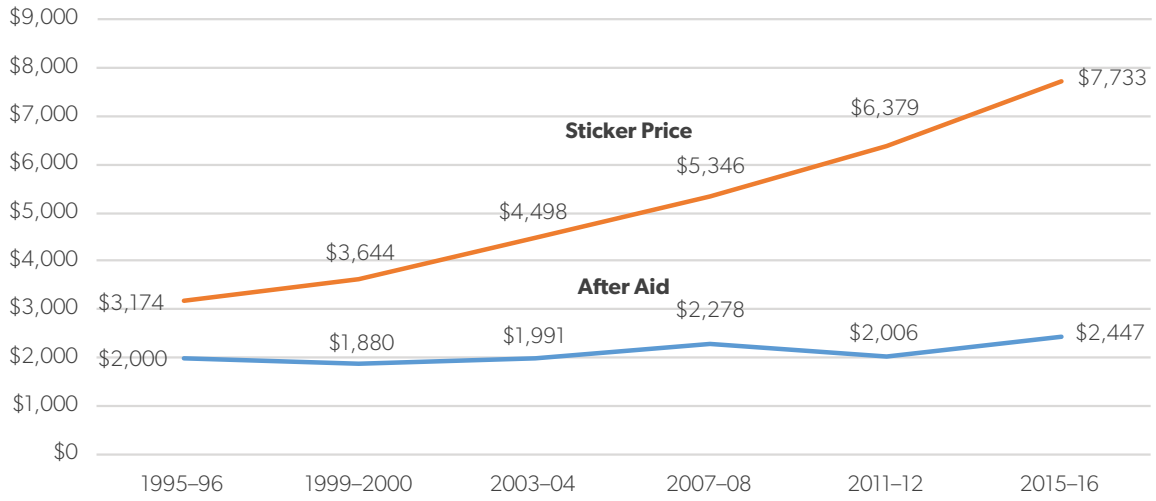
This emphasis on state appropriations in the free-college debate obscures the many sources of aid available to students and ignores what students actually pay after this aid is taken into account. State governments operate grant programs, separate from their direct funding to universities, that can provide thousands of dollars in aid to individual students; the Georgia HOPE Scholarship is just one example. Universities themselves also offer tuition discounts and grants to certain students. And the federal government offers its own financial-aid programs, such as the Pell Grant and tax credits that offset tuition expenses.

The state-disinvestment narrative—and the broader public discourse about rising college prices—often ignores these sources of aid. Instead, the debate focuses on the "sticker price" that colleges charge, even though few students actually pay this amount. The sticker price is what a university advertises after direct state funding has reduced the price but before any grants, scholarships, and tax credits are factored in.

On average, sticker prices at public universities have increased dramatically over the past two decades. For in-state students from families earning less than $125,000 a year, the group that many free-college proposals target, sticker prices have more than doubled since the mid-1990s after factoring in inflation. (Because some free-college proposals do not include income limits but others do, this analysis will focus on students from families earning less than $125,000 as a general set of beneficiaries.) A year of tuition for these students averaged $3,174 in the 1995–96 academic year, the earliest year for which detailed data are available from the US Department of Education's National Postsecondary Student Aid Study.[3] (This and all figures in the remainder of this report are in 2015 dollars.) Twenty years later, average tuition had increased to $7,733.

Taken by itself, such an increase might justify a major new policy like the ones free-college

Figure 1. Average Tuition and Fees at Public Universities for In-State Students from Families Earning Less Than $125,000 by Academic Year



Note: Figures are in constant 2015 dollars. Aid includes grants, scholarships, discounts, and federal tax credits or deductions for tuition, but not loans. It includes prices for all bachelor's degree students, including those attending less than full-time. The figure and statistics on sticker and net tuition ("after aid") prices have been slightly revised to correct for a minor error in the original version published in *National Affairs*.
Source: Author's calculation using the National Postsecondary Student Aid Study.

proponents have proposed. But the many sources of aid that are currently available to students to finance that sticker price, including grants, tuition discounts, and tax credits (but excluding student loans), have also increased at a rate that greatly exceeds inflation.

In the 1995–96 academic year, the students whom today's free-college proposals typically target received about $1,500 annually in financial aid. By the 2015–16 academic year, the amount had grown to over $6,000. Specifically, average tuition and fees after aid were $2,447 in the 2015–16 academic year, just slightly higher than the $2,000 students paid for a year of tuition and fees 20 years earlier. It turns out that the substantial increase in sticker prices at public universities, which is a major justification for free-college proposals, has been almost completely offset by a commensurate rise in student aid. The problem that free-college proposals seek to solve with a new source of federal funds has already been mostly solved.

Figure 1 shows the average sticker price and net price (after student aid is applied) for the academic years covered by the quadrennial National Postsecondary Student Aid Study. In addition to showing little change in the average net price, it also reveals that net prices actually dipped following the Great Recession that ended in 2009. This runs counter to another narrative that free-college advocates advance: They argue that state funding cuts made around this time caused students to pay higher tuition, yet the net price data show nothing of the sort. Ironically, free-college supporters also argue that federal matching grants are needed to guard against the harmful budget cuts that states forced on public universities during the last recession, thereby protecting students from tuition hikes. Increases in other forms of student aid have accomplished exactly that on their own.

To be sure, the group of students discussed here has become slightly poorer over time, with average incomes about $4,000 lower in 2015–16 than in the mid-1990s. In theory, that should boost their overall eligibility for student aid, which would put downward pressure on average net prices and mask tuition increases in the data. But those demographic changes do not fully explain why there has been so little growth in net prices. Compared to the mid-1990s, students with similar incomes tend to qualify for

more aid today whether they are poor or middle class. Financial aid has simply become more generous for a wider range of students.

While all forms of aid have grown, the federal Pell Grant and tuition tax credits have done the heavy lifting to keep net prices down. They accounted for nearly 60 percent of the increase in aid for students from families earning less than $125,000 who attended in-state universities. These students received about $600 on average in federal aid in the mid-1990s, mainly in Pell Grants. Twenty years later, average aid had increased to about $3,200, with approximately $1,000 from new tax benefits such as the American opportunity tax credit. In addition to increasing the size of these benefits, policymakers also raised the income caps for eligibility, allowing more middle-class families to access aid.

The twin trends of rising student aid and relatively flat net prices have not, however, applied to all college students. That may be the key to understanding the disconnect between the data presented here and the view that colleges and universities have become increasingly unaffordable.

This analysis has thus far been limited to students attending in-state public universities who are from families with incomes less than $125,000, the core group of students that free-college policies tend to target. The picture changes considerably when looking at the prices students from families with incomes *above* $125,000 paid at all types of institutions of higher education. After adjusting for inflation, average annual net tuition for these students has increased from approximately $9,000 in the mid-1990s to just under $13,000 in recent years. In other words, students from high-income families have experienced tuition increases about nine times larger than their low- and middle-income peers at public universities.

This is partly because high-income families are far less likely to qualify for the types of aid that have been instrumental in keeping tuition increases in check for other students. They are also more likely to attend the most expensive institutions of higher education where price increases have been the most pronounced: private colleges, elite and selective institutions, and out-of-state public universities. This might explain why the narrative about sharply rising college prices dominates popular discussion despite what the data show for low- and middle-income students at in-state public universities. Those driving the narrative are likely focused on a narrow and elite set of students who have indeed seen prices rise significantly.

That may be the greatest irony of the free-college agenda: It appears to be a response to the rising prices that high-income families are paying, while the students that the policies are intended to benefit have seen little change in net tuition prices in 20 years.

First or Last Dollar

Many observers may be surprised to learn that net tuition prices averaged just $2,447 in recent years for the students whom most federal free-college policies would target. The fact that net prices at public universities are relatively low actually makes implementing a free-college policy less radical than it might seem. About 42 percent of the students whom most federal free-college policies target already have all their tuition offset by various forms of student aid. That is double the share in the mid-1990s. Theoretically, it would not take much in budget resources to cover the "last dollar" and bring tuition to $0 for the remaining students—or it would cost less than many observers assume.

Several states have created their own free-college plans to do just that. New York's Excelsior Scholarship, launched in 2017, uses state funds to pay the last-dollar amount needed to bring tuition down to zero if the student attends a public university and meets other requirements. Tennessee's Promise Scholarship does the same, but only at public two-year schools and community colleges. These states have found that, due to the substantial aid already in place, covering the incremental tuition dollars needed to make a public college free is not out of their fiscal or political reach.

Most federal proposals for free college are not, however, last-dollar programs, as they are in New York, Tennessee, and other states. They are *first*-dollar programs that require states to fully cover students'

tuition before factoring in grants and scholarships. This is what Sens. Sanders and Warren proposed, and the minimal details Mayor Buttigieg released imply this is also how his plan would have worked. In addition to greatly increasing the costs of the proposals to both the state and the federal governments compared with the last-dollar approach, the first-dollar approach frees up existing financial aid to cover students' living expenses.

A stylized example helps illustrate these effects. Consider a student who is charged a $6,000 sticker price for a year of tuition. Suppose he receives a $4,000 Pell Grant as his sole source of financial aid. In a last-dollar program, the state government must use matching-grant funds to cover the remaining $2,000 in tuition expenses that this student would otherwise pay out of pocket (or with loans). In a first-dollar program, the student's grant cannot count toward the state meeting the free-tuition requirement. The state must cover the full $6,000 with its own funds and the new federal matching grant. In this example, the first-dollar approach triples the cost of the free-college policy for both governments. It also lets the student use his $4,000 Pell Grant for living expenses now that he no longer incurs tuition charges.

Converting the Pell Grant into a stipend for living expenses is actually a key purpose of first-dollar free-college plans. As Sen. Warren puts it, "We need to go beyond just covering the cost of tuition and fees. Non-tuition costs of college like room and board and books have been going way up, too."[4] Covering these costs with Pell Grants, she says, will allow students to graduate debt free. Half of the students whom free-college policies would target currently receive a Pell Grant at an average value of about $4,200. Mayor Buttigieg and Sen. Warren proposed to increase the maximum Pell Grant by $1,000 and $1,500, respectively, for full-time students to boost the share of living expenses covered. Notably, that still leaves students responsible for a significant share of such expenses, which average about $12,000 nationally.

Sen. Sanders' policy takes these stipends a step further. Under his plan, many students would have their living expenses entirely covered with state and federal funds. Specifically, states must use the matching grants to waive all tuition costs and fully subsidize living expenses for students who qualify for the maximum Pell Grant. These students generally come from families with incomes below $30,000. A shockingly large share of students at in-state public universities would meet this definition. About 38 percent have incomes below $30,000, in part because many are classified as independent of their parents. This provision also features a steep eligibility cliff. A student with average living expenses whose income exceeds the cutoff for the maximum Pell Grant would lose out on the full $12,000 stipend and receive just under half that in a Pell Grant instead.

Another prominent free-college plan takes stipends beyond the levels proposed by any of the presidential candidates. Sen. Schatz's Debt-Free College Act, which four Democratic presidential candidates cosponsored, is built around a federal-state matching grant like the other proposals. But Schatz would not cap prices at $0. Instead, universities in participating states would be forced to limit the total cost of attendance (which includes tuition *and* living expenses) to the students' expected family contributions (EFC), which appears to be a reference to the existing federal formula for awarding Pell Grants based on income and assets.

The size and scope of this policy is astounding. It would apply to all students who receive a Pell Grant, fully half of in-state students at public universities who are from families earning less than $125,000. Moreover, the EFCs of these students averaged just $900 in recent years, which is all that universities could charge them for the total cost of attendance under this plan. The University of California, Berkeley, and California State University, Fullerton, would both cost $900 per year for students with that EFC, despite Berkeley listing a $32,000 cost of attendance compared with Fullerton at $23,000.

The Schatz plan effectively turns the federal EFC formula into a national pricing schedule for universities, one that ignores the many justifiable reasons why public universities charge different prices. It also sets prices so low that many students will have not only their tuition covered but most of their living expenses as well.

What Could Go Wrong?

That the free-college proposals place so much emphasis on covering students' living expenses seems out of step with the problem they claim to address. Reversing state disinvestment was never about addressing a decline in funding for living stipends; states have never broadly provided living stipends for college. These provisions are nothing less than a paradigm shift in US higher education policy. As such, they are a costly experiment that merits more debate, especially about the unintended consequences such policies may unleash.

Covering most or all of students' living costs would radically change the incentives students face in deciding whether, how, where, and for how long to pursue a higher education. In a way, these policies would pay students to attend college—though only at in-state public universities. They also seem like an invitation for wasteful behavior or even outright abuse.

For students who live off campus, large stipends will need to be provided as refund checks that they can use to meet their expenses, as is the case under current financial-aid policies. The incentive to enroll and collect one of these refund checks, whatever a student's ambition and career interests, would be significant under this proposal. It could also create an incentive for students to wait until they are older to pursue college so they can be classified as financially independent, bringing their incomes below the threshold and qualifying them for an average $12,000 living stipend. Even the extreme gaming recently profiled in the *Wall Street Journal*,[5] by which parents transferred guardianship of their children to poorer relatives or acquaintances to qualify for more student aid, seems reasonable when eligibility for a $600 Pell Grant triggers a full-ride scholarship to any in-state public university—as could happen if the Schatz proposal were enacted.

State governments would also face counterproductive incentives under these plans. States that have historically provided relatively little funding to their public universities, like New Hampshire, will have to dramatically ramp up their spending to participate in the free-college programs. Even with federal matching funds, this may prove to be too much of a reach. States on the other end of the spending spectrum, like California, might be more likely to support plans for tuition-free universities to pick up new federal matching funds. If high-tuition states do not opt into the free-college plans and low-tuition states do, the policy may actually exacerbate existing affordability gaps. The federal government would be financing an effort to reduce the cost of college in states where it was already the most affordable while changing nothing in states where it is least affordable.

There would also be unintended consequences if the policy encouraged the opposite response. Matching the funds that states spend to achieve free college relative to what they spend today, as many plans would, rewards states that have historically spent the least on their public universities. That means the states with the furthest distance to travel to reduce tuition to zero would receive the largest federal matching grants and reap a financial windfall. Kevin Carey of the left-leaning think tank New America argues in the *Washington Monthly* that this problem is serious enough to cause the whole policy to collapse. It may even doom the policy from the start. As Carey puts it, "Members of Congress in states that more generously subsidize higher learning would rebel."[6]

States that opt into one of these proposed plans might also game the new matching-grant system. There are no ceilings on the matching grants, and some of the proposals even explicitly say that states will receive separate matching funds for any additional amount they decide to spend on their higher education systems. A creative state legislature or public university might recategorize a wide range of programs and initiatives as part of the cost of operating a public university system. Of course, that would lead federal policymakers to become ever more prescriptive about what is and is not an allowable expense under the matching-grant program, centralizing higher education policy in Washington, DC.

This dynamic is already on display in the proposals, and it is surely just the beginning. For example, the Sanders plan aims to prevent universities from

hiring more adjunct faculty as a cost-saving measure to make up for lost tuition revenue. Sanders would also prohibit federal matching funds from financing athletic facilities, although he explicitly lists office space as an allowable expense.

Sen. Schatz does not mince words when it comes to centralizing policy in Washington. His bill language plainly states that a "state that receives a grant under this part to establish a State-Federal partnership may not impose additional eligibility requirements on students other than those contained in this part."[7] Federally funded free college will almost certainly transfer to Congress and the federal Department of Education many policy decisions that have historically been the purview of states and universities.

Surprisingly, none of the proponents of the free-college plans seem worried that states may aggressively enroll out-of-state and international students to help offset lost tuition revenue. Could it be that free-college supporters draw the line for federal overreach at a national policy dictating universities' out-of-state enrollment policies?

Free-college proponents also seem unaware that state spending on public universities might erode over time under these policies despite access to additional federal funds. While states would be prohibited from cutting funding below current levels, none of the plans require that states increase their funding at all. Should state legislatures let funding for public universities stagnate for long periods, the educational quality could suffer. Stagnant funding might also cause them to reduce overall enrollment and then tighten their admission policies, reducing access to higher education, particularly for low-income students.

This is not mere theory. Data from the Organisation for Economic Co-operation and Development show that countries with the most heavily subsidized university systems tend to have lower rates of degree attainment. Universities in these countries are beholden to the government for nearly all their revenue, and there is significant competition for those funds. As such, total resources for higher education are more limited than if universities could charge tuition. And when resources are constrained, capacity at universities tends to shrink, leading to fewer degrees.

For example, Finland's universities are free, but they also reject two-thirds of applicants, a rate on par with only a handful of the most selective public institutions in the US. It is surely no coincidence that Finland scores well below average among developed countries in producing college graduates. Australia and England abandoned their free-college policies in the 1980s and 1990s, respectively, when it became clear that the selective admissions policies that tend to go hand in hand with free-college policies were preventing many students from earning degrees—and that most of them were from economically disadvantaged backgrounds. Their decision to charge tuition, it turned out, increased resources available to universities, which allowed them to increase access to higher education with more seats and targeted student aid, especially to students from historically underserved populations. Both countries now rank near the top among developed nations for higher education attainment.

Germany, which has gone in the other direction, offers additional warnings for free-college proponents. The country reinstated free tuition after briefly abandoning it in the mid-2000s, and while enrollment at universities subsequently increased, the government hasn't provided universities with a commensurate budget increase. Unable to charge tuition to cover the higher costs, universities are now "starved for funding," as higher education journalist Jon Marcus put it.[8] The result is overly crowded lecture halls, increased reliance on underqualified adjunct faculty, and woefully outdated infrastructure. And Germany still has low overall degree-attainment rates. Americans would surely bristle at these unintended consequences of free college. Like the Australians and English, they might even come to see tuition as a feature rather than a flaw, if it is coupled with targeted student aid.

A Better Way

The biggest danger of free college is that many of the proposals abolish the existing student-aid system on the misguided premise that it has failed. Twenty years of data show that targeted financial-aid programs have kept average in-state tuition nearly constant for students from low- and middle-income families. Moreover, large increases in federal Pell Grants and tax credits for families during the Great Recession fully offset the effects that state budget cuts would have otherwise had on the tuition prices at public universities.

This suggests that the existing framework of financial aid is capable of solving the problems that the free-college proposals aim to address—keeping college affordable for those with the least resources to pay tuition. Reformers should consider incremental changes to this system instead of the radical transformation envisioned in the federal-state matching-grant approach. To be sure, this will require an increase in federal aid to students and families and a further transfer of higher education financing from states to the federal government. But that is far more moderate than the larger federal role that would result from a new matching-grant plan.

This approach also avoids the unintended consequences that are sure to arise under the matching-grant proposals. That is crucial given that some of those consequences run counter to the worthy goals that free-college supporters aim to achieve, such as greater access to high-quality higher education. Furthermore, incremental increases in the existing federal student-aid system would not preclude individual states from pursuing their own free-college programs tailored to their own populations, as some are doing now. It would actually make those policies easier for states to adopt by closing the distance to free tuition. Finally, all states are treated equally under today's system, which would not be the case under the matching-grant proposals. Students in states that opt not to provide free college would still qualify for any increase in federal aid, as it is not conditioned on new state policies.

Ultimately, free-college proponents want to move our higher education system away from an approach that has worked well and that offers a sound foundation for incremental reforms. The secret behind much of its success is that it aims to charge families what they can afford for a college education. That should be a feature that reformers on the left and right strive to preserve.

Notes

1. Jason D. Delisle, "The Cost of Free-College Plans," *National Affairs* 44 (Summer 2020), https://www.nationalaffairs.com/publications/detail/the-cost-of-free-college-plans.

2. Andrew Gillen, "The Myth of State Disinvestment in Higher Education," Texas Public Policy Foundation Policy Perspective, October 2019, https://files.texaspolicy.com/uploads/2019/10/21124414/Gillen-The-Myth-of-State-Disinvestment-in-Higher-Education.pdf.

3. Author's calculations using US Department of Education, Institute of Education Sciences, National Center for Education Statistics, "National Postsecondary Student Aid Study (NPSAS)," 1995–96 and 2015–16, https://nces.ed.gov/surveys/npsas/.

4. Elizabeth Warren, "I'm Calling for Something Truly Transformational: Universal Free Public College and Cancellation of Student Loan Debt," Medium, April 22, 2019, https://medium.com/@teamwarren/im-calling-for-something-truly-transformational-universal-free-public-college-and-cancellation-of-a246cd0f910f.

5. Douglas Belkin, "College Financial-Aid Loophole: Wealthy Parents Transfer Guardianship of Their Teens to Get Aid," *Wall Street Journal*, July 29, 2019, https://www.wsj.com/articles/college-financial-aid-loophole-wealthy-parents-transfer-guardianship-of-their-teens-to-get-aid-11564450828.

6. Kevin Carey, "What Sanders and Warren Get Wrong on Free College," *Washington Monthly*, July/August 2019, https://washingtonmonthly.com/magazine/july-august-2019/what-elizabeth-warrens-free-college-plan-gets-wrong/.

7. Debt-Free College Act of 2019, S. 672, 116th Cong., https://www.congress.gov/bill/116th-congress/senate-bill/672/text?q=%7B%22search%22%3A%5B%22s.+994%22%5D%7D.

8. Jon Marcus, "How Free College Tuition in One Country Exposes Unexpected Pros and Cons," Hechinger Report, October 18, 2016, https://hechingerreport.org/free-college-tuition-one-country-exposes-unexpected-pros-cons/.

Evidence Against the Free-College Agenda

AN ANALYSIS OF PRICES, FINANCIAL AID, AND AFFORDABILITY AT PUBLIC UNIVERSITIES

Jason D. Delisle

This report was originally published by the American Enterprise Institute in May 2020.[1]

The 2020 Democratic presidential primary elevated free-college plans to the top of the national agenda, with many candidates proposing expansive programs to help states make public colleges and universities free for in-state students. Several House and Senate lawmakers have also advanced these federal-state matching grant programs to finance free college.[2] Proponents of these plans argue that tuition at public colleges and universities has become increasingly unaffordable largely because states have failed to fund them adequately. They argue that unaffordable tuition at public colleges and universities jeopardizes the key role these institutions play in ensuring affordable access to higher education for state residents from all income backgrounds. Through federal matching grants to the states, free-college policies aim to restore the affordable access these institutions were meant to provide while ensuring that prices do not rise to unaffordable levels in the future.

The concern over rising tuition at public universities, and the free-college agenda that has emerged in response, is based largely on an incomplete picture of what students actually pay to attend public universities. Many free-college advocates base their claims about college affordability on the "sticker price" that institutions publish as their official price even though it does not reflect discounts and financial aid.[3] Others focus on isolated policies that affect prices for students, such as state appropriations to universities or the value of the federal Pell Grant, but ignore the effect that students' total financial aid awards have on prices.[4]

This report questions the need for free-college policies by assessing affordability and prices at public universities for in-state students after all financial aid is applied and how these "net prices" have changed since the mid-1990s. It also distinguishes between tuition prices, which generally cover educational costs, and living expenses students incur while enrolled.

This report focuses on two groups of students at public four-year institutions that broadly encompass the students whom free-college policies are meant to assist: those from families earning less than $125,000 and those who receive federal Pell Grants, which are generally restricted to families earning less than $75,000. While there is significant overlap between the two groups, this analysis covers both separately, because free-college advocates have proposed a range of income eligibility cutoffs for the policy. Some proposals, such as the one Joe Biden supports, limit eligibility to students from families earning less than $125,000.[5] Others would target free-college policies to students who receive federal Pell Grants, thereby creating a lower income cutoff, such as the proposal sponsored by Sen. Brian Schatz (D-HI) and cosponsored by Sen. Elizabeth Warren.[6]

The findings in this report show that popular claims about sharply rising tuition prices at public universities are greatly exaggerated. While sticker prices have indeed increased markedly since the mid-1990s (they have more than doubled), financial aid has increased by almost as much—enough to nearly offset the rise in sticker prices. And net tuition prices at these institutions are a fraction of the $10,000 sticker prices prominent free-college advocates frequently cite.[7] The findings in this report also show that financial aid has increased to cover more of students' living expenses at public universities during the period analyzed, but not by enough to fully offset cost increases that have greatly exceeded inflation.

These findings highlight the unsung successes of existing student aid programs in keeping tuition prices low at public universities and offer evidence that contradicts the case for a new federal-state matching grant that would fully subsidize tuition at public universities. The findings also suggest that rising living expenses, not tuition prices, are to blame for major changes in affordability at public universities, a topic that deserves more attention in debates about college affordability. Policymakers need to better understand why these expenses have risen at rates that far exceed inflation, whether such increases are truly necessary, and whether cost-containment strategies might be a better solution than more generous grant aid to help students afford these costs.

Sticker Price Versus Net Price

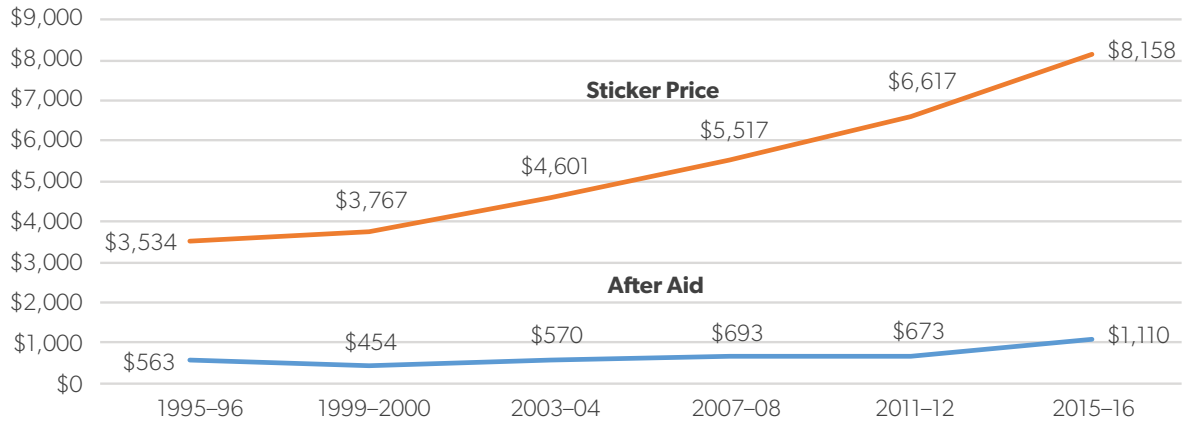
The prices that institutions of higher education charge for tuition and fees (hereafter referred to as simply "tuition") are best understood as two separate prices: the sticker price that universities publish as their official price before any financial aid is factored in and the net tuition price that students pay after their financial aid is applied. It is important to measure net prices instead of sticker prices when assessing affordability because the net price that students actually pay out of pocket is often a fraction of the sticker price. Thus, the sticker price can make universities appear far more expensive than they actually are.[8]

The vast majority of students attending public universities receive direct financial aid to offset the sticker prices that universities charge. Such aid includes grants, scholarships, tuition discounts from the university, and federal tax benefits.[9] (This report excludes student loans from all financial aid and net price calculations.) Only a comprehensive accounting of this aid can provide an accurate picture of the net tuition prices students pay at public universities. Further, students may receive enough combined aid to fully offset the sticker price for tuition, which allows them to use remaining aid to cover a portion of their living expenses while enrolled. Financial aid is usually applied to tuition first and then to living expenses if any aid remains, and this report follows that approach in calculating net prices.[10]

This report now turns to an analysis of the sticker and net tuition prices that in-state students paid at public four-year institutions from 1995–96 to 2015–16, with statistics presented at four-year intervals for the intervening years, reflecting the available data. The data for the analysis come from the National Postsecondary Student Aid Study (NPSAS), which provides a representative sample of the undergraduate population for the 1995–96, 1999–2000, 2003–04, 2007–08, 2011–12, and 2015–16 academic years.[11] The NPSAS includes data from administrative records on the prices that students paid before and after aid was applied, and it details the sources of that aid. The 1995–96 academic year is the earliest year for which data are available in a format consistent with later years. The 2015–16 academic year is the most recent year for which data are available.

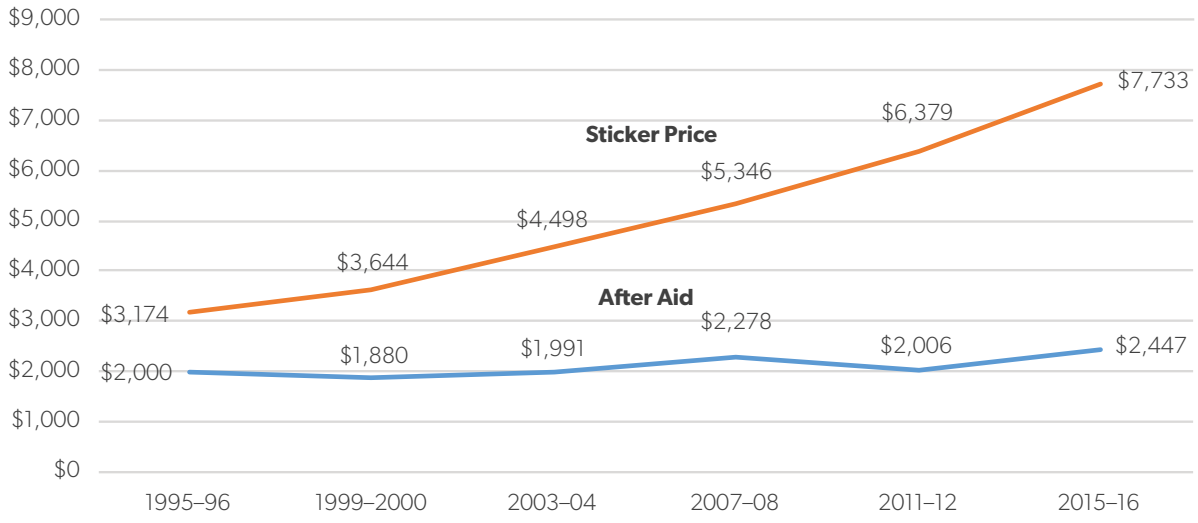
Not all in-state students who attended public universities are included in this analysis. Some of the most prominent free-college plans include income limits for eligible students, although other plans would make eligibility open to students regardless of their financial situations.[12] Moreover, many claims about declining affordability at public universities are mainly concerned with low- and middle-income students. Therefore, this report focuses on the prices paid by students from the two groups that most free-college proposals are meant to benefit.

Figure 1. Average Tuition and Fees at In-State Public Universities for Pell Grant Recipients by Academic Year



Note: Figures are in constant 2015 dollars. Aid includes grants, scholarships, discounts, and federal tax credits or deductions for tuition, but not loans. It includes prices for all bachelor's degree students, including those attending less than full-time.
Source: Author's calculations using National Center for Education Statistics, National Postsecondary Student Aid Study, https://nces.ed.gov/surveys/npsas/.

Figure 2. Average Tuition and Fees at Public Universities for In-State Students from Families Earning Less Than $125,000 by Academic Year



Note: Figures are in constant 2015 dollars. Aid includes grants, scholarships, discounts, and federal tax credits or deductions for tuition, but not loans. It includes prices for all bachelor's degree students, including those attending less than full-time.
Source: Author's calculations using National Center for Education Statistics, National Postsecondary Student Aid Study, https://nces.ed.gov/surveys/npsas/.

The first group, which includes only low- and middle-income students who receive financial aid, is defined here as students who received a federal Pell Grant. A second group, students from families with household incomes below $125,000 in 2015, captures students more broadly while excluding the highest-income students who would be ineligible for some free-college programs.[13] (All statistics in this report are in constant 2015 dollars, adjusted for inflation using the Personal Consumer Expenditures index, unless otherwise noted.)[14]

Average prices and financial aid statistics in this report reflect all in-state students in the stated group who are pursuing bachelor's degrees at public four-year institutions at any level of attendance status, unless otherwise noted.[15] While students attending less than full-time usually pay attendance-adjusted tuition prices, including all students regardless of attendance status in this analysis has little effect on the key findings. It also helps provide a more comprehensive view of enrollment and financial aid at public universities.[16] Comparable statistics for only full-time students are included in endnotes throughout this report.

Figures 1 and 2 show the average sticker and net tuition prices for Pell Grant recipients and students from all families earning less than $125,000, respectively. The change in sticker prices confirms the popular view that college prices increased sharply in recent decades. For both groups, sticker prices for tuition more than doubled since the mid-1990s, after adjusting for inflation. On average, public universities charged students from these two groups between $3,000 and $3,500 in annual sticker prices for tuition in the mid-1990s. By 2015–16, sticker prices had increased to about $8,000 for both groups.

While sticker prices increased markedly, net tuition prices tell a completely different story. As shown in Figures 1 and 2, student aid—which includes grants, scholarships, tuition discounts, and federal tuition tax benefits—reveals that net tuition prices for these students increased far less than the sticker price did.[17] For Pell Grant recipients, average net tuition prices increased from $563 in the mid-1990s to $1,110 in 2015–16, a $547 increase over 20 years after adjusting for inflation.[18] For students from families earning less than $125,000, the amount is similar. Net tuition prices rose from an average of $2,000 in the mid-1990s to $2,447 in 2015–16.[19] In short, both groups of students saw net tuition prices increase by far less than sticker prices did.

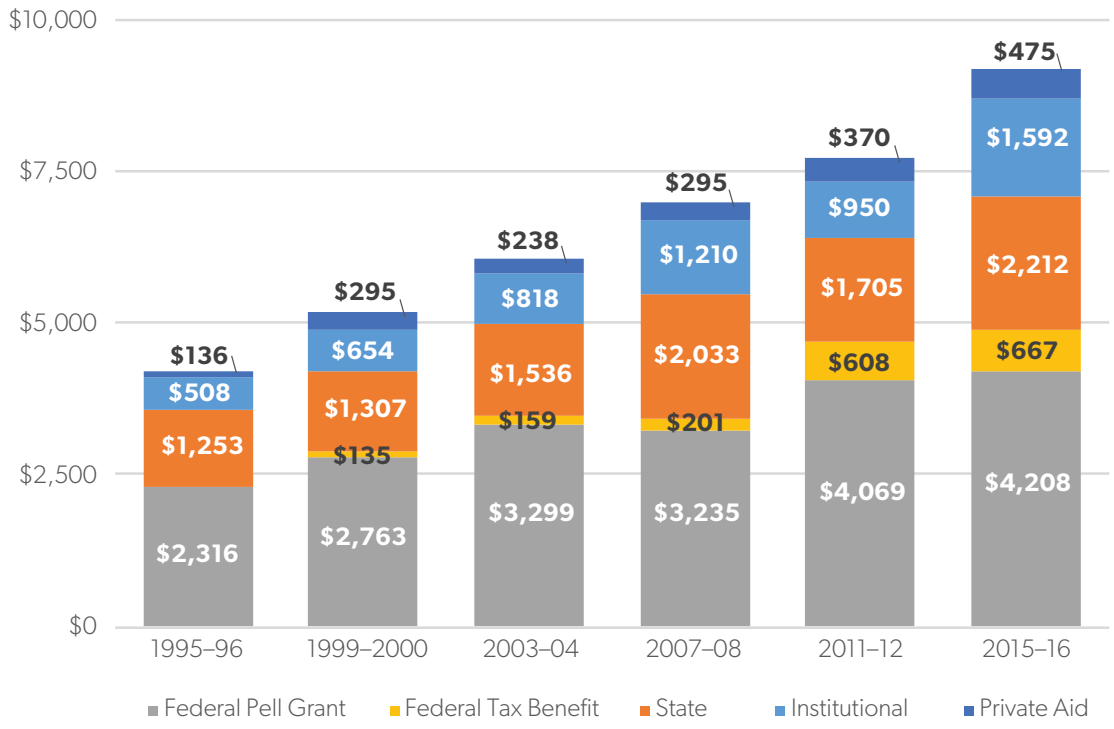
Financial Aid

Many free-college advocates may not appreciate the extent to which rising sticker prices at public universities have been offset by increases in financial aid. All forms of aid have increased substantially in real terms since the mid-1990s, and a greater share of students qualify for some form of aid today than they did in the mid-1990s.[20]

Figures 3 and 4 show the average financial aid that students from the two groups received at public universities over the period analyzed.[21] Both groups saw large real increases in average aid across all sources. Combined aid for Pell Grant recipients increased from an average of $4,214 in the mid-1990s to $9,153 today.[22] These amounts actually exceed average sticker prices, which demonstrates that many Pell Grant recipients have enough aid left over to pay some of their living expenses after applying their aid to fully offset tuition. For students from families earning less than $125,000, the increase in financial aid is even more pronounced. Average aid for these students was just $1,618 in 1995–96, after adjusting for inflation. Twenty years later, it had increased to $6,442, or four times the amount in the mid-1990s.[23]

While some observers argue that policymakers and universities have inadequately funded financial aid programs for low- and middle-income students, these statistics reveal that funding for these programs has, in fact, increased substantially on a per-student basis and in real terms. These findings also suggest that financial aid, when taken as a whole, has largely maintained its purchasing power relative to tuition prices (at least since the mid-1990s) for students at public universities. In contrast, many advocacy groups claim that aid has generally failed to keep up with rising prices and that a new federal-state matching grant program is needed in response.[24] To be sure, these findings do not refute the

Figure 3. Average Student Aid Received by Pell Grant Recipients at In-State Public Universities by Academic Year



Note: Values are in constant 2015 dollars and reflect average aid for all bachelor's degree students, including those attending less than full-time.
Source: Author's calculations using National Center for Education Statistics, National Postsecondary Student Aid Study, https://nces.ed.gov/surveys/npsas/.

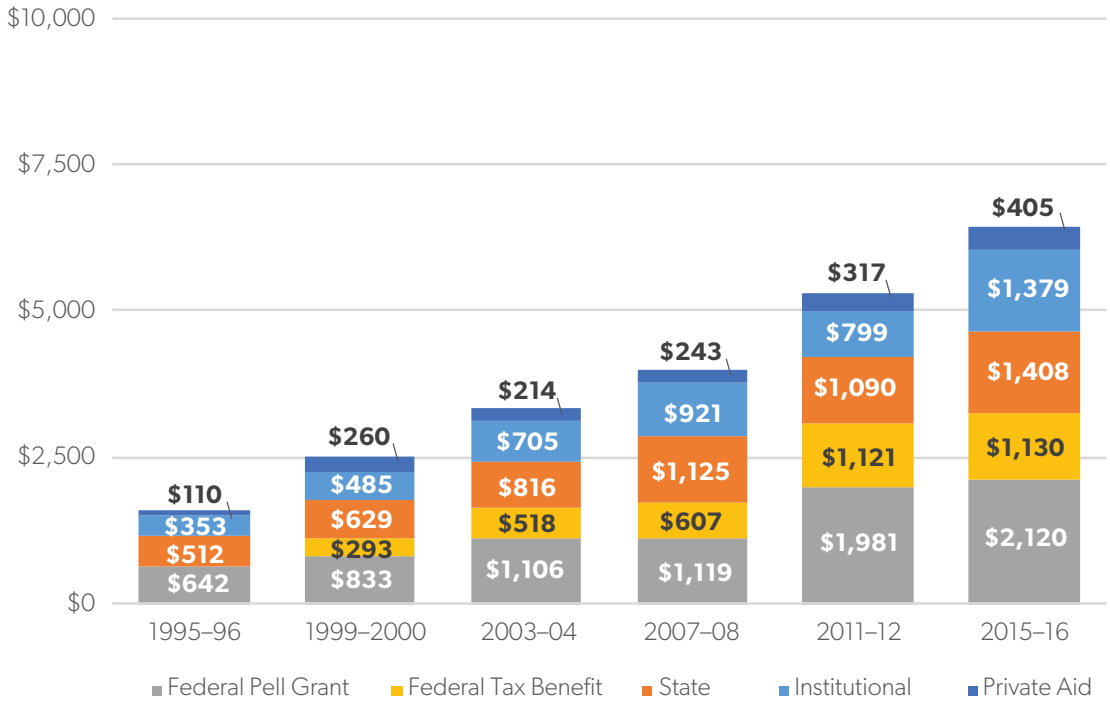
claims about purchasing power outright, which often focus only on the Pell Grant and compare it to the combined cost of tuition and living expenses over a longer period than in this analysis.

Furthermore, the data presented here also show that the Pell Grant covers a smaller share of the sticker price for tuition, consistent with the claim about declining purchasing power. Even so, these findings provide a different perspective on that claim, suggesting that despite declining purchasing power, net tuition prices for Pell Grant recipients have not increased as much since the mid-1990s as the claim might otherwise suggest.

When looking at the broader group of students, those from families earning less than $125,000, Pell Grants were also a major factor in the dramatic increase in financial aid, with average grants increasing from $642 in the mid-1990s for these students to $2,120 in 2015–16. That change was enough to increase the purchasing power of the Pell Grant relative to tuition for this group of students. The average grant covered 27 percent of sticker prices in the 2015–16 academic year, up from 20 percent in 1995–96.

The increase in the Pell Grant is due to policymakers not only enacting a larger maximum grant but also effectively raising the income cutoff for eligibility such that more middle-income families qualify.[25] For example, in the 1995–96 academic year, only 28 percent of students from families that earned between $50,000 and $60,000 (in 2015 dollars) who applied for aid and attended an in-state public university received a Pell Grant. In the 2015–16 academic year, 63 percent of these students received a Pell Grant.[26] Another notable change for this group

Figure 4. Average Student Aid Received by In-State Students at Public Universities with Family Income Less Than $125,000 by Academic Year



Note: Values are in constant 2015 dollars and reflect average aid for all bachelor's degree students, including those attending less than full-time. Values also include students who received no financial aid.
Source: Author's calculations using National Center for Education Statistics, National Postsecondary Student Aid Study, https://nces.ed.gov/surveys/npsas/.

of students is the financial aid provided by federal tax benefits. This form of aid was not available in the 1995–96 academic year because policymakers did not enact tax benefits for tuition until 1997. These included the Hope and lifetime learning tax credits, which allowed tax filers to claim a credit against their income taxes for tuition expenses up to $1,500 or $1,000 (in 1997 dollars), respectively.[27]

Lawmakers expanded these benefits multiple times during the period covered in this report. They raised the value of the Hope credit in 2009 to its current maximum of $2,500 while boosting the income eligibility cutoff to $180,000 for joint filers and renaming it the American opportunity tax credit.[28] Students and families claimed over $20 billion in tax reductions through these benefits in 2019.[29] By the 2015–16 academic year, students from families earning less than $125,000 attending in-state public universities qualified for an average tax benefit of $1,130.

Average tax benefits are about half as much for the Pell Grant recipient group because these students pay less tuition and therefore qualify for smaller benefits. Additionally, students who have all their tuition offset by grants have no expenses with which to claim a tax credit.[30] While this report treats tax benefits like grants and scholarships, students and families do not receive this form of aid upfront when tuition is due. Instead, they must finance the tuition costs out of pocket (or with loans) and wait to realize the tax benefit through lower taxes throughout the year or when they receive a refund after filing their tax returns.

The large and broad-based increase in student aid that occurred during the past 20 years is one of the most overlooked trends in higher education policy

and discussions about affordability at public universities. A closer look at these trends also reveals a hidden feature of the student aid system: When one source of aid is flat or falling, another is often increasing to fill the gap, such that total aid still grows.

For example, between 2003–04 and 2007–08, the average Pell Grant was largely unchanged because lawmakers did not increase the grant in line with inflation during that time. During the same period, states and universities increased their average per student aid in real terms by a combined $888 for Pell Grant recipients and $525 for students from families earning less than $125,000. Over the next four years, the opposite happened. States and institutions cut financial aid in the wake of the Great Recession, while federal policymakers provided an increase in average per-student aid of $1,241 and $1,376 for the two groups of students, respectively. Those increases more than made up for cuts at the state and institutional level, and total aid increased. In the final four years of the analysis, the trend appears to have reversed again, with state and institutional aid rising markedly as the economy recovered and federal aid plateaued.

This offsetting trend in available financial aid is largely absent from policy discussions. It also undermines a common narrative about prices at public universities in the years immediately following the Great Recession. Many observers argue that declining state appropriations for public universities during that time caused institutions to raise tuition, resulting in "costs shifting from states to students," as analysts at the Center on Budget and Policy Priorities put it.[31]

Although states reduced funding for universities in response to the Great Recession and universities raised sticker prices during that time, the data reveal that higher tuition prices were not shifted to either group of students in this analysis. Between 2007–08 and 2011–12, average net tuition prices were about flat for the two groups because larger Pell Grants and federal tax benefits fully offset the increase in sticker prices.[32] Rising costs were shifted not to the students covered in this report, but to the federal government. Costs may also have shifted to groups of students outside the groups covered here, such as out-of-state students and in-state students from families earning more than $125,000. But many free-college proposals do not aim to lower tuition prices for these students anyway.

The most recent data in this report do not reflect changes in financial aid and state budgets that are sure to follow the economic effects of the COVID-19 pandemic. As of this writing, the economy is likely set to enter another recession, which will cause state revenue to decline and may lead lawmakers to cut appropriations to public universities. It remains to be seen if further increases in federal aid will offset any potential tuition spikes that follow state budget cuts.

Living Expenses

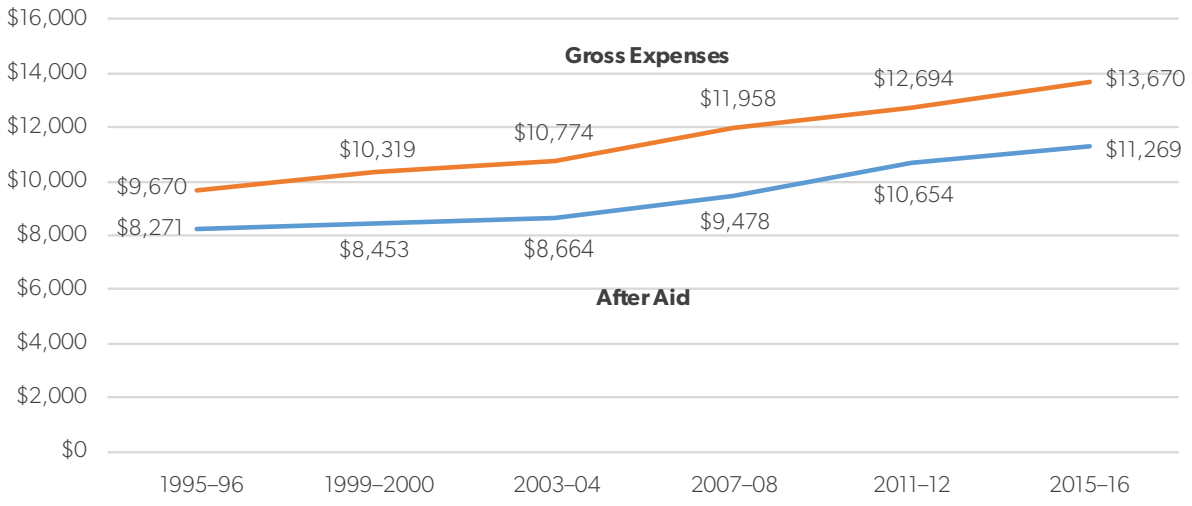
This report has so far focused on tuition prices and how much of those costs are covered by financial aid. Of course, students also incur non-tuition expenses while enrolled, such as housing, food, and transportation. Course materials such as books and supplies are also included in this category of expenses, although they are arguably part of a student's instructional expenses.

A detailed analysis of changes in non-tuition expenses (hereafter referred to as "living expenses") is beyond the scope of this report, but the NPSAS dataset can provide some insight into how these costs have changed over time. These data are, however, less reliable than those for tuition prices and financial aid because many of the costs students incur cannot be accurately captured through administrative records held by universities or the federal government.

Furthermore, about 75 percent of students at in-state public universities do not live on campus, and universities can estimate only what these students incur in living expenses while enrolled.[33] Surveying students about their living expenses poses other reliability challenges because students may not accurately assess their own costs. The NPSAS relies on estimates from universities and students for the data it includes on living expenses.[34]

Figures 5 and 6 show gross living expenses and net living expenses for the two groups of students after financial aid in excess of tuition is applied. Gross

Figure 5. Average Living Expenses Among Pell Grant Recipients at In-State Public Universities by Academic Year



Note: Figures are in constant 2015 dollars. Aid includes grants, scholarships, discounts, and federal tax credits or deductions for tuition, but not loans, that remain after tuition is fully offset. It includes prices for all bachelor's degree students, including those attending less than full-time.
Source: Author's calculations using National Center for Education Statistics, National Postsecondary Student Aid Study, https://nces.ed.gov/surveys/npsas/.

living expenses are the costs students incurred before financial aid was factored in. Net living expenses are the estimated expenses students incurred after their financial aid was applied to these expenses. Both gross and net living expenses have increased at a rate that greatly exceeds inflation since the mid-1990s.

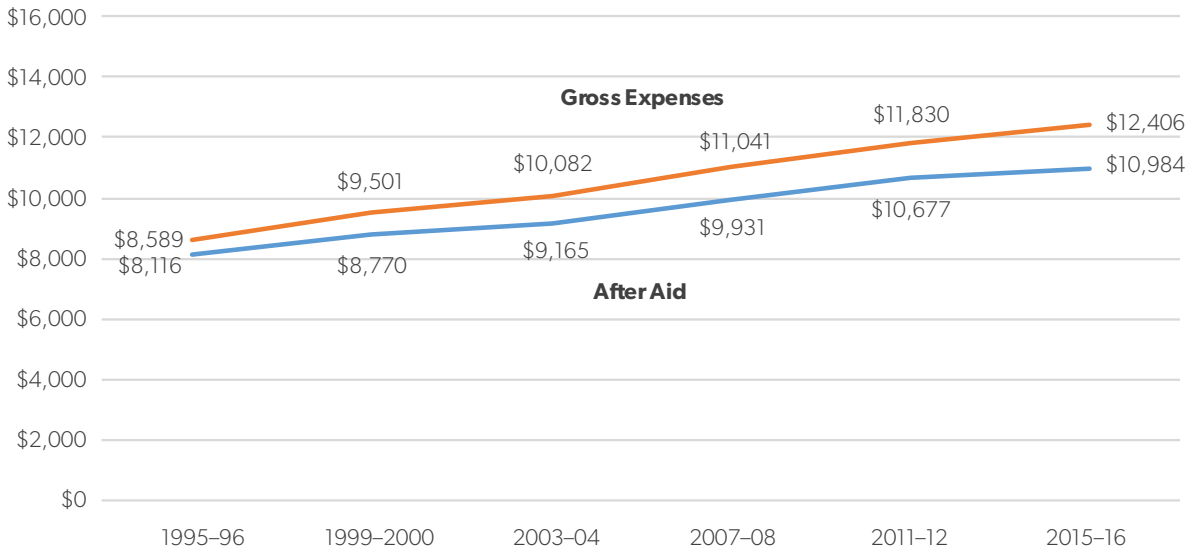
Despite student aid becoming more generous over time, it has not offset most of the increases in living expenses as it has for tuition. Financial aid does, however, cover more of students' living expenses than it did in the earlier years of this analysis. In the mid-1990s, Pell Grant recipients at public universities incurred $8,271 in average annual living expenses after factoring in student aid (Figure 5). This figure increased by $3,000 over the next 20 years after factoring in inflation.

However, that students incur higher out-of-pocket living expenses today does not necessarily mean their financial aid has become less generous in absolute terms. In fact, Pell Grant recipients received enough financial aid to offset $2,401 of their living expenses on average in 2015–16, which is up from $1,399 in the mid-1990s after adjusting for inflation. Put another way, the increase in out-of-pocket living expenses that Pell Grant recipients experienced would have been even larger ($4,000) if it were not for growth in financial aid. In short, financial aid has become more generous with living expenses, but not by enough to fully offset the large real increases in living expenses students incur.[35]

Trends in living expenses are similar for the broader group of students from families earning less than $125,000. Their living expenses also increased faster than inflation, and while financial aid became more generous for them as well, it was not enough to offset all those increases. Net living expenses for these students were some $3,000 higher in 2015–16 than in the mid-1990s, even while financial aid grew to cover about $950 more of these students' living expenses during that time.[36]

These findings suggest that public perceptions about declining affordability at public universities

Figure 6. Average Living Expenses Among In-State Students at Public Universities from Families Earning Less Than $125,000 by Academic Year



Note: Figures are in constant 2015 dollars. Aid includes grants, scholarships, discounts, and federal tax credits or deductions for tuition, but not loans, that remain after tuition is fully offset. It includes prices for all bachelor's degree students, including those attending less than full-time.
Source: Author's calculations using National Center for Education Statistics, National Postsecondary Student Aid Study, https://nces.ed.gov/surveys/npsas/.

may be driven more by changes in living expenses than tuition. Higher living expenses may also help explain why student debt levels among the two groups of students analyzed increased markedly even though tuition prices have remained relatively flat.[37] And if rising living expenses are the main factor affecting affordability at public universities, then the trend deserves more attention from researchers, policymakers, and universities.[38]

Most policy discussions about rising college costs and prices tend to focus only on tuition, or they lump tuition and living costs together, obscuring any distinct trends between the two. But the dynamics driving each set of costs are almost certainly different, as are the range of solutions and trade-offs that can help keep them affordable for students. For example, tuition prices are tied to instructional spending—and educational quality—such that it may be preferable to subsidize those costs to ensure affordability rather than force universities to cut spending. But with living expenses, the trade-off between spending and educational quality is tenuous at best. Thus, with living expenses, it makes sense to focus affordability policies on driving costs down rather than subsidizing them further.

Conclusion

Federal proposals to fully subsidize tuition at public universities have entered the political mainstream. Every major Democratic presidential candidate in 2020 offered some version of a federal-state matching grant program to support free tuition for in-state students at public universities. This report suggests that the main rationale for such policies—that public universities have grown evermore unaffordable—is significantly overstated.

Concern over rising tuition at public universities often ignores the generous financial aid policies already in place and how aid has grown substantially over time, even after adjusting for inflation. Existing

financial aid policies have successfully held average net tuition prices at public universities nearly constant between the 1995–96 and 2015–16 academic years for the students whom free-college policies typically target. The increase in financial aid has even been enough to cover more of a student's living expenses than during the mid-1990s.

These findings do not, however, contradict other concerns about the cost of a four-year degree at public universities. The data confirm that the cost of providing these educations is rising at rates that greatly exceed inflation, assuming that sticker prices generally reflect the educational costs that universities incur. While students have not had to pay these rising costs, other entities have, mainly the federal government and state governments to a lesser extent.

To some observers, rising higher education costs are a problem in and of themselves. In their view, rising costs reveal that higher education providers are inefficient or unnecessarily costly. Others might view the increased role of federal funding as something to be avoided, as it could enable states to abandon their historic role in financing public universities.

This report illustrates that federal aid has indeed done some of the heavy lifting in sheltering students from higher tuition prices at public universities. However, the findings presented here show that federal aid has not simply supplanted state aid but has acted more like a balancing wheel when states are hit with budget pressures, such as in the aftermath of the Great Recession in the late 2000s. When the economy is strong, state governments and universities ramp up their financial aid, while federal aid remains flat.

The rising living expenses for students enrolled at public universities documented in this report also align with concerns about declining affordability. This component cost of attending public universities has not, however, received the same rigorous scrutiny from researchers and policymakers as tuition prices have, and free-college policies typically focus on directly offsetting tuition prices, not living expenses. Living expenses may be rising for reasons that merit more generous financial aid, such as students' changing needs, including childcare for older independent students raising families while enrolled.

Alternatively, the trend may be the result of the so-called "amenities arms race" and rising expectations among students for high-end facilities such as dormitories, recreation centers, and dining facilities. In that case, policymakers and universities should pursue cost-containment efforts, not ever-larger public subsidies.

Overall, the findings in this report show that the existing framework of financial aid is far more capable of keeping college tuition affordable for those with the least resources to pay than popular narratives claim. Reformers should consider incremental changes to this system instead of the radical transformation envisioned in the free-college proposals that would establish new federal-state matching grants to fully subsidize tuition.

To be sure, this will likely require an increase in federal aid to students and families, especially during economic crises, and a further transfer of higher education financing from states to the federal government. But that is more moderate than the larger federal role—and the unintended consequences—that would result from a new matching grant plan to fund free college. As the findings in this report show, this approach is far more effective than most observers may have considered.

Acknowledgments

I would like to thank Mamie Voight of the Institute for Higher Education Policy and other anonymous reviewers for their thoughtful comments on this report. Of course, the views expressed are my own, and I take full responsibility for any errors that remain.

Appendix A. Estimates for Federal Tuition Tax Benefits

All the estimates in this analysis are based on variables included in the National Postsecondary Student Aid Study (NPSAS), except for the value of federal tuition tax benefits. The author estimated these values in each of the NPSAS years using the relevant eligibility rules and corresponding data in the NPSAS. For example, the estimates rely on the reported adjusted gross income of the parents of dependent students (and of the students themselves in the case of independents), the tuition prices that students paid out of pocket or using loans, their attendance intensity, and so forth. Respondents in the NPSAS who did not file a federal tax return in the prior year of the NPSAS were assigned a tax benefit of $0.

The 1999–2000 NPSAS does not include a variable for whether a respondent filed a tax return, so one is estimated based on the 2003–04 NPSAS. Tax filers are often eligible for multiple tuition tax benefits but are allowed only one under the tax rules. The estimate in this analysis assigns respondents the tax benefit for which they are eligible that results in the largest tax reduction. The tax benefits included in the estimates for the relevant years in which they were available are the Hope tax credit, the lifetime learning tax credit, the American opportunity tax credit, and the deduction for tuition and fees.

The tax benefit estimates in this analysis reflect eligibility for a benefit, not whether families actually claimed these benefits. However, the estimates closely match actual IRS filing data in recent years. The estimated tax benefits in the 2015–16 NPSAS average $1,505 for all undergraduates eligible for a benefit. A College Board analysis of IRS statistics for tax filers claiming a tax benefit in 2016 shows that the average benefit claimed was $1,500.[39]

Another way to test the accuracy of the tax benefit estimates using the NPSAS is to compare the distribution of the total benefits with IRS statistics of the tax benefits filers have actually claimed. The College Board and the Congressional Research Service have produced estimates of the distribution of these benefits across income groups using IRS statistics. Tables A1 and A2 compare the estimates using the NPSAS and those analyses. Generally, the NPSAS estimates developed for this analysis closely match the IRS statistics, especially for the lowest-earning groups and families earning between $75,000 and $100,000. The NPSAS estimate, however, slightly undercounts the tax benefits claimed by families with incomes above $100,000 and slightly overcounts the benefits claimed by those with incomes between $50,000 and $75,000.

There are several plausible explanations for the slight mismatch between the analyses of tax filing statistics and the estimates using the NPSAS that might suggest the NPSAS figures are even more accurate than these comparisons suggest. The analyses that use IRS statistics for all tax benefits (College Board) include tax filers claiming benefits for graduate education (i.e., the lifetime learning tax credit and the tuition and fees deduction). The IRS statistics do not break out whether the tax benefits claimed were for graduate or undergraduate education. The distribution of undergraduate benefits in the NPSAS analysis may differ from the IRS statistics because the former does not include graduate students and the latter does.

The Congressional Research Service analysis excludes graduate students by analyzing statistics for only the American opportunity tax credit. It also excludes undergraduates who are ineligible for that benefit but can still claim the smaller benefits provided by the lifetime learning tax credit and the tuition and fees deduction. The NPSAS estimates include all federal tuition tax benefits for which undergraduates are eligible, which may explain some of the discrepancy.

Another reason for the discrepancy is that the NPSAS estimate cannot assign a tax benefit to

Table A1. Distribution of Tax Credit Dollars Claimed by Adjusted Gross Income, College Board Comparison

	Distribution According to College Board and IRS Statistics, 2014 Income	Distribution According to Author's Estimates Using NPSAS Undergraduate Dataset, 2014 Income
$0–$25,000	23%	24%
$25,000–$50,000	23%	24%
$50,000–$75,000	16%	19%
$75,000–$100,000	13%	13%
$100,000–$180,000	24%	20%

Note: Estimates may not sum to 100 percent due to rounding.
Source: College Board, "Trends in Student Aid 2016," 2016, https://research.collegeboard.org/pdf/trends-student-aid-2016-full-report.pdf.

Table A2. Distribution of Tax Credit Dollars Claimed by Adjusted Gross Income, Congressional Research Service Comparison

Adjusted Gross Income	Distribution According to Congressional Research Service and IRS Statistics, 2015 Income	Distribution According to Author's Estimates Using NPSAS Undergraduate Dataset, 2014 Income
$0–$30,000	31%	30%
$30,000–$50,000	19%	18%
$50,000–$75,000	16%	19%
$75,000–$100,000	12%	13%
$100,000–$200,000	23%	20%

Note: Estimates may not sum to 100 percent due to rounding. The Congressional Research Service estimate is for the American opportunity tax credit. The author's estimate includes all undergraduate tax benefits.
Source: Margot L. Crandall-Hollick, "The American Opportunity Tax Credit: Overview, Analysis, and Policy Options," Congressional Research Service, June 4, 2018, https://fas.org/sgp/crs/misc/R42561.pdf.

students who study at more than one institution. Students who attend more than one institution therefore do not have tuition information reported in the NPSAS, although these students' tuition payments would qualify for a tax benefit. This limitation only applies to the comparison with the IRS statistics and not the larger analysis of financial aid and tuition prices in this report because all students categorized as having attended public four-year institutions in the data all must have attended only one institution by construction of the dataset. The NPSAS variable for institution type counts any student who attends more than one institution in a year as a separate category; only students who attend the same public institution throughout the year are counted as having attended a public institution. The NPSAS includes all these students' tuition information, which can be used to estimate tax benefit eligibility.

Notes

1. Jason D. Delisle, "Evidence Against the Free-College Agenda: An Analysis of Prices, Financial Aid, and Affordability at Public Universities," American Enterprise Institute, May 13, 2020, https://www.aei.org/research-products/report/evidence-against-the-free-college-agenda-an-analysis-of-prices-financial-aid-and-affordability-at-public-universities/.

2. Brian Schatz, "Schatz, Pocan Reintroduce Legislation to End Student Loan Debt Crisis," Brian Schatz United States Senator for Hawai'i, March 6, 2019, https://www.schatz.senate.gov/press-releases/schatz-pocan-reintroduce-legislation-to-end-student-loan-debt-crisis.

3. For example, see Michael Mitchell, Michael Leachman, and Kathleen Masterson, "A Lost Decade in Higher Education Funding," Center on Budget and Policy Priorities, August 23, 2017, https://www.cbpp.org/sites/default/files/atoms/files/ 2017_higher_ed_8-22- 17_final.pdf; Bernie Sanders, "College for All and Cancel All Student Debt," BernieSanders.com, https://berniesanders.com/issues/freecollege-cancel-debt/; Mark Huelsman, "A 50-State Look at Rising College Prices and the New American Student," Demos, February 22, 2018, https://www.demos.org/sites/default/files/publications/The%20Unaffordable%20Era%20FINAL%202.22.18.pdf; and Jason D. Delisle, "The Cost of Ignoring College Aid," American Enterprise Institute, March 3, 2020, https://www.aei.org/education/the-cost-ofignoring-college-aid/.

4. See Institute for College Access and Success, "How to Secure and Strengthen Pell Grants to Increase College Access and Success," October 16, 2018, https://ticas.org/wp-content/uploads/legacy-files/pub_files/pell_recs_one_pager.pdf.

5. Joe Biden, "The Biden Plan for Education Beyond High School," JoeBiden.com, https://joebiden.com/beyondhs/.

6. Schatz, "Schatz, Pocan Reintroduce Legislation to End Student Loan Debt Crisis."

7. Sanders, "College for All and Cancel All Student Debt"; and Biden, "The Biden Plan for Education Beyond High School." The claim about prices on Biden's campaign website links to information from the National Center for Education Statistics on college prices before financial aid is factored in. It can be found at National Center for Education Statistics, "Tuition Costs of Colleges and Universities," https://nces.ed.gov/fastfacts/display.asp?id=76.

8. Note that sticker prices already reflect the price reduction students receive because of the general funding that state governments provide to public universities through annual appropriations. The sticker price is what a university advertises after direct state funding has reduced the price but before any grants, scholarships, and tax credits issued to or claimed by the student are factored in.

9. In the 2015–16 academic year, 73.4 percent of students from families earning less than $125,000 at in-state public universities received grant or scholarship aid. The number is higher when federal tax benefits are included because some students receive tax benefits as their only form of aid. National Center for Education Statistics, Datalab, https://nces.ed.gov/datalab/index. aspx?ps_x=cmccah3d.

10. Federal income tax rules treat grant and scholarship aid as tax-free income when applied to tuition, but if it is applied to non-tuition expenses, then the aid is treated as taxable income. Therefore, the default allocation of financial aid is usually to cover tuition expenses first. Furthermore, financial aid providers often restrict their funds to cover tuition expenses only, particularly state grants and aid provided by universities themselves as tuition discounts, although this is not the case for federal Pell Grant.

11. National Center for Education Statistics, National Postsecondary Student Aid Study, https://nces.ed.gov/surveys/npsas/.

12. Thomas Kaplan and Katie Glueck, "Biden, Courting Liberals, Backs Tuition-Free College for Many Students," *New York Times*, March 15, 2020, https://www.nytimes.com/2020/03/15/us/politics/biden-backs-free-college.html.

13. Income recorded in the National Postsecondary Student Aid Study (NPSAS) is based mainly on federal tax returns filed for the prior year. The $125,000 income cutoffs have been adjusted accordingly throughout. For example, for the 2015–16 academic year, the income cutoff for the group with earnings below $125,000 is actually $124,739 to convert 2014 dollars to 2015 dollars.

14. This was adjusted for inflation using the personal consumption expenditures price index as of February 2020. See Federal Reserve Bank of St. Louis, "Personal Consumption Expenditures (Chain-Type Price Index)," https://fred.stlouisfed.org/series/PCEPI.

15. Foreign students are excluded from each group of students.

16. Part-time students make up a stable share of the population analyzed over time (about 40 percent), and the long-term trend in prices is the same if these students are excluded. Average annual tuition prices are about $200 higher for exclusively full-time students across the years analyzed.

17. Net tuition prices are calculated by subtracting the average estimated tax benefit from the variable NETCST9 in the NPSAS dataset. The NETCST9 variable reflects the student's tuition after all grant and scholarship aid is applied, but not tax benefits; student loans are not included in the aid used to calculate NETCST9, nor are veterans and Department of Defense educational benefits. The NETCST9 variable for this analysis can be retrieved using the publicly available TrendStats and PowerStats. The author estimated the tax benefit values using the individual-level data. For example, in 2015–16, the NETCST9 variable for the Pell Grant recipient group is an average of $1,776.70. The average estimated tax benefit is $666.86. Therefore, the net tuition price for this group of students is $1,109.84. The table can be viewed using the Datalab or by entering in the retrieval code "bdcag4d" in TrendStats. See National Center for Education Statistics, Datalab.

18. The net tuition prices are $521 and $1,121, respectively, for exclusively full-time students.

19. The net tuition prices are $2,182 and $2,600, respectively, for exclusively full-time students.

20. In the 2015–16 academic year, 73.4 percent of students from families earning less than $125,000 at in-state public universities received grant or scholarship aid. The number is even higher when federal tax benefits are included. In the 1995–96 academic year, 45.6 percent of these students received grant or scholarship aid, and none received tax benefits because they had not yet been enacted. See National Center for Education Statistics, Datalab.

21. Figures for students from families earning less than $125,000 include students who received no financial aid. Financial aid included in the statistics throughout this report include federal grants, which is mainly the Pell Grant; state grant and scholarship programs; scholarships, discounts, and grants that universities provide to students directly; scholarships and grants from private sources; and federal tuition tax benefits that can be claimed on federal tax returns. This analysis excludes any other sources of aid, such as federal veterans benefits and Department of Defense programs. The NPSAS dataset includes student-level data for all the included financial aid sources except the tax benefits. These are estimated based on the terms of the benefits and related data in the NPSAS, such as a family's annual growth income, and net tuition prices paid. Estimated tax benefits include the American opportunity tax credit, the lifetime learning tax credit, and the deduction for tuition and fees. See Appendix A for a discussion of these estimates and their accuracy.

22. For exclusively full-time students, the figures are $4,543 and $9,880, respectively.

23. For exclusively full-time students, the figures are $2,081 and $7,516, respectively.

24. Education Trust, "Beyond Pell: A Next Generation Design for Federal Financial Aid," October 1, 2014, https://edtrust.org/resource/beyond-pell-a-next-generation-design-for-federal-financial-aid/.

25. Jason D. Delisle and Cody Christensen, "Pell Grant Mission Creep," American Enterprise Institute, July 2019, https://www.aei.org/wp-content/uploads/2019/07/Pell-Grant-Mission-Creep.pdf. There is no stated income cutoff for the Pell Grant. Instead, eligibility is a function of the size of the maximum grant lawmakers set each year. When the maximum increases faster than inflation, which it has over long periods, students from families higher up the income distribution become eligible for a Pell Grant.

26. Figures are for dependent and independent students who filed the Free Application for Federal Student Aid and are US citizens or foreign residents, regardless of attendance intensity and dependency status. See National Center for Education Statistics, Datalab.

27. Taxpayer Relief Act of 1997, Pub. L. No. 105–34 § 20.

28. In the early 2000s, policymakers added a third benefit: a deduction for tuition and fees. See American Recovery and Reinvestment Act of 2009, Pub. L. No. 111–5.

29. For the president's fiscal year 2021 budget request, see White House, Office of Management and Budget, "Analytical Perspectives," https://www.whitehouse.gov/wp-content/uploads/2020/02/ap_13_expenditures_fy21.pdf. This figure includes tuition tax benefits claimed for graduate school.

30. Another reason average tax benefits are lower among Pell Grant recipients is that the refundable portion of the $2,500 American opportunity tax credit, the largest tuition tax benefit, is limited to $1,000. Families with low or no tax liability to offset are thus limited to $1,000 through the benefit.

31. Michael Mitchell, Michael Leachman, and Kathleen Masterson, "A Lost Decade in Higher Education Funding," Center on Budget and Policy Priorities, August 23, 2017, https://www.cbpp.org/sites/default/files/atoms/files/2017_higher_ed_8-22-17_final.pdf.

32. State governments received block grants from the federal government under the American Recovery and Reinvestment Act of 2009 that they could use to fund their K–12 or higher education systems. These funds may have played a limited role in offsetting potential tuition increases at public universities. However, states opted to allocate most of these funds to their K–12 systems. In 2011, these funds accounted for about only 3 percent of state higher education funding. Thus, their effect is likely negligible on the findings in this report. State Higher Education Executive Officers, "State Higher Education Finance FY 2012," 2013, https://sheeo.org/wpcontent/uploads/2019/03/SHEF_FY12-2.pdf.

33. In the 2015–16 academic year, only 26.0 percent of students in the group from families earning less than $125,000 lived on campus. In the 1995–96 academic year, 20.8 percent lived on campus. See National Center for Education Statistics, Datalab.

34. The variable used is BUDNONAJ or the equivalent in earlier years of the NPSAS dataset. Researchers have examined the reliability of estimates universities publish for living expenses and found wide variation in these figures with costs that students may actually incur. Robert Kelchen, Sara Goldrick-Rab, and Braden Hosch, "The Costs of College Attendance: Examining Variation and Consistency in Institutional Living Cost Allowances," *Journal of Higher Education* 88, no. 6 (March 9, 2017): 947–71, https://doi.org/10.1080/00221546.2016.1272092.

35. In 1995–96, 60.8 percent of the Pell Grant recipient group (64.6 percent among full-time students in this group) had enough financial aid left over after paying tuition expenses to apply aid to their living expenses. Among students in 2015–16, the figure had declined to 51.3 percent (or 52.4 percent among full-time students in this group). While fewer Pell Grant recipients received enough aid to cover some of their living expenses over time, the average amount of aid that was applied to living expenses still increased because financial aid grew enough among the shrinking share of students who had aid applied to living expenses to raise the average aid applied to living expenses for the whole group. This may be the result of more middle-income students becoming eligible for Pell Grants over time. These students receive relatively small grants, which are not large enough to cover all tuition and some of their living expenses, even when combined with other aid.

36. In 1995–96, 21.2 percent of students from families earning less than $125,000 (26.3 percent among full-time students) had enough financial aid left over after paying tuition expenses to apply aid to their living expenses. The figure increased to 30.9 percent (33.7 percent among full-time students) in 2015–16.

37. Annual borrowing among in-state students at public universities from families earning less than $125,000 (including those who did not borrow) was about $2,500 in the mid-1990s, after adjusting for inflation. By the 2015–16 academic year, it had doubled to $5,000. Meanwhile, net tuition prices increased by about only $500 for this group. Changes in annual borrowing were similar for the Pell Grant recipient group. See National Center for Education Statistics, Datalab.

38. Other researchers have examined rising living expenses at universities and conclude that prices have increased faster than inflation has. See Kristin Blagg, Matthew M. Chingos, and Victoria Lee, "The Price of Room and Board," Urban Institute, October 2017, https://www.urban.org/sites/default/files/publication/94021/the-price-of-room-and-board_0.pdf.

39. College Board, "Trends in Student Aid 2018," 2018, https://research.collegeboard.org/pdf/trends-student-aid-2018-full-report.pdf.

Free College and the Debt-Free Fantasy

Jason D. Delisle and Preston Cooper

This report was originally published by the American Enterprise Institute in June 2020.[1]

At the end of 2019, 43 million Americans owed over $1.5 trillion in federal student loans.[2] The rapid increase in these balances over the past decade has led many to deem student debt a "crisis." Now, there is growing support among Democratic policymakers, and even some Republicans, to immediately cancel all or most of the federal government's loan portfolio.

Often, these advocates also propose making public colleges and universities tuition free, since student debt cancellation would affect only existing borrowers. Otherwise, students would continue to take out new loans to finance their education going forward. Indeed, the Congressional Budget Office projects that the federal government will issue over $1.2 trillion in new student debt over the coming decade. The combination of debt cancellation and free tuition at public colleges is supposed to end the student loan "crisis" once and for all.

Sen. Elizabeth Warren, one of the most prominent advocates of this two-pronged approach, writes:

> Once we've cleared out the debt that's holding down an entire generation of Americans, we must ensure that we never have another student debt crisis again. We can do that by recognizing that a public college education is like a public K–12 education—a basic public good that should be available to everyone with free tuition and zero debt at graduation.[3]

Similarly, Sen. Bernie Sanders believes that canceling existing student debt and making public colleges tuition free will "make college debt-free for all."[4] He writes: "It is time to end the absurdity of sentencing an entire generation—the millennial generation—to a lifetime of debt for the 'crime' of doing the right thing: getting a college education."[5]

Although Joe Biden was slower to embrace free tuition policies, he eventually endorsed Sanders' original proposal to make all public universities tuition free for students from families with incomes below $125,000.[6] Biden also rolled out a student loan forgiveness plan that would forgive a minimum of $10,000 per borrower, with additional relief for students who attended public universities or minority-serving institutions to "align [his] student debt relief proposal with [his] forward-looking college tuition proposal."[7]

Despite these claims, making colleges and universities tuition free would have only a limited effect on student borrowing. Our analysis suggests the majority of student borrowing today would continue under the free-college proposals. Even after the government forgives nearly all outstanding debt, total balances will quickly reach levels that Sens. Warren, Sanders, and many others have deemed a crisis.

This is because free-college policies do not target the largest sources of student borrowing. Many students borrow to attend private undergraduate institutions and graduate schools, which are excluded under free-college proposals. Moreover, many students attend out-of-state public universities and are not eligible for free-college policies under the most prominent proposals. All these ineligible students may continue to borrow through the federal loan program. In short, the proposals fall far short of guaranteeing

that students will graduate debt free as proponents claim, at least absent other large increases in grant aid.

Even among those eligible for free college, many students borrow to cover non-tuition expenses such as housing, food, and textbooks while enrolled (hereafter referred to as "living expenses"). The free-college plans cover tuition only, which means that much of the borrowing for living expenses will continue, even if tuition is free and the federal Pell Grant is repurposed to cover living expenses, as many free-college policies propose.

After taking these factors into account, our analysis suggests that a federal free-college matching grant for states such as that proposed by Sens. Sanders and Warren (and endorsed by Vice President Biden) would reduce new student loan volume over the next decade by just 15 percent. Therefore, we expect that the federal government will issue $1 trillion in new student loans over the coming decade even if every state enacts and fully adopts free-college proposals. This implies that even if the current stock of outstanding student debt is forgiven and public colleges and universities are free for in-state students, the federal student loan portfolio will return to so-called "crisis" levels within a couple decades.

Assumptions and Limitations

The descriptive analysis in this report uses recent enrollment and borrowing data to estimate the possible effect of a first-dollar, free-college policy on student debt. It does not aim to predict the outcome of the policy change using causal inference. And we do not incorporate any behavioral changes among students or institutions of higher education to reach our results. The analysis is based on the current state of higher education enrollment and pricing as reflected in the data.

In reality, students, states, and higher education institutions will change their behavior in response to free college. Some of these responses will reduce student borrowing further than what we estimate, but others will blunt the effects of free college, resulting in a more limited effect on student debt than the findings presented here.

For example, free college might induce students who would otherwise enroll in more expensive private colleges to switch to free public colleges, reducing student debt further than what we estimate.[8] On the other hand, some states might not opt into the free-college proposal, which would limit the policy's effect and lead us to overestimate its impact on student debt. It is difficult to know where the balance lies in these behavioral responses, and we do not aim to make such a determination or make the case for one set of assumptions over another.

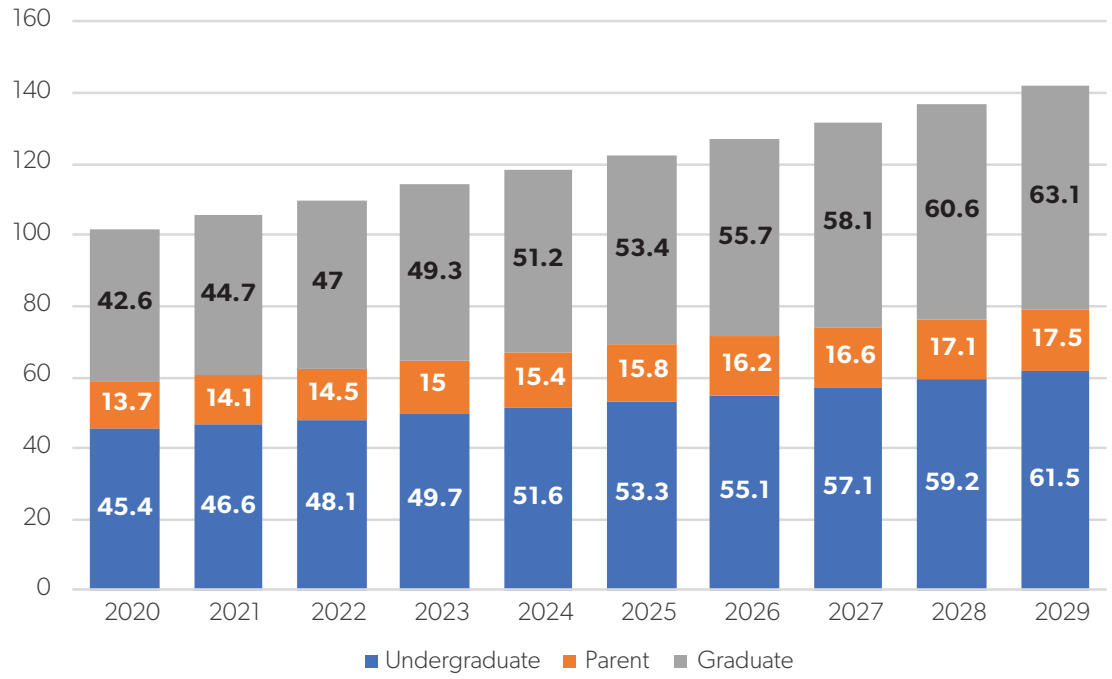
In a few cases in which we had to make assumptions about behavior, we erred on the side of simplicity, and in most instances these assumptions bias our estimate higher than it would otherwise be. That is, we show a larger reduction in student debt than is likely to happen in reality. For example, we assume that all states opt into the program and that students' tuition reduction from free college leads them to reduce their borrowing on a dollar-for-dollar basis. We also assume for simplicity's sake that the policy is available to students regardless of financial need, even though many prominent free-college plans exclude high-income families. However, we also assume that students will not switch from private institutions to in-state public ones, which biases the estimate in the other direction.

Identifying Ineligible Borrowers

The analysis in this report focuses on the federal government's Direct Loan Program, which originates nearly 90 percent of new student loans every year.[9] The analysis does not include private loan borrowing. According to the Congressional Budget Office, the federal government will issue just over $1.2 trillion in new loans between 2020 and 2029. Three distinct groups are eligible for these loans: undergraduate students who will borrow an estimated $528 billion (44 percent), parents of dependent undergraduates who will borrow an estimated $156 billion (13 percent), and graduate students who will borrow an estimated $526 billion (43 percent).[10] (See Figure 1.)

We assume that all lending to graduate students will continue as estimated under current policies.

Figure 1. New Federal Student Loans Issued Between 2020 and 2029, by Type of Borrower ($ Billions)



Source: Congressional Budget Office, "Student Loan Programs—CBO's May 2019 Baseline," May 2, 2019, https://www.cbo.gov/system/ files/2019-05/51310-2019-05-studentloan.pdf.

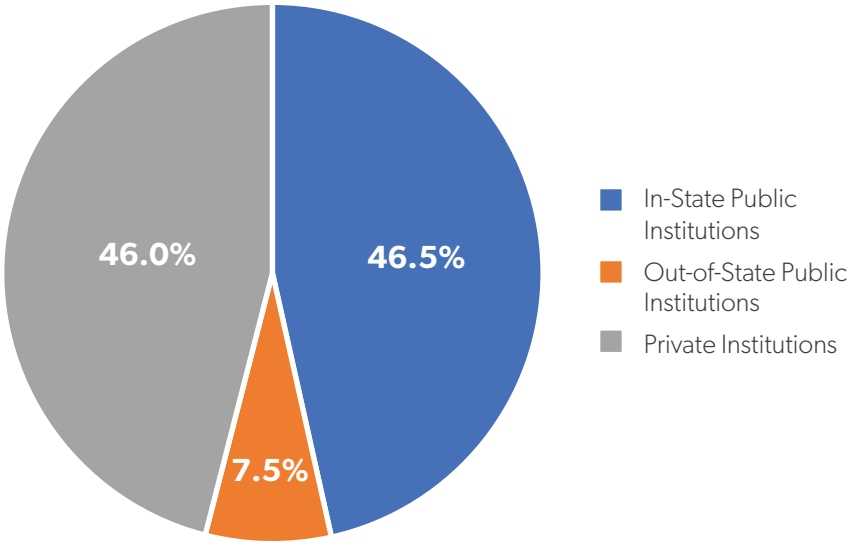
(The free-college plans described in this report do not cover graduate school.) That leaves two groups whose borrowing could be affected by free-college policies: undergraduates and parents of undergraduates. These groups are expected to borrow $684 billion in new loans over the next 10 years, or 57 percent of all estimated federal lending. Our analysis focuses on what share of this remaining 57 percent of federal loans will not be issued if tuition at public colleges becomes free.

In addition to assuming that all graduate school borrowing continues on its current course, we assume the same for all undergraduate students who attend private nonprofit and for-profit colleges and universities.[11] Students who attend these institutions must still pay tuition under the free-college proposals; their institutions are not eligible for the program. We estimate that 46.0 percent of new undergraduate and parent loan volume is issued to students attending these institutions every year (or 26.2 percent of all federal lending). (See Figure 2.)

Another group unaffected by the free-college proposals is students who pay the out-of-state tuition rate at public institutions. The free-college proposals explicitly restrict the program to in-state students only, making out-of-state students ineligible. These students account for 7.5 percent of new undergraduate and parent loans (or 4.3 percent of all federal lending).[12]

That means just 46.5 percent of new undergraduate and parent loan volume (or 26.5 percent of all federal lending) is associated with the public-institution students who pay in-state tuition rates, which is the group affected by free college.[13] In short, only about a quarter of all borrowing in the federal loan program is associated with students who could qualify for free-college programs. But as we discuss more below, even this group of students is unlikely to reduce their borrowing to zero if free college is enacted.

Figure 2. Undergraduate and Parent Borrowing by Institution Control and Student Residency, 2015–16



Source: Authors' calculations based on National Center for Education Statistics, "National Postsecondary Student Aid Study (NPSAS)," 2016, https://nces.ed.gov/surveys/npsas/.

Measuring Debt Reduction for Eligible Students

To measure how much in-state students at public universities with loans are likely to reduce their borrowing under the free-college plans, we need to understand the mechanics of free-college proposals. The details vary, but the plans generally involve a federal-state matching grant program that aims to eliminate tuition and fees (hereafter referred to as simply "tuition") for in-state students at public colleges and universities (including community colleges). Under Sen. Sanders' plan (and the one Vice President Biden endorsed), the federal government pays 67 percent of the cost of free college, while states contribute the remaining 33 percent.

These plans are often called "first-dollar" free-college programs because states and institutions must fully cover tuition expenses (using their own funds and the new matching grants) before applying a student's other federal aid, such as Pell Grants. With tuition fully covered by state and federal matching grants, students would use Pell Grants entirely for living expenses if they attend an in-state public college.

Our analysis is based on this first-dollar design. Although some proponents of the free-college plans have also called for an increase in the Pell Grant from its current per-student maximum of $6,345, our analysis is based on the grant size provided under current policy. Excluding proposed Pell Grant increases from this analysis helps isolate how the federal-state matching grants will affect borrowing.[14]

We assume that states and institutions will be able to count their existing financial aid toward satisfying the tuition-free requirement. For instance, California may count its existing $2.4 billion Cal Grant toward reducing students' tuition rather than come up with new money to eliminate tuition at the state's public colleges.[15] It would be politically and fiscally untenable for the federal government to require states to exclude these sources of aid (and require that they be fully repurposed to cover living expenses), as it would penalize states that already provide generous need-based aid programs relative to those that do not.[16] Most prominent free-college

Table 1. Hypothetical Free-College Program vs. Current Law for Example Student

Current Law		Free College	
"Sticker Price" Tuition and Fees	$8,000	"Sticker Price" Tuition and Fees	$8,000
State Grants and Institutional Aid	$3,000	State Grants and Institutional Aid	$3,000
Net Tuition After Nonfederal Aid	*$5,000*	*Net Tuition After Nonfederal Aid*	*$5,000*
Federal Pell Grant	$3,000	Free-College Grant	$5,000
		Federal Pell Grant	$3,000
Net Tuition and Fees After All Aid	*$2,000*	*Net Tuition and Fees After All Aid*	*$0*
Aid Available for Living Expenses	$0	Aid Available for Living Expenses	$3,000
		Net Benefit from Free College	*$5,000*

Source: Authors' calculations.

proposals that use a federal-state matching grant, such as the College Affordability Act, which won committee approval in the House in 2019, explicitly allow states to count existing aid in meeting the free-tuition requirements.[17] Sen. Brian Schatz's (D-HI) Debt-Free College Act is another example.[18]

Therefore, our analysis counts all existing state and institutional (but not federal) financial aid for in-state students at public institutions toward meeting the free-tuition requirement.[19] The following example illustrates how the free-college plans would work under this design.

Consider a student who attends a public in-state university with annual, full-time "sticker price" tuition of $8,000. A state grant program and institutional scholarships combine to reduce her tuition to $5,000. On top of that, she receives a $3,000 federal Pell Grant, which she applies to her tuition. Her net tuition under the current system is therefore $2,000.[20]

Under this hypothetical free-college program, a combination of state, institutional, and federal funds fully covers the student's tuition expenses. As shown in Table 1, the student receives an additional $5,000 in aid under the free-college plan, which reduces her net tuition to zero. Her $3,000 Pell Grant is not applied toward tuition. She now receives the grant in cash, which she can use to pay for living expenses. The student has gone from a $2,000 net tuition liability to no tuition liability, plus a $3,000 credit toward living expenses.

We use data from the 2015–16 National Postsecondary Student Aid Study (NPSAS) to simulate how borrowing changes under the first-dollar free-college plan described above for students affected by the policy: those attending in-state public universities. First, we calculate the size of the new grant each student would receive under free college. This is equivalent to net tuition after all state and institutional aid (but not federal grants) is applied. Although students never actually see the new "grant," as it goes directly to the institution to bring their net tuition to zero, thinking of the new program as a grant helps analyze the effect on borrowing.

We assume that the relationship between new free-college grants and a reduction in borrowing is one-to-one. In other words, students who receive a new $2,000 grant under free college will reduce their borrowing by $2,000 (if they already borrow $2,000 or more).[21] This is a strong assumption, which leads us to overestimate the reduction in new

loans under free college, as existing evidence suggests that the grant-loan relationship is considerably less than one-to-one.[22] (Note that students' borrowing includes both undergraduate loans they took out themselves and any loans their parents took out on their behalf.)

Similarly, we assume that students who currently borrow less than their net tuition before federal grants will reduce their borrowing to zero. If a student receives a $2,000 grant under free college but would have borrowed only $1,500 for tuition otherwise, aggregate borrowing goes down by $1,500.

If a student borrows more than his or her net tuition because he or she is financing living expenses in addition to tuition, we assume he or she will continue to borrow after free college is implemented, albeit a reduced amount. Many students at public universities and community colleges borrow for their living expenses in addition to tuition, and much of this borrowing will continue under the free-college proposals because only tuition is free.

To see how this would be the case, consider a student with no Pell Grant who currently borrows $7,500, of which $3,000 covers tuition expenses and $4,500 covers living expenses. The most his borrowing would decline under the free-college plan is $3,000, the amount of his tuition expenses, which become fully subsidized. We assume he continues to borrow the $4,500 for living expenses.

Our analysis does, however, include a reduction in borrowing when students who had been using Pell Grants for tuition would instead be able to use them for living expenses. For example, if a student applies a $3,000 Pell Grant to tuition expenses under current policies and then borrows $4,000 for her living expenses, free college would allow her to apply that Pell Grant to her living costs. Our analysis shows her borrowing would be reduced to $1,000 under free college.[23]

Finally, we assume that students who currently borrow nothing, a group that makes up the majority of in-state students at public institutions (two-year and four-year institutions combined), will not change their behavior. Free college may affect these students' financial position, but we assume it cannot affect student loan borrowing because they currently do not borrow.

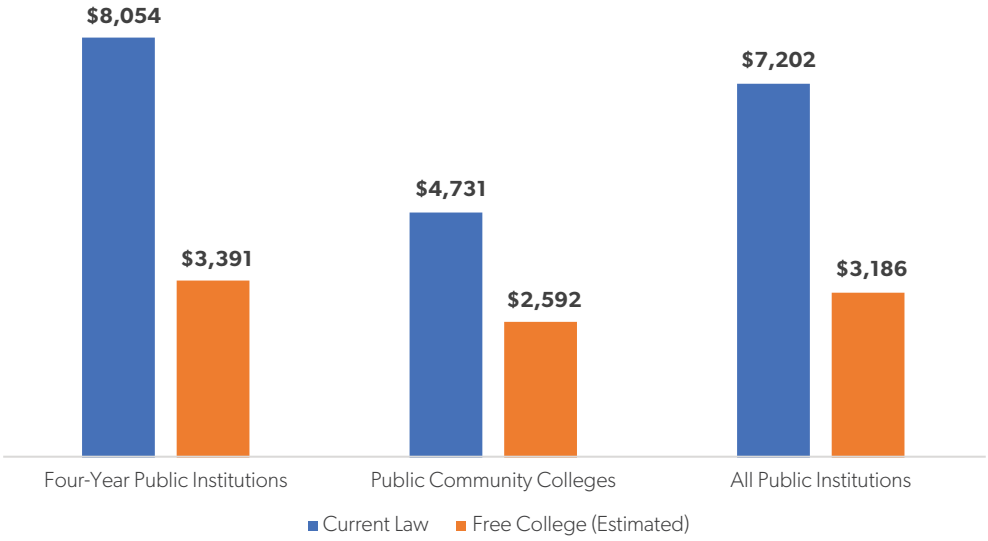
Aggregate and Per-Borrower Debt Reduction

Only a limited group of student loan borrowers, the in-state students at public institutions who currently borrow, will be eligible to benefit from the debt-reduction effects of free college. Individuals in this group account for 46.5 percent of new undergraduate and parent loan balances, and the effect of free college on them will be pronounced. However, even among this group, borrowing will not drop all the way to zero because many students can be expected to continue borrowing for their living expenses, albeit at a reduced amount if they are Pell Grant recipients.

At four-year public colleges and universities, in-state students who borrow currently take out just over $8,000 per year in federal loans on average. Under free college at four-year institutions, their average borrowing falls to roughly $3,400. At community colleges, borrowers each currently take out $4,700 on average, and their borrowing under free college falls to about $2,600. Overall, we estimate that borrowing by in-state students who take on debt at all public institutions will fall by 56 percent under free college, as shown in Figure 3.

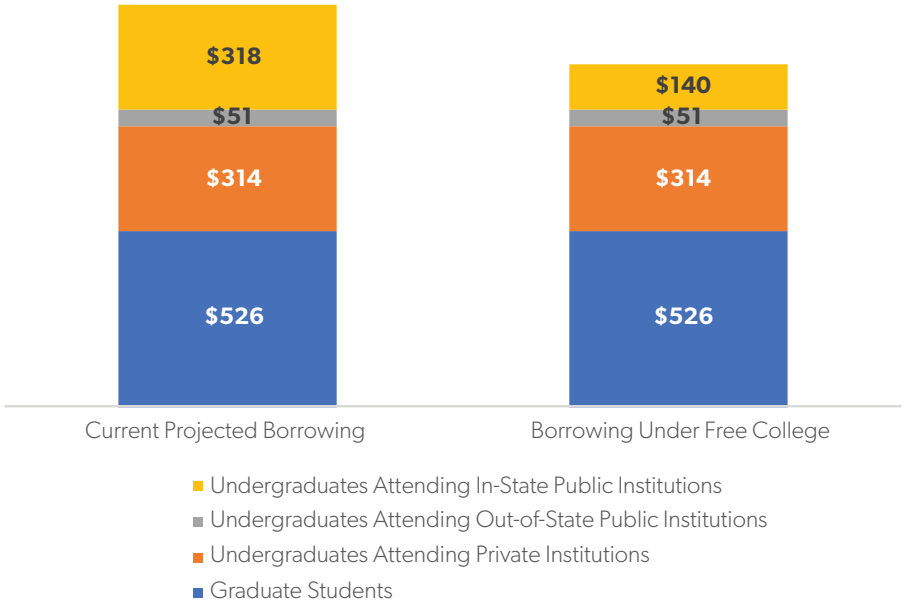
Even though borrowing drops by a large amount (but not entirely) among in-state students at public institutions, the overall effect on student borrowing is still small because these students account for only a fraction of the $1.2 trillion in new loans that the federal government is projected to issue over the coming decade. Loans to in-state students at public institutions will total approximately $318 billion over the coming decade. The 56 percent reduction in borrowing among this group implies that aggregate student loan borrowing will fall by $177 billion over the next 10 years (Figure 4). This accounts for 26 percent of new federal loans to undergraduates and parents and just 15 percent of new federal loans for all students.[24]

Figure 3. Average Annual Borrowing Under Current Law and Free College Among Students Who Currently Borrow (In-State Students at Public Institutions Only)



Note: Figures include only those who borrow under the current system. "Free college" figures include current borrowers whose borrowing is reduced to zero by free college.
Source: Authors' calculations based on National Center for Education Statistics, "National Postsecondary Student Aid Study (NPSAS)," 2016, https://nces.ed.gov/surveys/npsas/.

Figure 4. Federal Student Loans Issued Under Current Policy and Free College, by Category, 2020–29 ($ Billions)



Source: Authors' calculations based on National Center for Education Statistics, "National Postsecondary Stu-dent Aid Study (NPSAS)," 2016, https://nces.ed.gov/surveys/npsas/; and Congressional Budget Office, "Student Loan Programs—CBO's May 2019 Baseline," May 2, 2019, https://www.cbo.gov/system/files/2019-05/51310-2019-05-studentloan.pdf.

Conclusion

A national first-dollar free-college program targeting in-state students at public colleges and universities will reduce new student loan borrowing by far less than the conventional wisdom suggests. We estimate that such a plan would reduce new borrowing by $177 billion over the next 10 years, a reduction of 15 percent.

Even under free college, we expect the federal government will continue to make over $1 trillion in federal loans during the next 10 years. Pairing free college with mass cancellation of existing debt will not solve the perceived student debt "crisis" in the way that many proponents suggest. Moreover, mass debt forgiveness is likely to create a moral hazard, since future borrowers may anticipate another round of loan cancellation once the outstanding debt stock again climbs to high levels. The implicit promise of future loan forgiveness could encourage current students to borrow more, exacerbating the student debt "crisis" that advocates of loan cancellation perceive. Fourteen years after free college is implemented, the federal government will have issued $1.5 trillion in new student loans, a figure roughly equivalent to the outstanding federal loan stock today.

Since free college will not eliminate the need for new federal student loans, policymakers who wish to pursue mass loan cancellation and make college debt free must find other ways to reduce new annual loan volume. One possible approach, making free college even more generous and applying it to private undergraduate institutions and even graduate schools, is certain to be prohibitively expensive and politically fraught. If policymakers see curtailing new student borrowing as desirable, the best way to achieve that goal is to directly reduce the size and scope of the federal student loan program itself. Most free-college advocates have not proposed any such policies.

Acknowledgments

We would like to thank Clare McCann of New America and other anonymous reviewers for their thoughtful comments on this report. Of course, the views expressed are our own, and we take full responsibility for any errors that remain.

Notes

1. Jason D. Delisle and Preston Cooper, "Free College and the Debt-Free Fantasy," American Enterprise Institute, June 10, 2020, https://www.aei.org/research-products/report/free-college-and-the-debt-free-fantasy/.

2. Federal Student Aid, "Federal Student Loan Portfolio," https://studentaid.gov/data-center/student/portfolio.

3. Elizabeth Warren, "I'm Calling for Something Truly Transformational: Universal Free Public College and Cancellation of Student Loan Debt," Medium, April 22, 2019, https://medium.com/@teamwarren/im-calling-for-something-truly-transformationaluniversal-free-public-college-and-cancellation-of-a246cd0f910f.

4. Bernie Sanders, "College for All and Cancel All Student Debt," Friends of Bernie Sanders, https://berniesanders.com/issues/free-college-cancel-debt/.

5. Bernie Sanders, "Bernie Sanders: America Is Drowning in Student Debt. Here's My Plan to End It," *Fortune*, July 9, 2019, https://fortune.com/2019/07/09/bernie-sanders-cancel-student-debt/.

6. Joe Biden, "The Biden Plan for Education Beyond High School," Joe Biden for President, https://joebiden.com/beyondhs/.

7. Joe Biden, "Joe Biden Outlines New Steps to Ease Economic Burden on Working People," Medium, April 9, 2020, https://medium.com/@JoeBiden/joe-biden-outlines-new-steps-to-ease-economic-burden-on-working-people-e3e121037322.

8. In reality, the proportion of undergraduates attending public schools will almost certainly change, though the direction is uncertain. Massachusetts' Adams Scholarship, which offered free public-college tuition to high-achieving students, induced many students to switch from private to public institutions. See Sarah R. Cohodes and Joshua S. Goodman, "Merit Aid, College Quality, and College Completion: Massachusetts' Adams Scholarship as an In-Kind Subsidy," *American Economic Journal: Applied Economics* 6, no. 4 (October 2014): 251–85, https://www.aeaweb.org/articles?id=10.1257/app.6.4.251. However, international evidence suggests that free-tuition policies may reduce college enrollment in the long term. When tuition is no longer available as a revenue source, institutions face an incentive to reduce the number of available spots to save on costs. Developed countries with universal free college tend to have lower college-degree attainment rates. See Jason D. Delisle and Preston Cooper, *International Higher Education Rankings: Why No Country's Higher Education System Can Be the Best*, American Enterprise Institute, August 8, 2019, https://www.aei.org/research-products/report/higher-education-rankings-no-countrys-system-best/.

9. College Board, "Total Federal and Nonfederal Loans by Type over Time," 2019, https://research.collegeboard.org/trends/student-aid/figures-tables/total-federal-and-nonfederal-loans-type-over-time.

10. Congressional Budget Office, "Student Loan Programs—CBO's May 2019 Baseline," May 2, 2019, https://www.cbo.gov/system/files/2019-05/51310-2019-05-studentloan.pdf.

11. Some proposals also include free-tuition plans for private minority-serving institutions; we model a plan that applies to only public institutions.

12. Authors' calculations using US Department of Education, Institute of Education Sciences, National Center for Education Statistics, "National Postsecondary Student Aid Study (NPSAS)," 2016, https://nces.ed.gov/surveys/npsas/.

13. Authors' calculations using US Department of Education, Institute of Education Sciences, National Center for Education Statistics, "National Postsecondary Student Aid Study (NPSAS)."

14. Sen. Bernie Sanders and Vice President Joe Biden have both proposed an additional provision to their first-dollar free-college program whereby states and public universities would be required to pay for a student's full cost of attendance (tuition and living expenses) if he or she receives the maximum federal Pell Grant. We excluded the effect of this provision from our main estimate but modified the analysis to gauge how much more borrowing would decline if this provision were added. Whereas we estimated that undergraduate borrowing would decline by 26 percent for our main analysis, adding in the provision for maximum Pell Grant recipients would bring that figure to about a 33 percent reduction, assuming that borrowing falls dollar-for-dollar with new grant aid. This additional policy does not alter our main findings by a large margin for several reasons. The affected students (maximum Pell Grant recipients at in-state public colleges) represent a small share of all undergraduates. Some of these students do not borrow and

therefore cannot benefit from reduced borrowing. Some of these eligible students who do borrow have their borrowing mostly or fully reduced by the free-tuition provision and Pell Grants shifting to living expenses; thus, they cannot further reduce their borrowing from the extra funds they would receive if all their living expenses were covered.

15. California Student Aid Commission, "What Are the Cal Grant Award Amounts," https://www.csac.ca.gov/post/what-are-calgrant-award-amounts. See also Legislative Analyst's Office, "Cal Grant Cost Estimates," November 21, 2019, https://lao.ca.gov/Publications/Report/4114.

16. Some proponents of first-dollar free-college plans assume a maintenance-of-effort provision in most free-college plans will require states and institutions to commit entirely new funds to fund free college and then convert all existing aid that covers tuition into stipends for living expenses. This is what makes the program "first dollar." Under this view, for example, California would not be able count its existing $2.4 billion need-based Cal Grants program toward reducing students' tuition and instead must commit entirely new funds to that effort. The state must then also maintain the existing $2.4 billion of spending on its Cal Grant program, but fully convert the program from what is now largely a tuition subsidy to stipends for living expenses instead. We believe states would balk at such a requirement. Instead, we interpret the first-dollar design as an effort to ensure states and institutions do not count the federal Pell Grant toward the free-tuition requirement but that it would not preclude them from counting their own existing financial aid funds toward meeting that requirement. (A so-called "last dollar" program would allow them to count their existing aid and the Pell Grant.) Furthermore, we interpret the legislative text of the proposals to mean that states and institutions may count all their existing aid programs toward meeting the free-tuition provision and simultaneously satisfy the maintenance-of-effort provision, like the one proposed by Sen. Sanders and Vice President Biden.

17. College Affordability Act, H.R. 4674, 116th Cong., 1st sess., https://www.congress.gov/116/bills/hr4674/BILLS-116hr4674ih.pdf.

18. Debt-Free College Act of 2019, S. 672, 116th Cong., 1st sess., https://www.congress.gov/116/bills/s672/BILLS-116s672is.pdf.

19. For simplicity, we also count private grants and scholarships toward satisfying the free-college requirement. In reality, first-dollar free-college policies would prohibit this approach, and the aid can only be used toward living expenses. Average private aid for the target population for free college is relatively small (about $400 annually) and does not make a noticeable difference in our key findings. Authors' calculation based on US Department of Education, Institute of Education Sciences, National Center for Education Statistics, "National Postsecondary Student Aid Study (NPSAS)," 2016, https://nces.ed.gov/surveys/npsas/.

20. This analysis does not count private, state, or institution student loans as financial aid and does not net them from a student's tuition.

21. We include any borrowing in the federal Parent PLUS loan program in the student's total debt that can be reduced because of free college. In other words, we treat the student's and parent's debt as a combined loan balance in our analysis. However, we exclude any nonfederal loans from the analysis.

22. Sandy Baum and Michael McPherson, "'Free College' Does Not Eliminate Student Debt," Urban Institute, August 22, 2019, https://www.urban.org/urban-wire/free-college-does-not-eliminate-student-debt. See also Rajashri Chakrabarti et al., who estimate a tuition-debt elasticity of 30 percent. Rajashri Chakrabarti et al., "Tuition, Debt, and Human Capital," Federal Reserve Bank of New York, February 2020, https://www.newyorkfed.org/research/staff_reports/sr912.

23. Other scenarios include students who use part of their Pell Grants on tuition and part on living expenses. Consider a student with a $3,000 Pell Grant who uses $1,000 to pay tuition expenses and the remaining $2,000 for living expenses. She also borrows $5,000 for living expenses. The free-college plan can reduce her borrowing by only $1,000 because that is the amount by which her Pell Grant increases. Or consider a student whose financial aid from other sources already allows him to apply all of his Pell Grant to his living expenses, but he still borrows $5,000 for the remainder of his living expenses. This student would thus receive no additional aid or Pell Grant for living expenses under the free-college plans, and his borrowing would remain the same.

24. We also analyze two variations of the free-college plan. One would make only community colleges free, an idea Biden has proposed in the past. Assuming this program does not change the proportion of undergraduate students enrolled in community colleges, we estimate that a community-college-only free-college program would reduce new undergraduate borrowing by 4 percent and new aggregate borrowing for the entire federal student loan program by just 2 percent. The other variation, proposed by Sanders and

endorsed by Vice President Biden, would provide additional grants that cover all living expenses for any student receiving the maximum Pell Grant. Incorporating this policy into our analysis reduces new undergraduate borrowing by 33 percent and aggregate federal student loan borrowing by 18 percent.

Lessons from Chile's Transition to Free College

Jason D. Delisle and Andrés Bernasconi

This report was originally published by the Brookings Institution on March 15, 2018.[1]

In the US, free-college policies emerged as a major theme during the 2016 presidential election. Two Democratic candidates, Sen. Bernie Sanders and Secretary of State Hillary Clinton, each proposed plans to make college free at public universities with federal matching grants.[2] While the election results dashed those specific proposals, the idea continues to appeal to many policymakers as a way of addressing rising college prices, growing student debt burdens, and unequal access to higher education institutions.

Recently, tuition-free policies have seen some movement in state legislatures. In 2017, New York lawmakers implemented a free-college program, the Excelsior Scholarship, for students from families earning up to $125,000 a year who attend in-state public institutions.[3]

Many who advocate for free-college policies often point to other countries that provide such benefits as evidence that the US could and should emulate them.[4] Typically, supporters look to Europe for free-college case studies, but Chile may actually provide a better comparative study. Indeed, in his presidential campaign proposal, Sen. Sanders listed Chile as one of several countries that "offer free college to all of their citizens."[5] He argues, "If other countries can take this action, so can the United States of America."

In 2011, Chilean students staged massive protests against the country's education policies, which they criticized as overly reliant on free-market principles—mainly that higher education institutions charged relatively high tuition and many students borrowed to finance their education. Indeed, Chile has historically required students and families to pay a relatively large share of higher education costs. Like the US, however, students from lower-income families receive scholarships to defray tuition prices.[6]

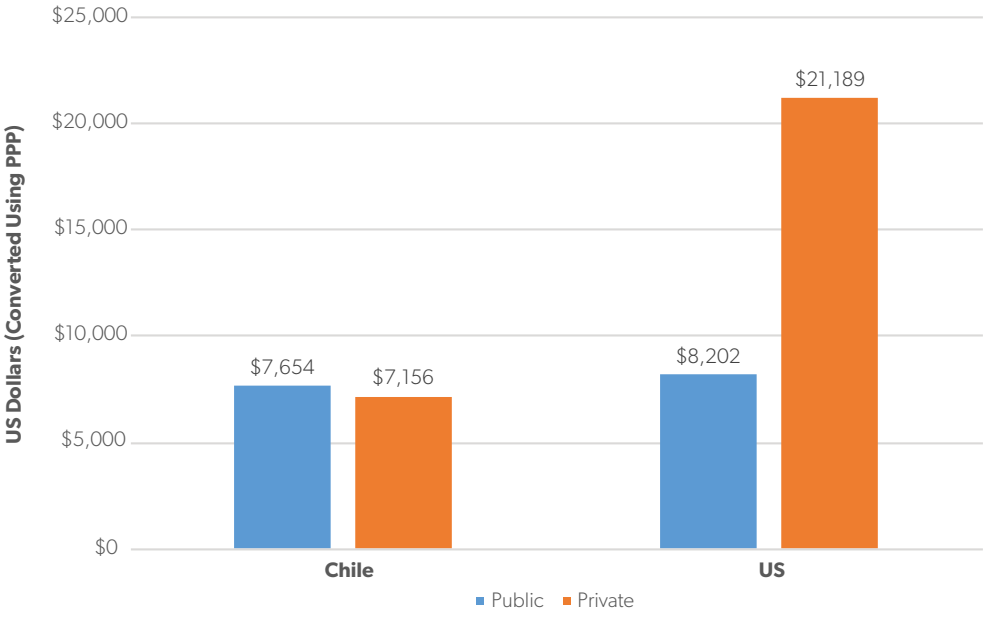
The similarities with the US go even further. A central part of Michelle Bachelet's 2013 presidential campaign was a pledge to make higher education tuition free ("*gratuidad*," in Spanish) for all students from families in the lower 70 percent of the income distribution by 2018 and tuition free for all students regardless of income by 2020. President Bachelet won the election based partly on that proposal.

Given the similarities between Chile and the US in the cost and structure of their higher education systems, and the political pressures that made free college a national issue, examining Chile's experience with *gratuidad* is likely to be informative for US audiences. This report will outline the details of Chile's *gratuidad* program and the system it replaced. It then discusses some of the changes and unintended consequences observed in the wake of the reform and links these points to the debate over free college in the US.

Higher Education in Chile and the Free-College Movement

The Chilean higher education system has a similar organization to that in the US. There is a mix of public and private universities (18 public and 44 private) and numerous private professional institutes (most of them for-profit) and private technical training centers (almost all for-profit).[7] Chile's universities also range in quality and selectivity. One key difference

Figure 1. Average Annual Tuition for Full-Time Bachelor Degree Students at Public and Private Universities (Before Student Aid), 2015–16



Source: Organisation for Economic Co-operation and Development, "Education at a Glance 2017," Table B5.1.

with the US is that 85 percent of Chilean students are enrolled in private institutions.[8]

Tuition in Chile is among the highest in the world, about $7,600 (purchasing power parity) on average at public universities. (See Figure 1.) However, this price does not factor in government grant and scholarship aid, which can significantly reduce the net price that students pay. The average tuition—the sticker price that universities advertise—is equivalent to approximately half of median family income.[9] Only American private universities and British universities have higher sticker prices relative to per capita gross national product.[10]

Another similarity with the US system is that many students do not pay the sticker price that universities publish. Discounts offered at the university level in the form of scholarships, together with government-funded student aid, cover most or all fees for students with low and middle incomes. The average scholarship for low-income students covers between 63 and 70 percent of actual tuition costs.[11] Government-backed student loans are also available, which allow students to borrow for almost the entire cost of tuition (but are not available for cost-of-living expenses) and feature below-market interest rates, income-based repayment terms, and loan forgiveness after a certain number of payments. The loans and scholarships are generally available to students from the lowest four income quintiles, with most scholarships limited to students from the lowest two quintiles. (See Table 1.) Overall, about half of all undergraduate students in Chile received financial aid in the form of scholarships or loans before *gratuidad* was introduced in 2016.[12]

The scholarship and loan programs include merit requirements. To qualify for aid, students must achieve a minimum score on a national college-admission test, the PSU, similar to the SAT or ACT in the US. The cutoff for eligibility differs by program, but it typically falls around median test scores for all test takers. That is a sharp break with the US, where federal grants and loans are provided without regard to test scores or grades, although some programs offered by states and universities include a merit requirement.

Table 1. Distribution of Chilean Government-Issued Scholarships by Income Group in 2015 for Four- and Five-Year Programs

	Bottom Quintile	2nd Quintile	3rd Quintile	4th Quintile	Top Quintile
Percentage of Total Scholarships	22%	35%	30%	12%	0%

Note: Percentages do not sum to 100 percent due to rounding.
Source: Alonso Bucarey, "Who Pays for Free College? Crowding Out on Campus," Massachusetts Institute of Technology, 2018, Table 14, http://economics.mit.edu/files/14234.

Student Protests of 2011. In 2011, Chilean students staged massive demonstrations against the government's higher education policies. They complained that the government had abandoned public higher education in favor of market-based policies. This "marketization" was, in their view, producing a "commodified" education that relied on expensive tuition and high student debt, profiteering, and concentration of enrollments in the private sector.[13]

The student movement advocated for several reforms. Primarily, it called for greater access to higher education, especially for lower-income families. (As of 2011, the gross enrollment rate was 27 percent for students in the bottom income decile and 91 percent for those in the top decile.) This, advocates argued, could be achieved by abolishing tuition, first for students in the lower 70 percent of family income and then for all students. They also demanded more capacity at public universities.[14]

This was not the first organized student movement regarding higher education costs. Equally large demonstrations occurred in 2006, although students did not call for free tuition.[15] Policymakers assuaged these past complaints by expanding existing aid programs. For example, in 2011, President Sebastián Piñera greatly expanded scholarships and increased loan benefits by adopting an income-contingent repayment design and cutting interest rates to 2 percent.[16] These concessions were not sufficient, however, as this time students rallied around the idea of free tuition as the antidote to market-based policies.

The 2013 Presidential Campaign Launches Free College. In the 2013 presidential campaign, free college became a central pledge of Michelle Bachelet, the Socialist Party candidate, along with tax reform to finance it. As the student protests had demanded, the first stage of the proposal would apply to all students in the lowest 70 percent of family income by 2018 and would eventually apply to students regardless of family income by 2020.

Bachelet was elected with 62 percent of the vote in 2013, and she won comfortable majorities for her coalition in both houses of Congress. This provided her with a clear mandate to enact *gratuidad*. But the promise to provide free college to all students quickly proved challenging.

The Ministry of Finance calculated free tuition for all students would cost 2.1 trillion Chilean pesos, or $3.14 billion per year, an amount deemed unattainable given the level of economic growth and tax revenue at the time.[17] Following Bachelet's election, economic growth slowed to its lowest level in years due largely to the sudden drop in the price of copper, which is a significant source of Chilean tax revenues. There simply was not enough revenue to make good on the promise of free tuition—at least initially.

***Gratuidad* Prevails.** Faced with reconciling the high cost of *gratuidad* and lower-than-expected government revenues, the Bachelet government opted to pare the plan down and phase it in more gradually—a move that ultimately allowed her government to enact the policy starting in 2016. This version cost 518 billion Chilean pesos, or roughly $810 million, a fraction of the cost of her initial campaign pledge.

In 2016, its initial year, *gratuidad* applied only to students in the lower 50 percent of the income

distribution, not the lower 70 percent as first proposed. In its third year, 2018, the program would expand to include students in the lower 60 percent of the family income distribution. Lawmakers enacted the program to automatically extend to additional students once tax revenues reach specified thresholds.

Under the current policy, students eligible for free tuition include both current and newly enrolled undergraduates at eligible institutions. All public universities are required to adhere to *gratuidad*, meaning they must agree to waive tuition for students they admit who meet the family income qualifications. Private universities and colleges can opt to participate in *gratuidad* if they are structured as nonprofits and meet higher levels of accreditation status. Universities and colleges receive per-student subsidies from the government, the amount of which is determined by a formula, to offset the cost of enrolling students eligible for *gratuidad* (discussed more in a subsequent section). Students enrolled at nonparticipating institutions, or those enrolled in participating institutions who are above the income threshold for *gratuidad*, can still apply for government scholarships and receive a government-backed subsidized loan.

Professional institutes and technical training centers were excluded from *gratuidad* at first, but lawmakers offered assurances that they would be included in the 2017–18 school year, which the government eventually followed through on.[18] However, these institutions must meet minimum accreditation requirements and be organized as nonprofits (or formally commit to transform into nonprofit entities during 2017). At the time the policy was enacted, most were organized as for-profit entities.

There is another limitation on the benefits of *gratuidad* that helps limit costs. Students may qualify for free tuition only for the official duration of an educational program. In practice, however, time to degree typically runs 10–30 percent longer than the official duration of a program.[19] For shorter-term programs, such as associate degrees, time to degree is typically 50 percent longer than official length.

The Effects of *Gratuidad*

Assessing *gratuidad*'s impact is difficult because it has been in place for just two years. More data on enrollment levels, borrowing, and completion rates are needed before researchers can make definitive judgments on the program's success or shortfalls. However, the available information from *gratuidad*'s first two years provides some sense of whether the policy is on track to produce its intended results.

In that regard, this section covers four topics: university participation in *gratuidad* and enrollment changes observed in its initial years, the extent to which *gratuidad* replaced existing financial aid, an econometric study that suggests low-income students will be crowded out of more selective universities, and finally, the revenue pressures the program has imposed on universities and how that may threaten quality. As additional years of data become available, policymakers will be able to better judge the long-term impacts of *gratuidad* on college access and attainment.

Eligibility and Enrollment. Student protesters and President Bachelet made the case for *gratuidad* partly on philosophical and ethical grounds—that higher education should be free because it is a right. Descriptive statistics, however, show that the policy falls far short of delivering universal free higher education.

One factor is that not all universities participate in *gratuidad*. In 2016, the first year of *gratuidad*, only 30 universities out of the 60 operating in Chile participated in the program. Some institutions do not meet the accreditation requirements, but at least three eligible private universities opted not to participate.[20] These universities have high tuition rates, campuses in the more affluent suburbs of Santiago, and larger shares of students from wealthier families. *Gratuidad*'s tuition caps would have had a significant financial impact on these institutions' budgets.

Even if all institutions participated in the program, *gratuidad* would not be a universal benefit so long as it is restricted to students from the lower half of the income distribution. The income cutoff, combined with the fact that many institutions are not eligible for the program due to their for-profit status or lower

accreditation, or simply opt not to participate, makes *gratuidad*'s reach quite minor. The program applied to just 12 percent of undergraduate students in 2016, or approximately 140,000 students.[21] About one-third of students who received the benefit that year were first-year students, and the rest had been enrolled the prior year.

Expanding the program beyond universities has improved the policy's reach. As of the end of May 2017, it covered 22 percent of total undergraduate enrollments. Professional institutes and technical training centers, participating in the program for the first time in 2017, accounted for 36 percent of the beneficiaries, while universities accounted for the rest.[22]

Despite the program's limited reach, the Ministry of Education suggests it has been successful in allowing more students to enroll in higher education. By the ministry's estimates, 15 percent of entrants in 2016 would not have enrolled under the preexisting financial aid scheme of grants, scholarships, and loans.[23]

***Gratuidad* Supplants Existing Student Aid.** Another dynamic will likely limit *gratuidad*'s ability to bring about major enrollment changes. According to the Ministry of Education, 87 percent of non-first-year students who received *gratuidad* in 2016 had some form of government-issued financial aid in 2015, meaning just 13 percent had no prior assistance. That is because students from families in the lower 50 percent of the income distribution qualify for scholarships and loans. To be sure, some of these students received subsidized loans that they may have needed to fully repay or grants and scholarships that only partially covered tuition. In that regard, *gratuidad* did increase aid.

In the years before *gratuidad*, the Organisation for Economic Co-operation and Development and the World Bank estimated that the average scholarship award for low-income students covered between 63 and 70 percent of the actual cost of tuition fees.[24] For the rest of the costs, students either had to pay out of pocket or take out subsidized loans. This underscores that *gratuidad* has mostly supplanted existing forms of student aid. However, students who had been ineligible for scholarships before *gratuidad* because they did not meet the academic requirements gained significant amounts of aid. *Gratuidad* does not include any merit requirements. There are no academic performance standards beyond the criteria set by the university itself for admission.

Given that some participating universities have admissions standards below those required by the loan and scholarship programs, the students opting to attend those institutions benefited most from *gratuidad*. There is some support for this argument in the data. The three institutions that enrolled the most *gratuidad* students in 2016 are the least selective of the 30 participating universities, and most of their students would not have had access to other forms of financial aid because they would not have met the academic standards.[25] This suggests that the government might have increased enrollment among lower-income students just as much if it had simply removed the academic requirements on its existing scholarship programs instead of adopting *gratuidad*.

Crowding Out Low-Income Students. Advocates for *gratuidad* argued that free tuition and the removal of merit requirements for government-issued financial aid would allow more low-income students to enroll. While the Ministry of Education purports that access has increased, an independent study suggests that the policy risks producing the opposite effect for low-income students. An empirical study by Alonso Bucarey of MIT uses enrollment changes observed after earlier financial aid reforms in Chile to predict that *gratuidad* will reduce enrollment among low-income students and push those who do enroll into lower-quality institutions.[26] This is consistent with studies on free-tuition policies in other countries, where wealthier students receive the largest share of the benefits and low-income students see minimal enrollment gains. A 2017 paper by Richard Murphy, Judith Scott-Clayton, and Gillian Wyness documents these trends in an analysis of tuition policies and college enrollment in England.[27]

The Bucarey study uses administrative records from the Ministry of Education and suggests that expanding scholarship eligibility to students from families with middle-class incomes in 2012 (four

years before *gratuidad*) caused universities to become more selective and admit students with higher test scores. Lower-income students tend to have lower scores and were thus crowded out of more selective universities that they would have been admitted to before the expansion in scholarship aid. Those slots went to middle-income students who were newly eligible for aid.

Bucarey uses these data to predict how large such an effect might be when *gratuidad* is fully phased in to cover all students regardless of family income. He finds that Chile should expect a 20 percent decline in the number of low-income students who enroll in universities relative to the number enrolled before *gratuidad*, as upper-income students crowd them out of the admissions process. He explains that this effect could be mitigated by a large expansion in the capacity of Chile's universities. Ironically, *gratuidad* makes it difficult—if not impossible—for universities to expand capacity, let alone maintain their existing operations. We discuss this issue below.

***Gratuidad*'s Effect on University Revenues.** Under *gratuidad*, the government pays tuition on behalf of each eligible student an institution enrolls. But this amount is insufficient to cover the actual cost the universities incur for every "free" student.

The government uses a formula to determine a per-student funding allocation to institutions (called "regulated tuition"). The formula divides institutions into categories according to the length of their accreditation term (a proxy for quality) and then sets the regulated tuition for each group and study program. Regulated tuition—and the funding allocation—is equal to the average of the tuition fees that the group of universities charged before *gratuidad*, plus a maximum 20 percent bonus for those with actual tuition fees that are higher than this regulated value.

This funding mechanism will likely inhibit universities from expanding capacity if they conclude that the funding formula is insufficient for financing such an expansion. Even if universities find economies of scale in enrolling more students, a provision under *gratuidad* that caps enrollment growth at 2.7 percent annually is likely to limit that strategy.

There is also a risk that *gratuidad*'s funding formula will diminish educational quality at universities. For institutions with the highest tuition fees, the formula results in a net loss in revenue compared with what they could earn previously, when students had to pay for the difference between tuition charges and government-issued student aid. This problem will hit the most expensive universities—usually the most selective and prestigious—the hardest. Under *gratuidad*, they will not receive full funding from the government for students on the free track and will have to generate the missing revenue elsewhere or cut spending. The rectors of some of these universities are calling attention to the funding squeeze and its consequences.[28]

Conclusion

The rollout of free college in Chile offers a number of lessons for US policymakers. The country may be pursuing the ideal of free college, but so far the practical effect has been more circumscribed and presents unintended consequences. Instead of universal free college, *gratuidad* can best be described as having replaced a system of targeted financial aid and cost sharing (i.e., tuition) with a system that has slightly less targeted aid and moderately less cost sharing. The incremental change in student aid for low-income students who received scholarships and heavily subsidized loans before *gratuidad* is arguably small, and upper-income students still must pay tuition.

Perhaps the most significant change is that *gratuidad* does not include academic restrictions, which allows more low-income students to benefit from government aid. But such a policy could easily be implemented through a system of means-tested grants and tuition discounts, like the current US system, without providing costly tuition benefits to students who can afford to pay at least part of their higher education expenses. On the other hand, targeted benefits can be opaque such that students may not know they are eligible, leading them to erroneously conclude that college is financially out of reach. A free-college policy like *gratuidad* could alleviate that problem because it

is easier for a student to understand, but it is too early to know if *gratuidad* is having that effect.

US audiences should pay close attention to whether *gratuidad* encourages more low-income students to enroll, as it is one of the main arguments free-college proponents in the US make for replacing targeted aid. Moreover, the system in Chile that *gratuidad* replaced shares many features with the current US model, suggesting that providing free college in the US, either at the state level or through federal-state matching funds, could have similar effects as in Chile. Like in Chile before *gratuidad*, the US uses a differentiated pricing scheme in its higher education system that provides a substantial amount of aid to low-income students and moderate amounts to middle-income students but requires upper-income students to pay nearly the full price of tuition.

For example, 64 percent of full-time students from families earning less than $30,000 who attend in-state public universities pay no tuition after factoring in all sources of student aid (excluding student loans as aid).[29] The institutions these students attend charge a median in-state sticker price of $6,035 per year, and most low-income students receive enough in discounts, grants, and tax benefits to fully offset that tuition.[30] Even middle-income students attending these institutions are spared full price. Their median net tuition is $1,696 after discounts, grants, and tax benefits are included, but the institutions they attend charge a median in-state, full-time sticker price of $6,840.[31] It is students from upper-middle and high-income families who typically pay full tuition.

These statistics suggest that many low-income students would not see large changes in the tuition they pay under a free-college policy, while other students would see more significant changes. Indeed, a 2016 analysis by Matt Chingos shows that the benefits of free college in the US would skew toward middle- and upper-income families.[32] However, because most free-college proposals in the US include an income cutoff around $125,000 for upper-income students, free college would not apply to these students, as is the case in Chile.

US policymakers should also be wary of the unintended consequences emerging because of *gratuidad*. Low-income student enrollment in US institutions could decline if free-college proposals led to the type of crowding out predicted to occur in Chile's system. Even if the US can avoid the regressive effects of free tuition seen in other countries, the policy may still diminish educational quality. Prohibiting institutions from charging tuition or capping how much they may charge can threaten quality if public funding does not keep pace with rising costs, which is a concern that rarely comes up in US debates about free college.

Chile's most prestigious universities, which have the highest cost structures, now face budget deficits because of *gratuidad*. They will likely have to cut spending to make up for declining revenue. In the US higher education system, higher spending by institutions is often associated with greater quality, and research also shows that higher spending leads to more degree attainment, particularly at less selective institutions.[33]

Researchers will be able to evaluate the full effects of *gratuidad* in the coming years as more data become available. It may turn out that the reform markedly boosts access and degree attainment. As it stands now, however, the substantial increase in spending and only modest reduction in Chile's tuition prices for students eligible for *gratuidad* underscore the benefits of targeting financial aid at certain students. Targeted financial aid, like in the US and Chile before *gratuidad*, can be more progressive than universal free college and can provide more flexibility and essential revenue for universities. The *gratuidad* experiment tests this theory.

While US advocates like to point to a few remaining examples of countries that provide free tuition, the reality is that many countries have actually moved away from free college and toward a system of cost sharing with students. These models appear to strike the right balance among the many trade-offs—price, access, and quality—that affect the success of a country's higher education system. If *gratuidad* in Chile proves fiscally sustainable, increases access, and mitigates unintended consequences, it will be a notable exception to the case for greater cost sharing in higher education.

Notes

1. Jason D. Delisle and Andrés Bernasconi, "Lessons from Chile's Transition to Free College," Brookings Institution, March 15, 2018, https://www.brookings.edu/research/lessons-from-chiles-transition-to-free-college/.

2. Secretary Hillary Clinton's plan would have offered federal matching grants for states that made in-state tuition at public universities free for students from families earning less than $125,000 annually. The income cutoff would fall to $85,000 in 2021. Community colleges will also become free for all students. Sen. Bernie Sanders' plan would have made all public colleges tuition free, presumably through a federal matching grant to states. For more information, see Hillary Clinton, "Making College Debt-Free and Taking on Student Debt," Office of Hillary Rodham Clinton, www.hillaryclinton.com/issues/college/; and Bernie Sanders, "It's Time to Make College Tuition Free and Debt Free," Friends of Bernie Sanders, https://berniesanders.com/issues/its-time-to-make-college-tuition-free-and-debt-free/.

3. To be eligible for the Excelsior Scholarship, a student must be a resident of New York, take 30 credits per academic year, attend a SUNY or CUNY school, and live in New York state for at least four years after graduation. The grant is switched to a loan if any of the eligibility requirements are violated. For more information, see New York Government, "Tuition-Free Degree Program: The Excelsior Scholarship," www.ny.gov/programs/tuition-free-degree-program-excelsior-scholarship.

4. Bernie Sanders, "Make College Free for All," *Washington Post*, October 22, 2015, www.washingtonpost.com/opinions/bernie-sanders-america-needs-free-college-now/2015/10/22/a3d05512-7685-11e5-bc80-9091021aeb69_story.html.

5. Sanders, "It's Time to Make College Tuition Free and Debt Free."

6. Government grants and scholarships are available in Chile, but students must obtain a minimum test score in Chiles' high school exit test (among other criteria, such as family income level and institution status) to be eligible. Since both scholarships and grants are based on merit, we will collectively refer to Chile's financial aid system of scholarships and grants as "scholarships." For more information, see Maria Arango, Stuart Evans, and Zaitun Quadri, "Education Reform in Chile: Designing a Fairer, Better Higher Education System," Woodrow Wilson School of Public and International Affairs, Princeton University, January 2016, https://wws.princeton.edu/sites/default/files/content/Chile%20Workshop%20Report_HigherEd%203.15.pdf; Organisation for Economic Co-operation and Development, *Education at a Glance 2017: OECD Indicators*, 2017, https://www.oecd-ilibrary.org/education/education-at-a-glance-2017_eag-2017-en; and Organisation for Economic Co-operation and Development, "Reviews of National Policies for Education: Tertiary Education in Chile," 2009, https://www.oecd-ilibrary.org/education/reviews-of-national-policies-for-education-tertiary-education-in-chile-2009_9789264051386-en.

7. Ministry of Education of Chile, "Historical Compendium of Higher Education," 2016, www.mifuturo.cl/index.php/estudios/estructura-compendio.

8. Organisation for Economic Co-operation and Development, *OECD Economic Surveys: Chile*, February 2018, http://www.oecd.org/eco/surveys/Chile-2018-OECD-economic-survey-overview.pdf.

9. Alex Solis, "Credit Access and College Enrollment," *Journal of Political Economy* 125, no. 2 (March 2017): 562–622, https://eml.berkeley.edu/~saez/course131/solis.pdf.

10. Organisation for Economic Co-operation and Development and the World Bank, *La Educación Superior en Chile: Revisión de Políticas Nacionales de Educación* [Higher Education in Chile: Review of National Education Policies], 2009, www7.uc.cl/webpuc/piloto/pdf/informe_OECD.pdf.

11. Organisation for Economic Co-operation and Development, "Reviews of National Policies for Education."

12. Commission for Student Financing for Higher Education, *Análisis y Recomendaciones Para el Sistema de Financiamiento Estudiantil* [Analysis and Recommendations for the Student Financing System], March 2012, http://media.biobiochile.cl/wp-content/uploads/2012/03/Informe-Comision-Ayuda-Estudiantil_marzo_2012.pdf.

13. Cristian Bellei, Cristian Cabalín, and Víctor Orellana, "The 2011 Chilean Student Movement Against Neoliberal Educational Policies," *Studies in Higher Education* 39, no. 3 (2014): 426–40, https://www.tandfonline.com/doi/abs/10.1080/03075079.2014.896179; and

Andrés Bernasconi, "Policy Path Dependence of a Research Agenda: The Case of Chile in the Aftermath of the Student Revolt of 2011," *Studies in Higher Education* 39, no. 8 (2014): 1405–16, https://www.tandfonline.com/doi/abs/10.1080/03075079.2014.950448.

14. Bellei, Cabalín, and Orellana, "The 2011 Chilean Student Movement Against Neoliberal Educational Policies."

15. Jonathan Franklin, "Protests Paralyse Chile's Education System," *Guardian*, June 7, 2006, www.theguardian.com/world/2006/jun/07/chile.schoolsworldwide; and Sergio Martinic and Gregory Elacqua, "¿Fin de Ciclo? Cambios en la Gobernanza del Sistema educativo," Santiago de Chile: Pontificia Universidad Católica de Chile-UNESCO, 2010, unesdoc.unesco.org/images/0019/001905/190544S.pdf.

16. Under these reforms, payments on student loans were capped at 10 percent of a borrower's income, and any outstanding balance would be forgiven after up to 20 years of payments. Piñera also reduced the interest rate on the loans to 2 percent. For more information, see Arango, Evans, and Quadri, "Education Reform in Chile."

17. An exchange rate of USD $1 = CHP $639 is used throughout the report, which is the average value of the Chilean peso during the Bachelet administration (2014–18), calculated by the US Federal Reserve. For more information, see Federal Reserve Bank of St. Louis, "National Currency to US Dollar Spot Exchange Rate for Chile," accessed March 1, 2018, https://fred.stlouisfed.org/series/CCUSSP02CLM650N.

18. Flavia Cordella and Pablo Cádiz, "Los puntos del acuerdo que destrabó la ley corta de gratuidad en el Senad" [The Points of the Agreement That Untangled the Short Law of Gratuity in the Senate], T13, December 23, 2015, www.t13.cl/noticia/politica/gobierno-negocia-acuerdo-destrabar-ley-corta-gratuidad.

19. Ministry of Education of Chile, Higher Education Information Service, "Informe Duración Real Y Sobreduración De Las Carreras O Programas: Generación Titulados 2011–2015" [Report on Real Duration and Overdraft in Degree Programs 2011–2015], December 2016, http://analisis.umag.cl/documentos/duracion_real_sobreduracin_sies_2016.pdf.

20. Calculating the exact number of eligible institutions is difficult because while the accreditation requirement is easy to verify, compliance with the nonprofit clause requires examining each university's individual financial operations.

21. Ministry of Education of Chile, Division of Higher Education, "Gratuidad 2016 and First Assignment 2017," April 13, 2017.

22. Ministry of Education of Chile, Division of Higher Education, "Minuta actualizada al 14 de junio. Resultados de asignación y renovación Gratuidad, becas y créditos," May 31, 2017.

23. Ministry of Education of Chile, Division of Higher Education, "Minuta Análisis del Efecto de la Gratuidad 2016 en el Acceso a Beneficios de Estudiantes de Primer Año," July 19, 2016.

24. Organisation for Economic Co-operation and Development, "Reviews of National Policies for Education."

25. Ministry of Education of Chile, "Minuta Análisis del Efecto de la Gratuidad 2016 en el Acceso a Beneficios de Estudiantes de Primer Año."

26. Alonso Bucarey, "Who Pays for Free College? Crowding Out on Campus," Massachusetts Institute of Technology, January 16, 2018, http://economics.mit.edu/files/14234.

27. Richard Murphy, Judith Scott-Clayton, and Gillian Wyness, "Lessons from the End of Free College in England," Brookings Institution, April 27, 2017, www.brookings.edu/wp-content/uploads/2017/04/es_20170427_scott-clayton_evidence_speaks.pdf; and Richard Murphy, Judith Scott-Clayton, and Gillian Wyness, "The End of Free College in England: Implications for Quality, Enrolments, and Equity" (working paper, National Bureau of Economic Research, Cambridge, MA, February 2018), http://www.nber.org/papers/w23888.

28. Carlos Peña and Eduardo Silva S.J., "A Gratuity Without Reform," El Mercurio, March 27, 2017, www.elmercurio.com/blogs/2017/03/27/49870/Una-gratuidad-sin-reforma.aspx.

29. Authors' calculation using US Department of Education, National Postsecondary Student Aid Study, 2011–12.

30. Authors' calculation using US Department of Education, National Postsecondary Student Aid Study, 2011–12.

31. Authors' calculation using US Department of Education, National Postsecondary Student Aid Study, 2011–12. Middle income is defined as students from families with household incomes between $30,000 and $107,000 in 2010, which are the second and third quartiles for dependent students enrolled in 2011–12. Statistic includes dependent and independent students.

32. Matthew M. Chingos, "Who Would Benefit Most from Free College?," Brookings Institution, April 21, 2016, www.brookings.edu/research/who-would-benefit-most-from-free-college/.

33. David J. Deming and Christopher R. Walters, "The Impact of Price Caps and Spending Cuts on U.S. Postsecondary Attainment" (working paper, National Bureau of Economic Research, Cambridge, MA, August 2017), https://scholar.harvard.edu/files/ddeming/files/DW_Aug2017.pdf.

International Higher Education Rankings

WHY NO COUNTRY'S HIGHER EDUCATION SYSTEM CAN BE THE BEST

Jason D. Delisle and Preston Cooper

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High tuition and student debt have prompted many would-be reformers of the American higher education system to look to other developed countries for a "better" model. Which countries have gotten higher education "right," and how can we replicate their success in America? Some observers look to the Scandinavian countries, where public college tuition is largely free, while others cite Germany's low-cost colleges and expansive vocational training system.

While one can certainly draw lessons from other countries' higher education systems, searching for the "best" system can lead reformers astray. It results in one-dimensional comparisons of international higher education systems that focus on just one variable, such as whether a nation offers free tuition. These sorts of comparisons ignore crucial context, as a more desirable outcome on one dimension may lead to less desirable outcomes on another.

We propose a different lens to compare the higher education systems of the developed world. Rather than rank systems along one dimension, we measure how each performs on three metrics: attainment, resources, and subsidies. These are the outcomes of three goals that policymakers often pursue when designing a higher education system: Increase the number of students with a college education (attainment), boost the quality of universities by enabling them to spend more per student (resources), and lower the end prices that students pay by covering a greater share of education costs through state support (subsidies).

While policymakers frequently cite all these goals as desirable, in practice they are often in tension with one another. For instance, if the government pays a greater share of the cost of college, it can afford to send fewer students to college. If institutions are to have more resources, prices must rise. And if a university system enrolls more students to increase attainment, its existing resources are stretched thinner.

These trade-offs exist no matter how much money a government spends on higher education. Increasing the share of national income devoted to higher education raises the question of how that additional funding should be applied. Should extra funds go to enrolling more students, increasing colleges' resources, or lowering prices students pay? While no nation can escape these decisions, observers who cite other countries without context to make the case for reform in America imply otherwise. Indeed, policymakers often do not think about designing higher education systems in the context of these trade-offs. Sometimes, the trade-offs become apparent only after a policy has been implemented.

In this report, we assess how the higher education systems of 35 developed nations compare on attainment, resources, and subsidies. While our analysis

cannot make causal claims about the relationship among these three qualities, we can show whether the evidence is consistent with the theory that trade-offs exist between desirable aspects of a higher education system. Generally, a country that ranks higher on one quality should rank lower on the others, though there will of course be exceptions.

Viewing higher education systems in the context of these three competing goals will enable policymakers in the United States to be more fiscally and politically prudent about how to reform the American higher education system, if at all. Recognizing that trade-offs between desirable goals exist will also force policymakers to think critically about whether pursuing a certain goal is worth it. Finally, this lens also reveals the strengths of America's higher education system relative to other countries and warns that mimicking other countries' higher education policies might undermine those strong points.

Data and Methodology

Comparing the qualities of higher education systems across nations is challenging because countries report statistics in different ways. Fortunately, the Organisation for Economic Co-operation and Development (OECD), an organization of 36 developed nations, produces an annual report that standardizes these statistics and reports them in a way such that countries are comparable with one another. The report, *Education at a Glance*, provides key high-level statistics for each country's higher education system (where available), including college attainment rates, spending, and government subsidies.[2]

The most recent edition of *Education at a Glance*, published in September 2018, includes data on the higher education systems of 35 OECD nations.[3] (The 36th OECD member, Lithuania, joined only recently, so it was not listed as a member in the report's most recent edition.) The OECD comprises the nations of the developed world; most members are classified as high-income nations and have a gross domestic product (GDP) per capita above $30,000 (Figure 1). The group includes almost all large countries in western and central Europe, Scandinavia, and the Baltic states. Outside of Europe, the OECD has members in the global Anglosphere (Australia, Canada, New Zealand, and the United States), East Asia (Japan and South Korea), Latin America (Chile and Mexico), and the Middle East (Israel and Turkey).

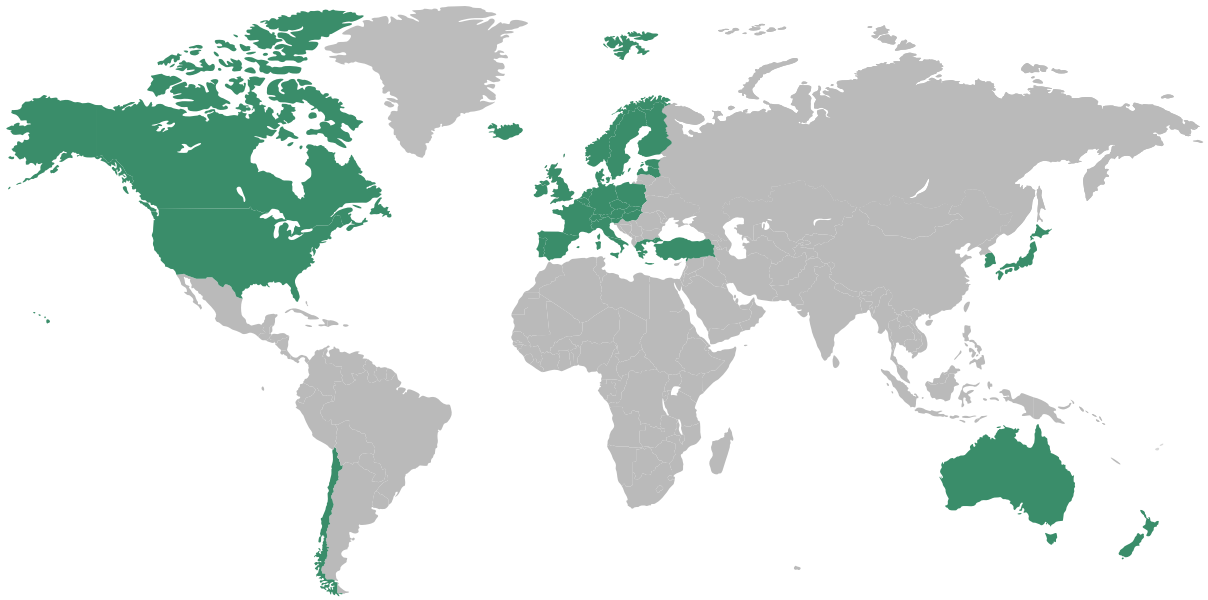
In the analysis to follow, we compare the higher education systems of 35 OECD countries by looking at how each performs on three qualities: attainment, resources, and subsidies. We use specific metrics reported in *Education at a Glance* to quantify these characteristics.

Attainment. How many students does a higher education system serve? Higher levels of educational attainment are usually a central goal of policymakers. The measure of attainment used in this report is the percentage of young people (age 25–34) who have attained tertiary education.[4] "Tertiary education" is equivalent to an associate degree or higher in the United States. Our variable does not distinguish between sublevels of tertiary education; a student who earns only an associate degree and one who earns a doctorate both count equally as "attainers."

We use the share of young people with tertiary education instead of the share of the entire adult population because the former metric is likely to better reflect the outcomes of today's higher education system, rather than the system a country had decades ago. While there is still a lag between the time these individuals were educated and the present day, it is not nearly as drastic.

Attainment is not a comprehensive measure of how many people in a particular country interact with its higher education system. For instance, highly educated adult immigrants may boost a country's attainment rate, even though they were educated in other nations and thus do not reflect the outcomes of their new country's higher education system. In particular, this affects statistics for small countries with high immigration rates, such as Luxembourg. Students who travel abroad to earn their tertiary degrees and then return to their home country after graduation are counted as attainers, despite not interacting with the domestic higher education system. This

Figure 1. Organisation for Economic Co-operation and Development Nations Included in This Report



Source: Organisation for Economic Co-operation and Development.

may cause some nations' higher education systems to appear more productive than they actually are.

Attainment is also distinct from *access*, or the share of students who have ever entered tertiary education; attainment measures only those who receive a credential. Many students who start tertiary education never complete it. Therefore, we opt to measure attainment instead of access because attainment is the outcome that access is generally meant to achieve: more people who have completed a tertiary education.

But some policymakers may see broad access as a desirable goal in itself. Several countries, including the United States, provide public support for "open access" institutions with minimal standards for admission and high dropout rates. While the "right" to pursue higher education regardless of qualifications may be important to policymakers in some countries, we do not incorporate that aspect of college systems into our analysis.

Resources. What is the quality of the education that a higher education system provides? While "quality" is subjective and thus immeasurable, we can measure the resources available to colleges and universities. Of course, the level of resources available cannot tell us how well institutions are spending that money, a caveat the reader should bear in mind. (For instance, some countries' spending on higher education may be more skewed toward research and development rather than instruction and other core expenditures that directly affect students' experiences.) But generally, institutions with greater resources have more latitude to offer a high-quality education. The measure of resources used in this report is each country's total expenditure on higher education, divided by the number of full-time equivalent students, measured as a share of the country's GDP per capita.[5]

Essentially, this gives us a measure of spending per student relative to the nation's economic capacity. We adjust spending per student for per capita GDP so that we do not unfairly penalize poorer nations. As the point of this exercise is to examine how higher education systems negotiate trade-offs necessitated by budget constraints, analyzing resources relative to

economic capacity rather than the absolute level of resources is appropriate.

Countries' rankings may differ on the relative metric compared to the absolute metric. For example, colleges in the United States spend more per student in absolute dollars than their counterparts in the United Kingdom. But GDP per capita in the UK is much lower than in the US, so British universities spend more than American ones *relative to their country's economic capacity*. Therefore, British universities are better resourced than their American counterparts by our measure.

Subsidies. How much of the cost of higher education does the government pay for? As a measure of subsidies, we use the share of domestic funding for institutions of higher education that comes from public sources.[6] In countries where this share is high, students and their families pay a small share of the overall cost of their education, and vice versa. For instance, if universities spend $20,000 per student and the government contributes $15,000 per student, then the "subsidy rate" is 75 percent, leaving students, their families, and other private actors to pay the remaining 25 percent.

Countries where the subsidy rate is above 80 percent often have "free tuition" policies at their public colleges;[7] at these institutions the cost of providing education is entirely paid for by the government (less non-tuition contributions from private sources such as philanthropists). However, the subsidy rate measures government subsidies relative to spending on the nation's entire tertiary education system. If a country offers free tuition at its public colleges but also has a large tuition-charging private sector, the subsidy rate may be significantly below 100 percent, despite the free tuition policy. This makes our measure of subsidies more comprehensive; the subsidy rate measures not only the magnitude but also the penetration of government support.

Measuring subsidies is an imprecise art. Due to the way OECD data are constructed, some publicly funded scholarships may inadvertently be counted as nonpublic spending. Government-backed student loans are also counted as private spending, even if the government offers these loans at below-market interest rates and includes loan forgiveness options. The indicator may therefore underestimate subsidies in countries with major national student loan programs, such as Australia, the United Kingdom, and the United States.

Caveats. When we refer to higher attainment, resources, and subsidies as goals of a higher education system, we mean they are objectives that policymakers often cite as goals. We certainly do not endorse pursuing these goals at all times, as increasing the magnitudes of attainment, resources, and subsidies beyond an optimal point can have serious downsides. Overly high attainment can dilute the value of the college degree. Increasing school resources often means that marginal dollars are invested in unproductive activities, leading to spending bloat. High subsidies can blunt price signals that improve how a higher education marketplace functions.

While attainment, resources, and subsidies are all important, they do not account for many aspects of higher education systems. In presenting these statistics, we do not aim to present a comprehensive examination of higher education systems in other countries. Rather, looking at attainment, resources, and subsidies with one another is a useful, albeit simplified, lens for policymakers and observers to use when thinking about higher education policy and the necessary trade-offs involved.

The Rankings

Those trade-offs instantly become apparent when we rank the 35 developed nations according to their scores on attainment, resources, and subsidies. More often than not, a nation that ranks high on one of the metrics has a moderate or low ranking on the others. We cannot establish a causal relationship among these three qualities. For instance, we do not know if higher subsidies lead to lower attainment, or vice versa, or if both qualities are influenced by an unseen third factor, or a combination of the above. But whatever the reasons behind the relationships, trade-offs clearly exist among attainment, resources, and subsidies.

Table 1. Top Five Nations on Attainment, Resources, and Subsidies

Rank	Attainment	Resources	Subsidies
First	South Korea	United Kingdom	Finland
Second	Canada	Slovakia	Norway
Third	Japan	United States	Luxembourg
Fourth	Ireland	Sweden	Denmark
Fifth	Australia	Japan	Austria

Source: Authors' calculations from Organisation for Economic Co-operation and Development, *Education at a Glance 2018*, 2018, https://www.oecd-ilibrary.org/education/education-at-a-glance-2018_eag-2018-en.

Table 1 shows the top five countries on each metric. (See Table A1 for the full ranking of all OECD nations.) While Scandinavia and central European nations dominate the subsidies ranking, Anglosphere and East Asian countries claim most of the top spots on attainment and resources. Furthermore, no country except Japan appears more than once in Table 1. In other words, all countries struggle to achieve a high ranking on more than one goal, which supports the argument that pursuing one goal often comes at the expense of the other two.

For instance, Finland ranks first on the subsidies metric: 96 percent of the Finnish higher education system's funding comes from public sources. Domestic and European Union students can attend a public or government-dependent private institution free of charge, and most students also benefit from additional grants to help cover living expenses.[8] But Finland pays the price for those heavy subsidies in other areas: Of the 35 nations, the country ranks 11th on the resources metric and just 25th on attainment.

One reason for the low attainment rate is that Finnish universities have finite resources and considerable autonomy to set admissions standards. Largely lacking the ability to raise revenue from tuition, it makes little financial sense for institutions to admit large numbers of students, and therefore they are highly selective regarding which students they let in. In 2016, just 33 percent of Finnish applicants to first-degree tertiary education were accepted, one of the lowest admission rates in Europe.[9] Universities rely on comprehensive entrance examinations to make admissions decisions, and low acceptance rates create backlogs of applicants who often reapply in later years.[10]

After Finland, other northern and central European countries round out the top five nations on the subsidies metric: Norway comes in second, followed by Luxembourg, Denmark, and Austria. Each nation has a subsidy rate above 90 percent, meaning the government covers almost all the cost of providing higher education in these countries.

However, there is little overlap among the nations with the highest subsidies, and we measure those that rank near the top along the other dimensions. The top-ranking nation on attainment is South Korea, where 70 percent of young people have attained tertiary education.

Korea is perhaps the clearest example of a nation prioritizing one of the higher education goals (attainment) over the other two. Despite its top ranking on attainment, the nation ranks near the bottom on both resources and subsidies. The Korean government pays just 36 percent of the cost of higher education, leaving students and other private entities to pick up the rest of the bill. But the amount Korean universities themselves spend to educate students is also low; they spend just 29 percent of per capita GDP

per student. That Korean universities spend relatively less per student means that tuition at public universities in Korea is also relatively moderate, despite the low subsidy rate. Korean students pay less in tuition than do students in other high-attainment countries such as Canada, Japan, and the United Kingdom.

A moderately priced higher education system that relies little on government support, combined with high-quality secondary schools that consistently produce high scorers on international standardized tests,[11] has led the vast majority of the nation's youth to earn college degrees. However, the relative value of these degrees is well below other OECD nations, as the supply of college graduates has outstripped the availability of college-level jobs. Relative to the rich-world average, college-educated South Koreans receive a smaller wage premium over their peers with lesser degrees.[12] As of 2017, the unemployment rate for college graduates exceeded that of people with less education.[13] Korean President Moon Jae-in has warned that youth unemployment in the country, if left unaddressed, could "increase to the level of a national disaster."[14]

The other top nations for attainment are either in the Anglosphere or eastern Asia: Canada ranks second with a 61 percent attainment rate, followed by Japan (60 percent), Ireland (53 percent), and Australia (52 percent). The United Kingdom ranks sixth on attainment but is more notable for its position on another ranking. The British higher education system is first in the developed world regarding resources. Universities in the United Kingdom spend $26,000 per student, which is equivalent to 63 percent of per capita GDP.

The government does not, however, foot most of the bill for Britain's universities. In England, where the vast majority of the country's population is concentrated, universities charge undergraduate students tuition of up to $11,856, making English universities some of the most expensive in the world. That is why the United Kingdom ranks last on subsidies in our analysis, with just 26 percent of higher education funding derived from public sources.

However, Britain's student loan program complicates this high-tuition, low-subsidy story. To enable students to afford these high fees, the government offers student loans that fully cover tuition. Ninety-five percent of eligible students borrow. Repayment is income contingent; new students pay back 9 percent of their income above a threshold for up to 30 years, after which remaining balances are forgiven. Despite the lengthy term, the program is heavily subsidized: The government estimates that just 45 percent of borrowers who take out loans after 2016 will repay them in full (a benefit not captured in the OECD data).[15]

England's high-resource, high-tuition model is relatively new. Until 1998, English universities were tuition free, with the government directly appropriating the vast majority of higher education funding. According to an analysis of the system by Richard Murphy, Judith Scott-Clayton, and Gillian Wyness, rapid increases in demand for education during the late 20th century led to swelling numbers of students and therefore a precipitous decline in resources per head available to universities.[16]

In 1998, the center-left government of Tony Blair began allowing institutions to charge tuition to supplement their direct government funding. At the same time, the government expanded its student loan program and introduced income-contingent repayment. Over the next two decades, university enrollments and funding both surged, and today the United Kingdom ranks among the top nations for both resources and attainment.

While the 1998 reform allowing institutions to charge tuition was a major development, England's transition from a high-subsidy country to a low-subsidy one happened more gradually. Tuition fees in the years right after the reform were still low; it was more recently that rises in tuition caused the country's higher education system to become majority funded by the private sector. Since our measure of attainment looks at the population age 25–34, it should be noted that the United Kingdom's relatively high attainment rate partially reflects earlier regimes, when subsidies were higher (and resources were lower). However, almost all the students reflected in those figures still attained their degrees during the "post-free" period of English higher education.

After the United Kingdom, the next best-resourced country is Slovakia, where universities spend 54 percent of per capita GDP per student. This is because of Slovakia's relatively low GDP per capita ($30,000 in 2016)[17] and relatively low enrollment at Slovak universities.[18] Following Slovakia on the resources ranking are the United States (spending 53 percent of GDP per capita), Sweden (spending 51 percent), and Japan (47 percent).

The vast majority of OECD nations (24 of 35) rank in the top third of countries on at least one of the three metrics, suggesting that most nations try to prioritize one of the goals rather than strike a balance among the three. A handful of nations, generally richer ones such as the United States, Sweden, and Norway, rank in the top third of nations on two of the three metrics. In these nations, public expenditure on tertiary education is generally high as a share of GDP.

For instance, Norway and Sweden spend 1.7 percent and 1.4 percent of GDP on government subsidies for their higher education systems, respectively, compared to an OECD average of 1.0 percent.[19] However, high levels of public spending may constrain these countries in the future should they want to expand tertiary education access to a greater share of their populations. Currently, both Norway and Sweden have attainment rates below 50 percent.

Only the tiny Grand Duchy of Luxembourg, which is one of the wealthiest countries in the world with a GDP per capita of $103,000, ranks in the top third of nations along all three dimensions. As Luxembourg is a unique polity in many regards, we caution against overinterpreting its high positions on our lists. For obvious reasons, rich countries can afford more expansive higher education systems that combine high levels of spending and attainment with hefty subsidies.

Richer nations also attract immigrants. Luxembourg has an extremely high immigration rate, with the foreign-born share of the population (48 percent) almost three times the share in any other European Union country.[20] Immigrants to Luxembourg are much more likely than natives to have a college degree, dramatically raising the overall attainment rate.[21]

While most countries intensely pursue one of the goals, others embrace moderation. For instance, France ranks 18th on attainment, 16th on resources, and 14th on subsidies—the middle of the pack on all three dimensions. Tuition at public universities in France is nominal due to a heavy government subsidy, but the country also has a significant tuition-charging private sector, which has doubled in size since 1998, lowering the overall subsidy rate.[22] Poland has free tuition for residents attending public institutions, but its higher education system's private sector lowers its overall subsidy rate to 83 percent, or 12th among OECD nations on subsidies.[23]

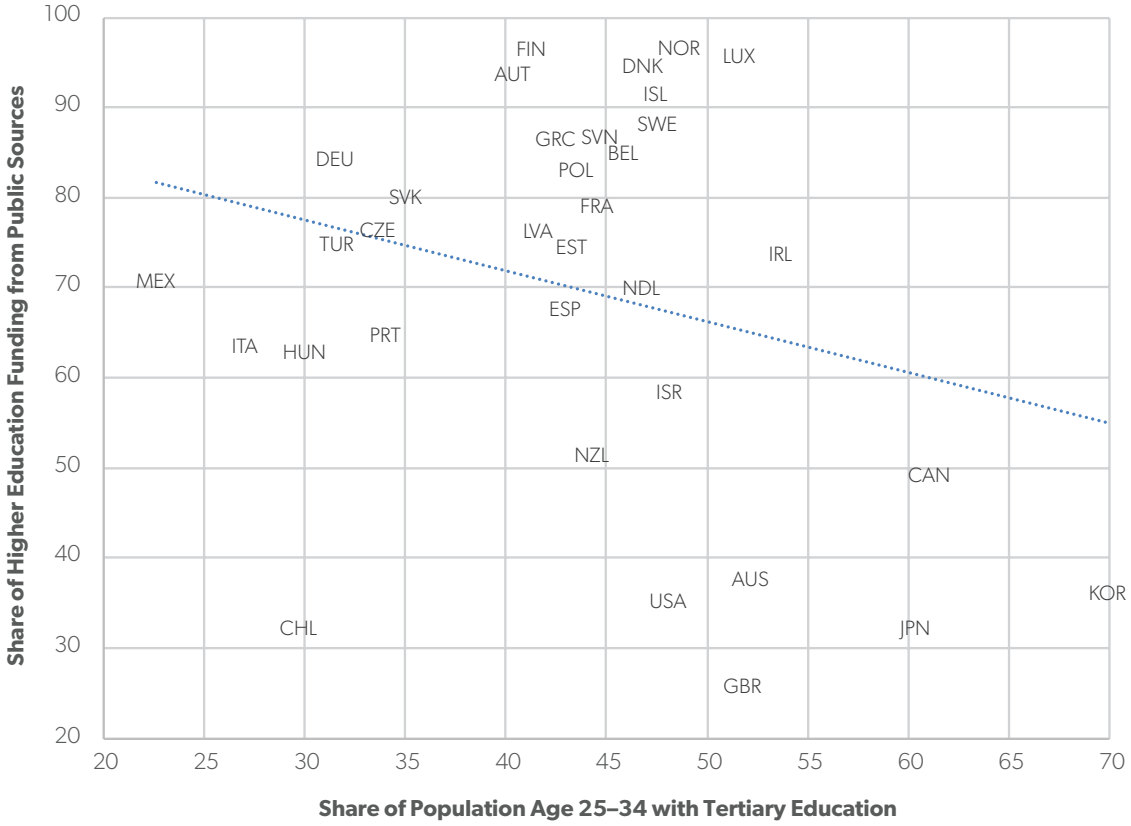
For its part, the United States ranks third on resources, 11th on attainment, and 31st on subsidies. In other words, America has well-resourced universities that produce a reasonably high college attainment rate, but students must shoulder a greater share of the cost of their education than in most other developed countries. Like Britain, though, America also has an expansive and subsidized student loan program that it does not get credit for in the subsidies metric, meaning the American government provides students with more support than the OECD statistics alone suggest.

Balancing Attainment, Resources, and Subsidies

Although Finland, South Korea, and the United Kingdom dominate the respective dimensions of subsidies, attainment, and resources, they perform well below rich-country averages on one or both of the other metrics. For instance, the United Kingdom ranks first on resources but dead last on subsidies. South Korea ranks first on attainment but 30th on subsidies and 31st on resources, almost at the bottom of the ranking on both. Finland is first on subsidies but scores low (25th) on attainment. This reinforces the idea that nations face trade-offs: Designing a higher education system to be strong in one area may require accepting mediocrity in another.

This is apparent when we look at how the three metrics correlate with each other. Attainment,

Figure 2. Attainment vs. Subsidies



Source: Authors' calculations from Organisation for Economic Co-operation and Development, *Education at a Glance 2018*, 2018, https://www.oecd-ilibrary.org/education/education-at-a-glance-2018_eag-2018-en.

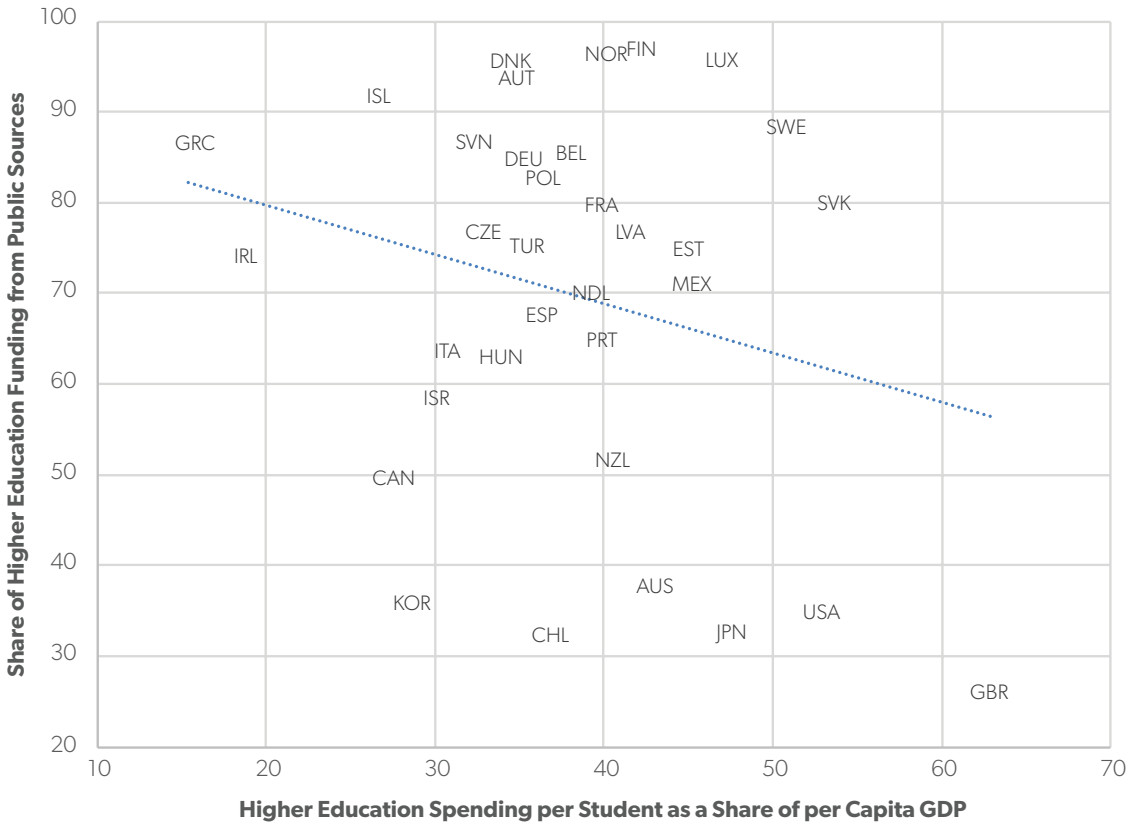
resources, and subsidies are all negatively correlated with one another, meaning a country with a higher score on one quality is more likely than not to have a lower score on another. While correlations are not evidence of a causal link in any direction among attainment, resources, and subsidies, these results are consistent with the idea that higher education systems face budget constraints and therefore must prioritize certain goals over others.

Nowhere are the negative correlations between metrics more pronounced than in the relationship between attainment and subsidies (Figure 2). The attainment and subsidy correlation is –0.27. While certainly nations perform better than expected on attainment given their levels of subsidies, and vice versa, the clear relationship is negative.

This is all the more surprising considering higher subsidies are frequently cited as a way to boost the share of the population with college degrees, by making education cheaper for students. But these results are consistent with an alternative mechanism linking subsidies and attainment: When subsidies are higher, governments can afford to send fewer students to college. In response, governments and universities often manage the number of students enrolled in higher education—either through explicit caps on student numbers or through softer measures such as mandatory university entrance exams and other selective admissions criteria.

Figure 2 shows that in nations where higher education is more than 80 percent subsidized by the government, attainment levels are moderate at best. Only

Figure 3. Resources vs. Subsidies



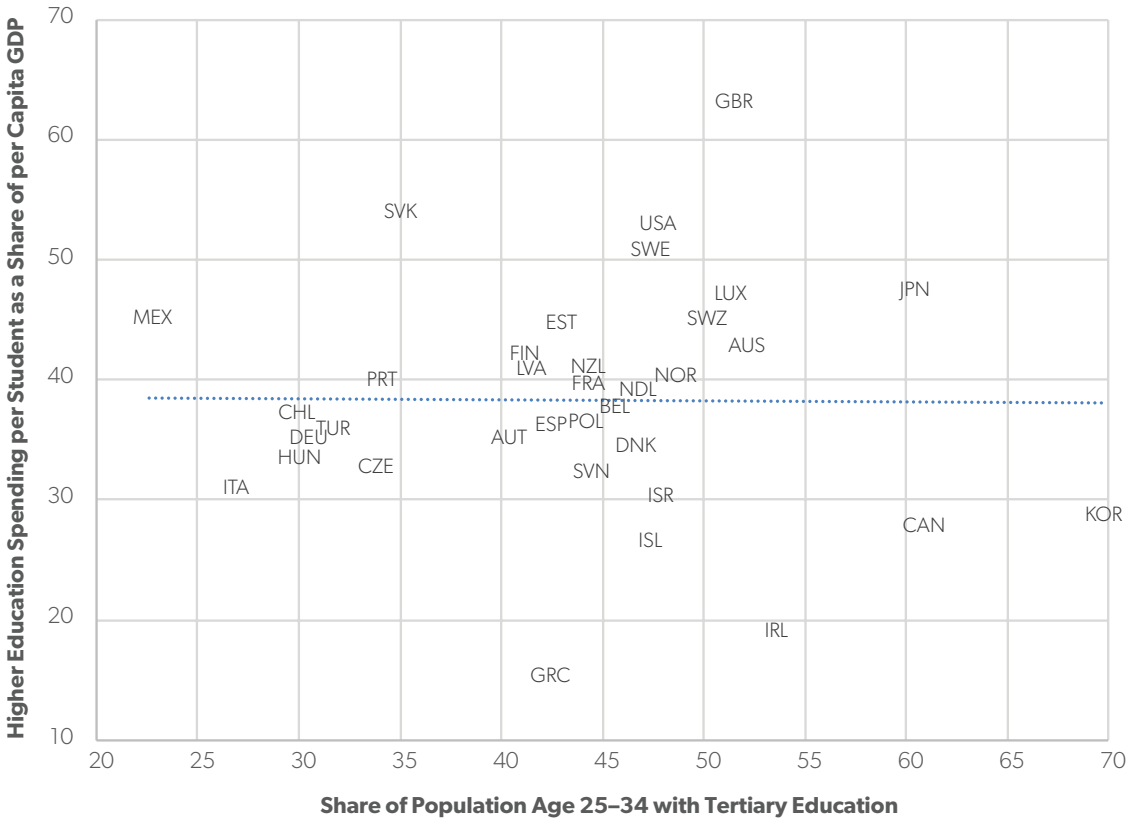
Source: Authors' calculations from Organisation for Economic Co-operation and Development, *Education at a Glance 2018*, 2018, https://www.oecd-ilibrary.org/education/education-at-a-glance-2018_eag-2018-en.

one of these nations (Luxembourg) has an attainment rate above 50 percent. But in countries with much lower subsidies, college attainment rates are significantly higher. There are seven countries where the government directly pays less than half the cost of higher education; the attainment rate is above 50 percent in five of them.

A negative correlation also exists between subsidies and resources (Figure 3). The relationship here is slightly less pronounced, with a correlation coefficient of –0.24. The observed association here is mostly driven by high-resource, low-subsidy countries in the lower right-hand corner of Figure 3, such as the United Kingdom and the United States. Some nations, such as Slovakia and Sweden, can maintain their heavily subsidized higher education systems even though their universities' per-student spending levels exceed 50 percent of per capita GDP. But many of the other heavily subsidized countries have institutions that are under-resourced by international standards; Austria, Denmark, and Iceland all rank in the bottom third of countries on resources.

Well represented at the top of the resources ranking are Anglosphere and East Asian countries, including the United Kingdom (number 1), the United States (number 3), and Japan (number 5). But this high-attainment, low-subsidy group is not uniform on the resources its universities have at their disposal: Canada provides its universities with one of the lowest levels of resources per student, at just 28 percent of GDP per capita. Some countries that became part of the developed world only recently rank in the

Figure 4. Attainment vs. Resources



Source: Authors' calculations from Organisation for Economic Co-operation and Development, *Education at a Glance 2018*, 2018, https://www.oecd-ilibrary.org/education/education-at-a-glance-2018_eag-2018-en.

top third on resources; these nations include Estonia (number 9) and Latvia (number 12).

The final comparison left to make in this analysis is between attainment and resources (Figure 4). Although the correlation between these two variables is technically negative (–0.01), it is so slight as to make them effectively uncorrelated. That is because high-attainment nations (again, dominated by the Anglosphere and East Asia) are all over the spectrum regarding resources. Australia, Japan, the United Kingdom, and the United States all feature high levels of spending per student (partly by charging relatively high tuition), but Ireland and Korea all achieve high attainment rates despite low spending.

The nations that rank at the bottom of the attainment metric (such as Chile, Germany, and Hungary) tend to have moderate levels of spending. Interestingly, however, the nations that perform worst on the resources metric, including Canada, Iceland, and Ireland, actually have quite a high share of tertiary education graduates. This suggests that resources available to colleges are not necessarily the dominant factor in determining how many students earn a degree, though resources available may affect the quality of that degree.

Conclusion

Not all countries have pursued the same goals in their higher education systems. Some countries, such as the United Kingdom and the United States, prefer to have

well-resourced and widely accessible universities that charge high tuition. Other nations, such as Austria, Denmark, and Finland, accept lower attainment and resources in exchange for offering free tuition to those who do secure a slot in a public university. Still others, such as Canada and South Korea, prioritize broad college attainment in lieu of other goals.

Different societies have different values, so it is natural that one country may hold a certain goal in higher regard than another. For instance, American policymakers like to think of higher education as a "path to the middle class" and pursue policies that promote high attainment, even if that means students pay higher prices. But in other nations, the very idea of charging for education may be radical, so higher subsidies are the priority. Of course, these policies are not static and can change over time.

This report does not aim to take a position on which goals the US or any country should prioritize, but rather illustrates that pursuing a certain goal more often than not means a country has to give something else up. That trend often goes unacknowledged. A higher subsidy rate for universities sounds nice, until one considers that it tends to coincide with adverse effects on attainment and resources for universities, even if that was not policymakers' explicit intention. We encourage policymakers to approach higher education policy with these trade-offs in mind, especially when looking abroad for ways to reform the US system. They may decide that the existing strengths of the American higher education system are not worth giving up.

Acknowledgments

The authors thank Alex Usher of Higher Education Strategy Associates and Kevin Kinser of Pennsylvania State University for their thoughtful comments and review of this report. Of course, the views expressed are those of the authors, and they take full responsibility for any errors that remain.

Appendix

Table A1. All Rankings

Country	Attainment Rank	Resources Rank	Subsidy Rank
Australia	5	10	29
Austria	26	24	5
Belgium	16	18	10
Canada	2	32	28
Chile	33	19	32
Czech Republic	29	27	15
Denmark	15	25	4
Estonia	21	9	18
Finland	25	11	1
France	18	16	14
Germany	31	23	11
Greece	23	35	9
Hungary	32	26	25
Iceland	12	33	6
Ireland	4	34	19
Israel	10	30	26
Italy	34	29	24
Japan	3	5	33
Latvia	24	12	16
Luxembourg	7	6	3
Mexico	35	8	20
Netherlands	14	17	21

New Zealand	19	13	27
Norway	9	14	2
Poland	20	20	12
Portugal	28	15	23
Slovak Republic	27	2	13
Slovenia	17	28	8
South Korea	1	31	30
Spain	22	21	22
Sweden	13	4	7
Switzerland	8	7	—
Turkey	30	22	17
United Kingdom	6	1	34
United States	11	3	31

Note: Green denotes higher rankings; red denotes lower rankings.
Source: Authors' calculations based on Table A2.

Table A2. All Values Behind Rankings

Country	Attainment: Share of Individuals Age 25–34 with Tertiary Education (%)	Resources: Expenditure on Tertiary Educational Institutions per Full-Time Equivalent Student Relative to GDP per Capita (%)	Subsidy: Share of Domestic Expenditure on Tertiary Education from Public Sources (%)
Australia	52.0	42.9	37.8
Austria	40.3	34.9	93.8
Belgium	45.7	38.0	85.4
Canada	60.9	27.7	49.2
Chile	29.9	36.8	32.4
Czech Republic	33.8	32.5	76.7
Denmark	46.6	34.6*	94.7*
Estonia	43.0	44.8	74.8
Finland	41.3	41.8	96.5
France	44.3	39.8	79.3
Germany	31.3	35.4	84.4
Greece	42.5	15.4	86.4
Hungary	30.2	33.6	62.9
Iceland	47.4	26.6	91.5
Ireland	53.5	19.0	73.6
Israel	48.0	30.4	58.4
Italy	26.8	30.8	63.6
Japan	60.4	47.4	32.4
Latvia	41.6	41.5	76.3
Luxembourg	51.4	47.1	95.6
Mexico	22.6	45.1	70.9
Netherlands	46.6	38.9	69.8
New Zealand	44.2	40.5	51.6

Norway	48.3	40.2	96.0
Poland	43.5	36.4	83.0
Portugal	34.0	39.9	64.8
Slovak Republic	35.1	53.7	79.9
Slovenia	44.6	32.4	86.5
South Korea	69.8	28.7	36.1
Spain	42.6	36.2	67.6
Sweden	47.4	50.7	88.3
Switzerland	50.1	45.2*	—
Turkey	31.6	35.6	75.0
United Kingdom	51.6	63.1	25.9
United States	47.8	52.9	35.2

Note: Subsidy rate data for Switzerland are unavailable.
Source: Organisation of Economic Co-operation and Development, *Education at a Glance 2018*, 2018, https://read.oecd-ilibrary.org/education/education-at-a-glance-2018_eag-2018-en#page1. Data points marked with an asterisk are sourced from Organisation of Economic Co-operation and Development, *OECD Education at a Glance 2017*, 2017, https://www.oecd-ilibrary.org/education/education-at-a-glance-2017_eag-2017-en.

Notes

1. Jason D. Delisle and Preston Cooper, *International Higher Education Rankings: Why No Country's Higher Education System Can Be Best*, American Enterprise Institute, August 8, 2019, https://www.aei.org/research-products/report/higher-education-rankings-no-countrys-system-best/.

2. Organisation of Economic Co-operation and Development, *Education at a Glance 2018*, 2018, https://www.oecd-ilibrary.org/education/education-at-a-glance-2018_eag-2018-en.

3. Occasionally, we supplement the *Education at a Glance 2018* data with data from the prior year's report. See Organisation of Economic Co-operation and Development, *Education at a Glance 2017*, 2017, https://www.oecd-ilibrary.org/education/education-at-aglance-2017_eag-2017-en.

4. The year of reference is 2017, except for Chile, for which the year of reference is 2015. Data are available at Organisation of Economic Co-operation and Development, "Education at a Glance 2018—Data and Methodology," Indicator A1, Table A1.2, 2018, http://www.oecd.org/education/education-at-a-glance-2018-data-and-methodology.htm.

5. The year of reference is 2015, except for Chile (year of reference 2016), Denmark (year of reference 2014), and Switzerland (year of reference 2014). Our measure of resources available includes spending on research and development. Note that this indicator is only available in the online tables of *Education at a Glance*. Organisation of Economic Co-operation and Development, "Education at a Glance 2018—Data and Methodology," Indicator C1, Table C1.4, 2018, http://www.oecd.org/education/education-at-a-glance-2018-data-and-methodology.htm.

6. The year of reference is 2015, except for Chile (year of reference 2016) and Denmark (year of reference 2014). The indicator is not available for Switzerland, so that nation is excluded from the ranking on this metric. The subsidy rate reflects only the share of domestic funding from public sources; we exclude international sources of funding from the denominator. We use the distribution of funding after transfers between sectors, such as student loans. Data are available at Organisation of Economic Co-operation and Development, "Education at a Glance 2018—Data and Methodology," Indicator C3, Table C3.1, 2018, http://www.oecd.org/education/education-at-aglance-2018-data-and-methodology.htm.

7. Some countries, such as Finland, also have a significant government-dependent private sector in higher education. At "government-dependent" private institutions, the state provides direct appropriations and sets tuition rates, which distinguishes them from independent private institutions. We consider government-dependent private institutions as public for the purposes of discussion.

8. Organisation of Economic Co-operation and Development, "Education at a Glance 2018: Finland Country Note," 2018, http://gpseducation.oecd.org/Content/EAGCountryNotes/FIN.pdf.

9. Organisation of Economic Co-operation and Development, "Graph B4.a—Applicants to First-Degree Tertiary Education by Application Status (2016)," in *Access to Education, Participation and Progression*, 2018, https://www.oecd-ilibrary.org/education/education-at-a-glance-2018/applicants-to-first-degree-tertiary-education-by-application-status-2016_eag-2018-graph101-en.

10. John Davies et al., *OECD Reviews of Tertiary Education: Finland*, Organisation of Economic Co-operation and Development, 2009, https://www.oecd.org/education/skills-beyond-school/37474463.pdf.

11. Gillian Golden and Diana Toledo Figueroa, *Education Policy Outlook: Korea*, Organisation of Economic Co-operation and Development, November 2016, http://www.oecd.org/education/Education-Policy-Outlook-Korea.pdf.

12. Organisation of Economic Co-operation and Development, "Education at a Glance 2018: Korea Country Note," 2018, http://gpseducation.oecd.org/Content/EAGCountryNotes/KOR.pdf.

13. Organisation of Economic Co-operation and Development, "Unemployment Rates by Education Level," 2019, https://data.oecd.org/unemp/unemployment-rates-by-education-level.htm#indicator-chart.

14. Eun-Young Jeong and Kwanwoo Jun, "What's a College Degree Worth? Not Much for Young South Koreans," *Wall Street Journal*, July 18, 2017, https://www.wsj.com/articles/whats-a-college-degree-worth-not-much-for-young-south-koreans-1500370206.

15. Paul Bolton, Student Loan Statistics, House of Commons Library, February 2019, http://researchbriefings.files.parliament.uk/documents/SN01079/SN01079.pdf.

16. Richard Murphy, Judith Scott-Clayton, and Gillian Wyness, "The End of Free College in England: Implications for Quality, Enrolments, and Equity," National Bureau of Economic Research, February 2018, https://www.nber.org/papers/w23888.pdf.

17. GDP per capita statistics in this report are collected from Organisation of Economic Co-operation and Development, "Education at a Glance 2018—Data and Methodology," Annex 2, Table X2.1, 2018, http://www.oecd.org/education/education-at-a-glance-2018-data-and-methodology.htm.

18. Judith Peterka et al., *Education Policy Outlook: Slovak Republic*, Organisation of Economic Co-operation and Development, November 2015, http://www.oecd.org/education/Slovak-republic-Country-Profile.pdf.

19. Organisation of Economic Co-operation and Development, "Education at a Glance 2018—Data and Methodology," Indicator C2, Table C2.2, 2018, http://www.oecd.org/education/education-at-a-glance-2018-data-and-methodology.htm.

20. Eurostat, "File: Population, by Place of Birth, 2016 (% Share of Total Population)," https://ec.europa.eu/eurostat/statisticsexplained/index.php?title=File:Population,_by_place_of_birth,_2016_(%25_share_of_total_population)_PITEU17.png.

21. Organisation of Economic Co-operation and Development, "Education at a Glance 2018: Luxembourg Country Note," 2018, http://gpseducation.oecd.org/Content/EAGCountryNotes/LUX.pdf.

22. Dominique Abriac et al., *Repères et références statistiques*, Ministére de L'Éducation Nationale et de la Jeunesse, 2018, http://cache.media.education.gouv.fr/file/RERS_2018/28/7/depp-2018-RERS-web_1075287.pdf#pag=155.

23. Polish National Agency for Academic Exchange, "Tuition Fees," http://go-poland.pl/tuition-fees.

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