

Insight on the Issues

A Look at College Costs across Generations

Joe Valenti

AARP Public Policy Institute

- ✓ **College costs have risen dramatically over the past several decades across all types of institutions. At four-year schools, average published prices now exceed two-and-a-half times what they were when the oldest baby boomers entered college in 1964 even after adjusting for inflation.**
- ✓ **After taking into account financial aid such as scholarships and grants, students and families pay a net price that is lower than the published price. On average, at four-year public institutions the net price is currently about 70 percent of the published price. Yet inflation-adjusted net prices have also increased dramatically over the past 20 years: 63 percent for four-year public institutions and 27 percent for private nonprofit institutions.**
- ✓ **College costs have also grown relative to median family incomes, leading students and families to borrow more for education. Outstanding student loan debt grew from \$455 billion in 2004 to \$1.5 trillion in 2018.**
- ✓ **Increased student debt levels may threaten retirement security for students and their parents alike. If young workers delay saving for retirement due to their student loan payments, they may need to work two to seven years longer to achieve the same retirement account balances.**

INTRODUCTION

Higher education frequently helps people obtain the knowledge and skills they need to succeed in the workforce. Associate degree holders' median earnings are consistently greater than those of high school graduates, and bachelor's degree holders earn double what the typical high school graduate earns over the course of a career.¹ Further, the benefits of a more educated population flow not just to graduates, but to the broader economy.² Yet, as a whole, paying for college has become more challenging for prospective students and their families, as costs have risen dramatically in recent decades. As a result, the cost experienced by recent graduates may differ greatly from those in prior generations.

This paper examines college costs across generations and their implications. It puts these costs into perspective compared with changes in family incomes and highlights some of the contributors to cost growth. Finally, it discusses some of the implications of higher college costs on retirement security—a crucial financial goal for which student debt may present new obstacles.

As recent graduates struggle to address their student loan debt as the result of these increased costs, they will face added financial burdens as they age. This means it may be more difficult for them in the future to address not only having the economic stability to cover their own needs but also the financial and caregiving demands of their parents, children, and other family members.

COLLEGE COSTS ARE RISING

After adjusting for inflation, average published annual costs for four-year higher education institutions are more than two-and-a-half times what they were when the oldest baby boomers entered college in 1964 (figure 1).³ The increase was similar for both public and private four-year institutions. In 2015–16 dollars, the average cost of attendance at a four-year public institution for the 1964–65 academic year was \$7,256, compared with \$19,189 for the 2015–16 school year—a 164 percent increase.⁴ Among four-year private institutions, average annual costs increased 170 percent from \$14,618 to \$39,529 over this time period.⁵ Two-year public colleges had more modest increases, although annual average costs still doubled from \$4,867 to \$9,939.⁶

The increase in college costs has accelerated in recent decades. At public four-year institutions, for example, the first college students from generation X (1983–84) faced costs that were 11 percent higher than for the first baby boomers (1964–65).⁷ Costs increased by another 45 percent over the next 15 years until the

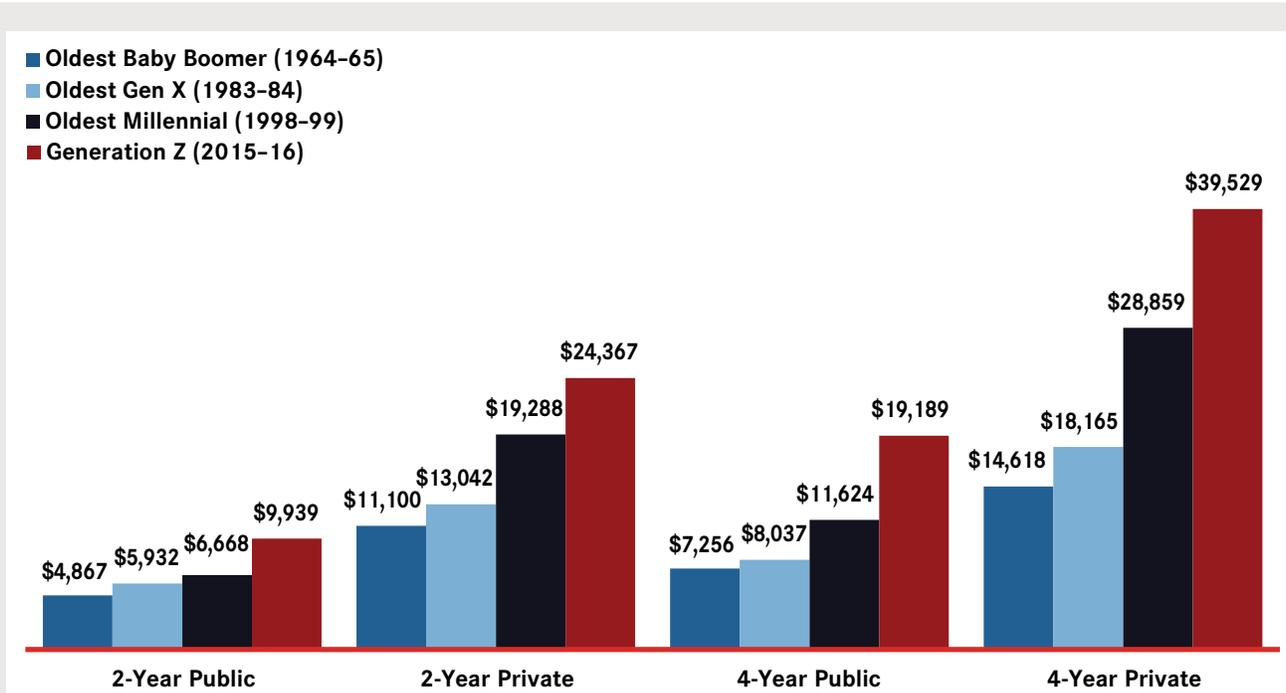
first millennials entered college in 1998, and an additional 65 percent between 1998 and 2015, when the oldest generation Z students entered college.⁸

Costs have increased substantially at both public and private institutions. The annual cost of attendance at a public four-year institution increased 139 percent after adjusting for inflation from 1983–84 to 2015–16, and 118 percent for private nonprofit and for-profit schools.⁹ Again, two-year schools have seen more modest, yet significant, increases: 68 percent for public institutions and 87 percent for private.¹⁰

RISING COSTS: FACTORING IN FINANCIAL AID, FAMILY INCOME, AND INSTITUTION

In spite of the generally steep increases across types of institutions, it is important to note that higher published prices do not necessarily mean that college costs have increased for all students. Financial aid, whether distributed by need or merit, helps address the affordability gap, allowing many families to avoid paying the full published price. The net price not only includes any amounts that families are

FIGURE 1
Average Annual Cost* for Undergraduates by First Year of Generational Attendance (in 2015–16 dollars)



*Cost includes published rates for tuition, fees, room, and board. It does not include other components, such as books or transportation. Source: US Department of Education, 2016 Digest of Education Statistics Table 330.10.

IS NET PRICE INFORMATION TRANSPARENT FOR FAMILIES?

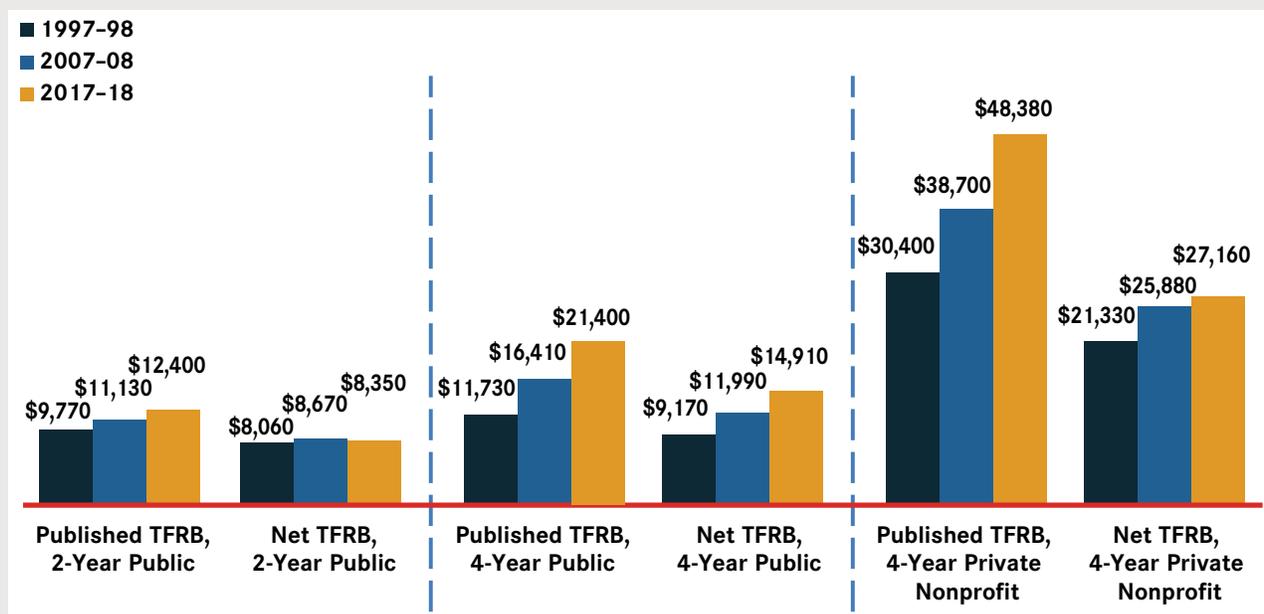
The net price paid by students and parents includes the full financial obligation for attending a given school. But in some cases, the way net price is presented may be unclear, leaving families wondering what their actual obligations are. While financial aid in the form of gifts and scholarships reduces net price and the need for borrowing, information given to potential students about other types of aid can be misleading. A recent review of financial aid award letters found that some schools mischaracterized how student loans were incorporated into a student’s aid package, including 24 instances in which words other than **loan** were used, and a number of letters in which parent loans were considered part of a financial aid **award**.^{*} In turn, this makes it harder to compare offers across schools when determining which school provides the best value—leading families to borrow more than they would have otherwise.

^{*} Stephen Burd, et al., “Decoding the Cost of College: The Case for Transparent Financial Aid Award Letters,” *New America*, June 5, 2018, <https://www.newamerica.org/education-policy/policy-papers/decoding-cost-college/>

required to pay upfront, but also includes loans and work-study if part of the overall aid package.¹¹ For public four-year institutions, the average net price for tuition, fees, room, and board—in other words, the final annual financial obligation after taking aid into account—was 78 percent of the published price in 1997–98 and 70 percent of the published

price in 2017–18 (figure 2).¹² Nevertheless, net prices, too, have increased on average over the past two decades. Four-year public institutions saw the largest jump, after adjusting for inflation, with a 63 percent increase from \$9,170 to \$14,910. At four-year private nonprofits, average net price increased 27 percent, from \$21,330 to \$27,160. Average net price increased

FIGURE 2
Average Annual Published Price and Net Price for Tuition, Fees, Room, and Board (TFRB) (in 2018 dollars)



Source: The College Board, “Trends in College Pricing Table 7: Published and Net Prices in 2018 Dollars by Sector, Full-Time Undergraduate Students, 1990–91 to 2018–19.”

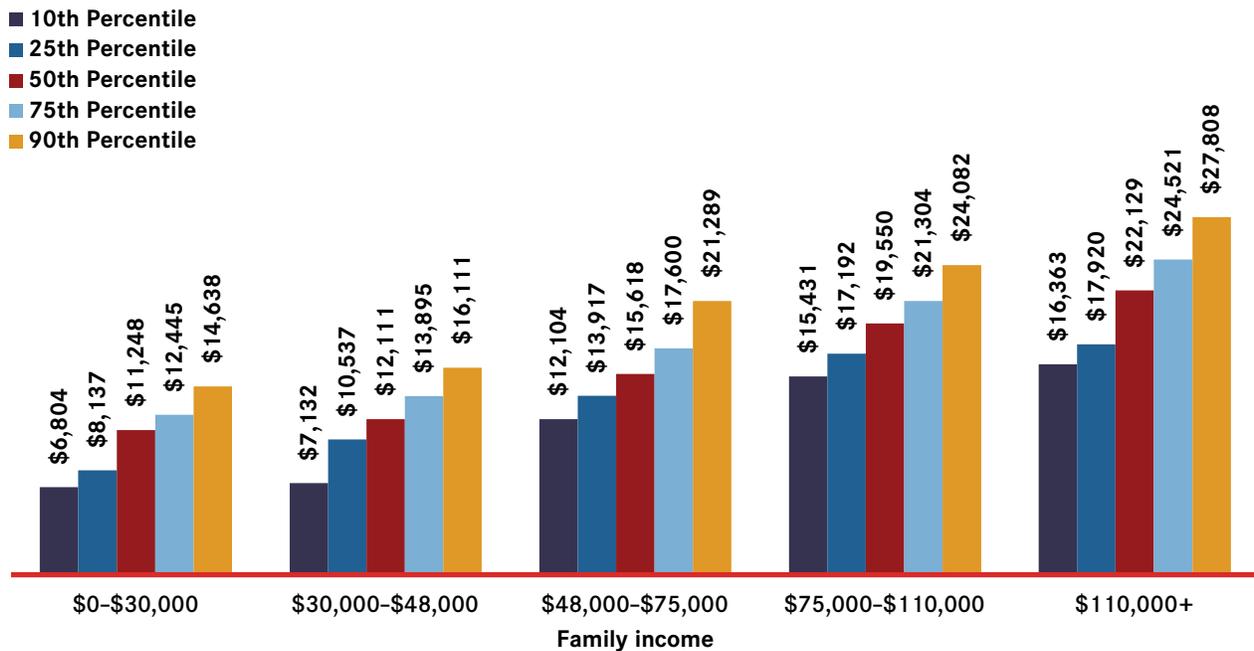
more modestly, from \$8,060 to \$8350, for students at two-year public schools—less than 4 percent. Student and family financial circumstances, state residency, need- and merit-based aid, and individual school choices ultimately determine the price that attendees pay.

The net prices for students who receive financial aid at colleges and universities tend to vary by income. Across the 50 state flagship institutions—typically the highest-profile public research university in a state—the average net price of tuition, fees, room, and board for a student with family income below \$30,000 per year (the lowest income band considered) ranged from \$2,660 to \$20,873 for the 2015–16 school year depending on the school (figure 3).¹³ The average net price for students in the lowest income band at the median state flagship was \$11,248. This means that at half of the state

flagships, lower-income students on average had an annual net price below \$11,248. As family incomes rise, net prices increase at different rates based on the formulas that different state systems use. A student with family income between \$30,000 and \$48,000, on average, could pay anywhere from \$5,878 to \$22,463 per year. For families in the highest income band (above \$110,000 per year), average net price across all state flagships ranges from \$13,849 to \$33,278 per year.

Flagships are a valuable college cost barometer; however, they are not the only—or most frequently chosen—educational option. Only about 7 percent of undergraduate students seeking a degree or certificate attended state flagships in 2017.¹⁴ About three-quarters of students attended public institutions, including flagships and regional colleges

FIGURE 3
Average Annual Net Price by Family Income at the 50 State Flagship Schools by Net Price Percentile, 2015-16



Source: Author's tabulations of the Integrated Postsecondary Education Data System, National Center for Education Statistics, US Department of Education.

Note: Net price includes tuition, fees, room, and board.

and universities, while 18 percent attended private nonprofits and 6 percent attended for-profits.¹⁵

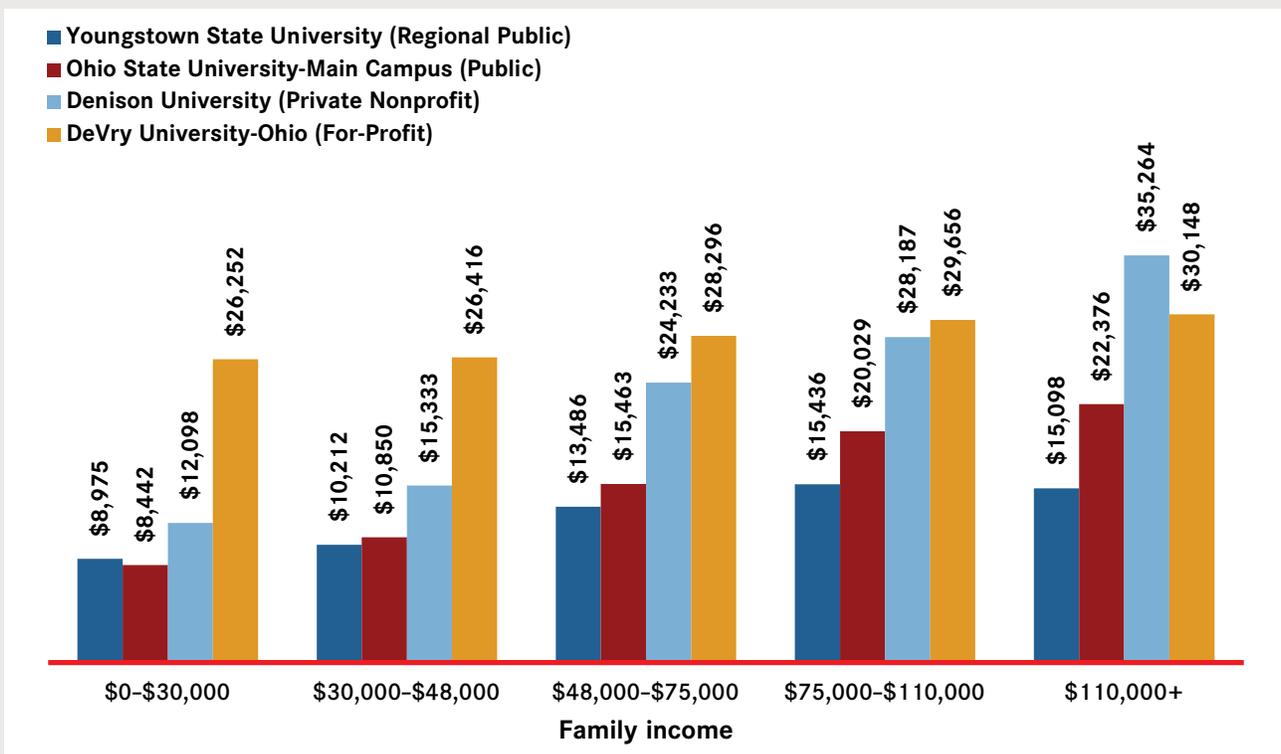
Ohio provides an illustrative example of how pricing can vary by both family income and choice of school.¹⁶ At Ohio State University, the state flagship, the average net price ranges from \$8,442 for families in the lowest income band to \$22,376 for families in the highest (figure 4). Youngstown State, a regional public school, has a lower average net price than Ohio State University for four of the five income bands. Denison, a private, nonprofit school, has a significantly greater average net price, \$35,264, for families in the highest income band, but has a smaller difference in net price on average for families in the bottom two bands relative to the two public institutions. Meanwhile, DeVry University, a for-profit institution, had a net price on average

of \$26,252 even for the lowest-income students. In all these cases, to the extent students and parents cannot bear these costs, they turn to borrowing.

PUTTING COLLEGE COSTS IN PERSPECTIVE

Net college costs, while modest relative to the sticker price, remain challenging for many families. To continue with the Ohio example, the median family income in the state is \$66,885.¹⁷ At that income, the net price for tuition, fees, room, and board is 20 percent or more of gross family income for each year that a child is in school. Even among higher-income households with more opportunity to save aggressively for college, higher education costs could easily exceed 10 percent or more of a family’s annual income.

FIGURE 4
Average Annual Net Price of Tuition, Fees, Room, and Board by Family Income at Selected Ohio Schools, 2015-16



Source: Author’s tabulations of the Integrated Postsecondary Education Data System, National Center for Education Statistics, US Department of Education.

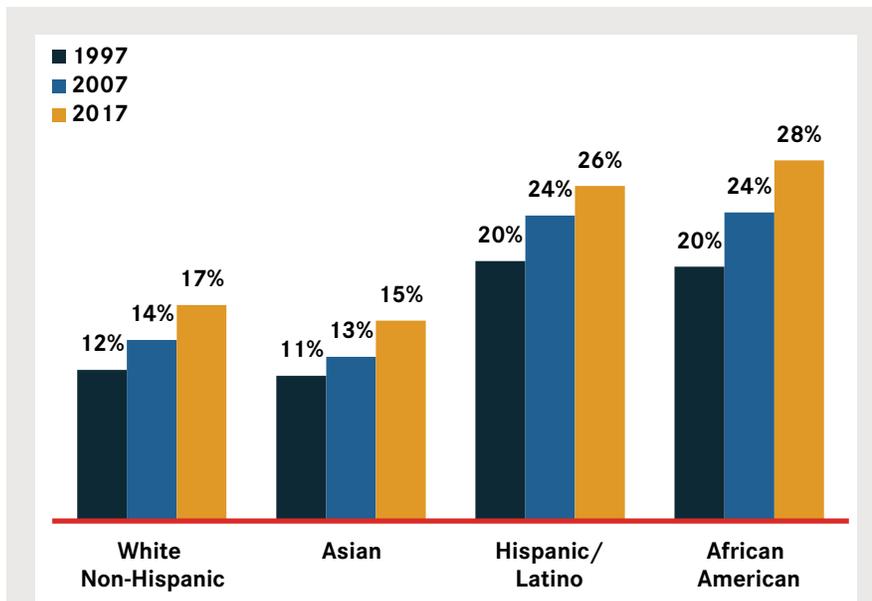
While college costs have increased substantially, family incomes have remained largely stagnant, and racial and ethnic disparities persist. Adjusting for inflation, median family household income rose by about 12 percent between 1997 and 2017 (from \$69,277 to \$77,713 in 2017 dollars).¹⁸ In 2017, meanwhile, average net tuition, fees, room, and board equaled 18.7 percent of median family income across all races/ethnicities, up from 12.9 percent in 1997.¹⁹ And for the median African American or Latino family, these costs rose as a share of income from about 20 percent in 1997 to 26 percent for Latinos and 28 percent for African-Americans in 2017 (figure 5). While the actual prices paid by students and families will vary from the national average, these costs are increasingly out of reach for families.

Financial aid formulas attempt to take into account different families' economic circumstances to an extent, but are not sufficient to fully address these income and wealth disparities.²⁰ The challenge of paying for higher education is particularly difficult for African American and Latino households because they typically have less wealth. In 2016, the median white household had 10 times the wealth of the median African American household and 8 times the median wealth of a Latino household.²¹ Even when comparing only middle-income households to exclude upper-income wealth disparities, white

households at the median had 4 times the wealth of comparable African American households and 3.4 times the wealth of Latino households.²²

Another means of understanding the true impact of college costs is to consider the possibility of working while being in school. A traditional means of paying for school has been to work while attending classes. But as costs have increased, students' capacity to pay for college strictly from their own work has markedly decreased. Recent research found that a financially independent student at a public four-year university in 1981–82 would have needed to work 842 hours at minimum wage to cover all college costs for the year—an average of 16 hours per week year round, or a mix of full-time summer work part-time work during the school year.²³ In 2015, covering these costs would have required an impossible 22 hours of summer work every single day, or 37-hour weeks all year round—in other words, a full-time job.²⁴

FIGURE 5
Average net price (Tuition, Fees, Room, and Board) at Four-Year Public Institutions as a Percentage of Median Family Household Income by Race/Ethnicity, 1997–2017



Source: Author's analysis based on data from the US Census Bureau and The College Board.

WHAT IS DRIVING THE COST INCREASES?

State governments have reduced the amount of funding for higher education even as costs have increased. In 2017, for the first time, the majority of states' higher education institutions received more support from tuition and fees than they did from state and local governments—and on a per-student basis, only six states currently fund higher education at the same or higher levels as before the 2008 recession.²⁵ Thus,

the burden has shifted toward students and their parents. And while students may receive a tangible benefit from their education in terms of human capital and higher earnings potential, parents and other relatives who may need to borrow do not reap these same benefits.

Another sometimes-cited cause of rising prices are the institutions themselves. Some have argued that schools face conflicting incentives to keep costs down. Seeking to attract and retain discerning students and parents willing to pay a higher price, some schools have invested in such amenities as luxury dormitories, rock-climbing walls, and other facilities.²⁶ Opponents of this view have claimed that these features are a small share of spending relative to state disinvestment, differentiated pricing, and structural factors.²⁷

The growth of college costs over the past few decades has also taken place alongside the rise of for-profit colleges. These schools, while eligible for federal aid funds, must also satisfy private investors and charge some of the highest amounts, yet their spending patterns are not necessarily aimed at yielding better results for students. On average, associate degree programs at for-profits cost 4 times the cost of community college programs, and for-profit bachelor's degree programs cost 20 percent more than public four-year flagship colleges.²⁸ As a whole, for-profit schools investigated by the US Senate spent less on instruction than they did on marketing or on returns to investors.²⁹ Between 1998 and 2008, for-profit colleges typically spent 10 times more on marketing than traditional colleges.³⁰

Finally, while much of the focus on college costs has been on addressing rising tuition and fees, it is important to recognize that these are not the only expenses students face. Even with the availability of free tuition in some circumstances, books, supplies, and living expenses may add up to thousands of dollars in additional costs each year—and in some cases living expenses are understated in schools' official cost estimates.³¹ Meanwhile, financial aid programs may fail to cover all of these costs, or students may have difficulty continuing to access adequate aid as they progress through college.³²

WHAT COLLEGE UNAFFORDABILITY MEANS FOR RETIREMENT

As college costs have increased, multiple generations have turned to borrowing to help close this gap. Student loan debt outstanding increased from \$455.2 billion in 2004 to \$1.5 trillion in 2018.³³

As rising college costs have driven more students and parents to borrow, retirement security may be a key area where these effects are visible. In some cases, student debt may directly harm retirement outcomes. During fiscal year 2015, roughly 114,000 Americans ages 50 and older had part of their Social Security disability, retirement, or survivor benefits garnished because they had defaulted on a student loan.³⁴

The students themselves also can take a retirement hit, even as they are just starting their careers. For a young worker with student loan payments, it may be more difficult than for someone without debt to both save for retirement and pay down debt at the same time. The average starting salary for the college class of 2017 was \$50,516.³⁵ Meanwhile, 65 percent of 2017 college seniors from public and private nonprofit schools graduated with student loans, with the average graduate who carried debt holding \$28,650.³⁶

Recent research found that households headed by someone under age 35 with college degrees had far lower retirement account balances if they had student loans, relative to those without student debt.³⁷ Families without student loans and a college degree had a median account balance of \$20,000 and an average balance of \$53,638 in 2016, while those with student loans and degrees had a median balance of \$13,000 and an average balance of \$32,987.³⁸ Similarly, another study found that, while college graduates had higher retirement plan assets than those without a degree, graduates with debt had half the retirement savings at age 30 than those without student loan debt.³⁹

One recommendation experts often make is that workers begin saving about 5 percent of their income for retirement when they enter the workforce, then increase savings to 6 percent the next year, and so on until they are setting aside 10 percent each year in a 401(k) or other retirement

savings vehicle.⁴⁰ Student debt may make it harder for workers to meet such targets and save adequately for retirement, especially if they are not earning high incomes at the start.

The importance of beginning to save early for retirement and the benefits of compounding assets, of course, are well publicized. Consider two workers who start saving for retirement at different ages, initially contributing 5 percent of income and increasing to 10 percent over the next five years, then saving consistently as they continue to work. This may be an aggressive savings goal to sustain over a career, but employees with access to an employer match, for example, may reach 10 percent more consistently.⁴¹ The worker who begins saving at age 22 will have a 54 percent larger account at age 65 than the worker who starts saving at age 32—the equivalent of working seven years longer to reach the same level of retirement security.⁴²

Student loan payments take up a share of income that could otherwise go toward retirement saving. Consider the average debt-holding college senior mentioned above as an example. At recent interest rates for federal undergraduate loans,⁴³ his or her \$28,650 in debt corresponds to paying about \$284 per month in a standard, 10-year repayment plan—6.8 percent of income that first year. A more highly indebted college student, owing \$60,000 at graduation, would owe \$609 each month, or 14.6 percent of income. A lower-income recent graduate, earning only \$25,000, could face payments of up to 13.6 percent of income at the average debt level. And even a higher-income graduate, earning \$80,000, would owe between 4.3 and 9.1 percent of income each month under the standard plan.

Recent student loan borrowers do have access to income-driven loan repayment options for their federal loans, which can help reduce this burden. Under these repayment plans, borrowers are required to pay only a fixed percentage of their income each month, and after a certain period of time, any remaining balance is forgiven. For those with access to the most generous plan, payments are capped at 10 percent of discretionary income.⁴⁴

This means that for the lower-income borrower earning \$25,000, student loan payments under the

income-driven plan are effectively only \$57 per month, or 2.7 percent of income. And the higher-earning borrower pays \$514, or 7.7 percent each month, regardless of how much he or she owes. At the same time, borrowers in income-driven repayment plans will potentially make payments for a longer period of time and accrue greater interest on their balances, depending on their income level.

Under all these scenarios, if borrowers' loan payments partially crowd out retirement savings during the first 10 years of work, they will face retirement account balances that are up to 39 percent lower than for recent graduates without debt. This assumes that they make their student loan payments first, and if loan payments are a smaller percentage of income than the recommended retirement savings guidelines, they save the rest for retirement. For example, if student loan payments are 3 percent of monthly income and the savings guideline is to save 5 percent that year, the borrower will save the remaining 2 percent. A lower-income worker with \$30,000 in student loan debt would need to work nearly 7 years longer than one without student debt to achieve the same retirement account balance on a standard repayment plan (table 1).⁴⁵ The worker would have been entirely unable to save during the first 10 years. Similarly, workers with higher incomes and at varying debt levels would all need to work between approximately 2 and 7 years longer to achieve the same level of retirement savings. While these remain rough estimates,⁴⁶ greater frequency of student debt—and larger debt amounts—as college costs rise may make retirement security harder for young workers to reach in the years ahead.

CONCLUSION

The cost of college has increased dramatically in recent decades while the potential benefits of higher education have also grown. As these costs have increased, the burden on students and parents has become larger, leading to greater borrowing for higher education. In the long run, this increase in student debt—approaching \$1.5 trillion at the end of 2018⁴⁷—may have implications on future retirement security in the years to come for both today's and tomorrow's borrowers.

TABLE 1
Potential Effects of Student Debt on Future Retirement Security, by Starting Salary, Debt Levels, and Repayment Plan Choice

		Recent Graduate Earning		
		\$25,000/Year <i>(Low)</i>	\$50,000/Year <i>(Average)</i>	\$80,000/Year <i>(High)</i>
Saving for Retirement Starting at age 22	Account balance at age 65	\$731,927	\$1,463,854	\$2,342,167
Delayed Retirement Savings from Average Student Debt (\$30,000)	Account balance at age 65	\$445,274	\$1,068,923	\$1,949,696
	Reduction in savings at age 65	39%	27%	17%
	Additional years of work to reach equal savings	6.6	4.3	2.5
Delayed Retirement Savings from High Student Debt (\$60,000)	Account balance at age 65	\$445,274	\$890,549	\$1,582,394
	Reduction in savings at age 65	39%	39%	32%
	Additional years of work to reach equal savings	6.6	6.6	5.3
Delayed Retirement Savings from \$60,000 in Student Debt, Participating in Income-Driven Repayment (pay as you earn)	Account balance at age 65	\$637,107	\$1,031,064	\$1,522,497
	Reduction in savings at age 65	13%	30%	35%
	Additional years of work to reach equal savings	1.9	4.8	5.8

Source: Author's tabulations.

Note: Retirement savings in this analysis assume that a worker without student debt begins saving for retirement at 5 percent of income at age 22, and increases the contribution rate by 1 percentage point each year until it reaches 10 percent. Workers receive a 3 percent annual increase in salary and a 6 percent annual return on retirement savings throughout. For the first 10 years, the worker with student debt saves for retirement any amount left over under the savings guideline after making student loan payments. For example, if student loan payments equal 3 percent of income in the first year, he or she contributes only 2 percent to a retirement account. After 10 years, workers who are saving less than 10 percent of income continue increasing their savings rate by 1 percentage point each year. Workers who did not save at all during the first 10 years begin saving 3 percent of income at age 32.

Student loans in this analysis have an interest rate of 4.05 percent, which is the average rate incurred for federal student loan borrowers who took out undergraduate loans between 2012 and 2016. All borrowers have access to the most generous income-driven repayment plan (Pay As You Earn), in which they pay only 10 percent of their discretionary income. The poverty threshold used to define discretionary income increases by 2 percent each year for inflation. Student loan payments beyond age 32 are not taken into account, although borrowers in income-driven repayment plans who are not eligible for Public Service Loan Forgiveness will continue to make payments until the loan is paid off or the balance forgiven after 20 or 25 years.

- 1 Brad Hershbein and Melissa S. Kearney, "Major Decisions: What Graduates Earn over Their Lifetimes," The Hamilton Project, Brookings Institution, Washington, DC, September 29, 2014, http://www.hamiltonproject.org/papers/major_decisions_what_graduates_earn_over_their_lifetimes.
- 2 Stephen J. Carroll and Emre Erkut, "The Benefits to Taxpayers from Increases in Students' Educational Attainment," RAND Corporation, Santa Monica, CA, 2009, https://www.rand.org/content/dam/rand/pubs/monographs/2009/RAND_MG686.pdf.
- 3 For purposes of this paper, *baby boomers* were born between 1946 and 1964, *gen Xers* were born between 1965 and 1979, and *millennials* were born between 1980 and 1996.
- 4 "Table 330.10. Average undergraduate tuition and fees and room and board rates charged for full-time students in degree-granting postsecondary institutions, by level and control of institution: 1963–64 through 2015–16," Digest of Education Statistics, US Department of Education, accessed April 11, 2019, https://nces.ed.gov/programs/digest/d16/tables/dt16_330.10.asp.
- 5 Ibid.
- 6 Ibid.
- 7 Ibid.
- 8 Ibid.
- 9 Ibid. Public schools are supported and overseen, directly or indirectly, by a state or local government. Private schools are overseen by a board of directors. At private nonprofits, excess revenues are retained by the school for its own benefit. At private for-profits, excess revenues are passed along to investors. As discussed later in this paper, private for-profits have grown dramatically in recent decades.
- 10 Ibid.
- 11 "Focus on Net Price, Not Sticker Price," The College Board, accessed April 11, 2019, <https://bigfuture.collegeboard.org/pay-for-college/paying-your-share/focus-on-net-price-not-sticker-price>. Notably, net price may still skew family obligations in both directions depending on family income. Including loans and work-study as part of the net price understates the actual obligations of low-income families, while net price does not account for tax benefits that largely benefit higher-income families.
- 12 Author's tabulations of "Trends in College Pricing, Table 7: Published and Net Prices in 2018 Dollars by Sector, Full-Time Undergraduate Students, 1990–91 to 2018–19," The College Board, accessed April 11, 2019, <https://trends.collegeboard.org/sites/default/files/cp-2018-Table-7.xlsx>.
- 13 Author's tabulations of the Integrated Postsecondary Education Data System, National Center for Education Statistics, US Department of Education.
- 14 Ibid.
- 15 Author's tabulations of the Integrated Postsecondary Education Data System, National Center for Education Statistics, US Department of Education.
- 16 Ibid.
- 17 Author's tabulation of the 2013–2017 American Community Survey five-year estimates, US Census Bureau.
- 18 "Table H-9," US Census Bureau, accessed April 11, 2019, <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-income-households.html>.
- 19 Notably, while median family income data vary by race/ethnicity, net price is presumed to be constant due to the lack of race or ethnicity-specific net price data. The actual net price for students of a given race or ethnicity will vary depending on personal circumstances and educational choices.
- 20 For example, housing and retirement assets are not directly counted for purposes of financial aid eligibility, and many institutions offer merit-based aid that may flow to students whose families do not actually need help.
- 21 Rakesh Kochhar and Anthony Cilluffo, "How Wealth Inequality Has Changed in the United States since the Great Recession, by Race, Ethnicity, and Income," Pew Research Center, Washington, DC, November 1, 2017, <http://www.pewresearch.org/fact-tank/2017/11/01/how-wealth-inequality-has-changed-in-the-u-s-since-the-great-recession-by-race-ethnicity-and-income/>.
- 22 Ibid.
- 23 Anya Kamenetz, "Why Summer Jobs Don't Pay," *NPR Ed*, July 5, 2017, <https://www.npr.org/sections/ed/2017/07/05/535017831/why-summer-jobs-dont-pay>. In this case, financially independent means a student paying for college on his or her own, without help from parents or others.
- 24 Ibid.
- 25 "State Higher Education Finance (SHEF) Fiscal Year 2017," State Higher Education Executive Officers Association, <http://www.sheeo.org/projects/shef-%E2%80%94-state-higher-education-finance>.
- 26 For one discussion, see: Kirk Carapezza and Mallory Noe-Payne, "Big Spending on Campus: Are Pricey Amenities Driving Up Costs?," *WGBH News*, July 23, 2015, <https://www.pri.org/stories/2015-07-23/big-spending-campus-are-pricey-amenities-driving-costs>.
- 27 Robert B. Archibald and David H. Feldman, "Drivers of the Rising Price of a College Education," *Midwestern Higher Education Compact*, Minneapolis, MN, August 2018, https://www.mhec.org/sites/default/files/resources/mhec_affordability_series7_20180730.pdf.

- 28 US Senate Committee on Health, Education, Labor, and Pensions, “For Profit Higher Education: The Failure to Safeguard the Federal Investment and Ensure Student Success,” Senate Report 112-37, Government Printing Office, Washington, DC, July 30, 2012, https://www.help.senate.gov/imo/media/for_profit_report/Contents.pdf.
- 29 Ibid.
- 30 John Katzman, “The Spending War on Student Recruitment,” *Inside Higher Ed*, April 18, 2016, <https://www.insidehighered.com/views/2016/04/18/too-much-being-spent-higher-education-marketing-assault-essay>.
- 31 Sara Goldrick-Rab and Nancy Kendall, “The Real Price of College,” The Century Foundation, New York, NY, March 3, 2016, <https://tcf.org/content/report/the-real-price-of-college/>.
- 32 Ibid.
- 33 “Quarterly Report on Household Debt and Credit (February 2019),” Federal Reserve Bank of New York Center for Microeconomic Data, https://www.newyorkfed.org/medialibrary/interactives/householdcredit/data/pdf/HHDC_2018Q4.pdf.
- See also: Lori Trawinski, Susanna Montezemolo, and Alicia Williams, “The Student Loan Debt Threat: An Intergenerational Problem,” AARP Public Policy Institute, May 2019.
- 34 Government Accountability Office, “Social Security Offsets: Improvements to Program Design Could Better Assist Older Student Loan Borrowers with Obtaining Permitted Relief,” GAO-17-45, Washington, DC, December 20, 2016, <https://www.gao.gov/products/GAO-17-45>.
- 35 National Association of Colleges and Employers, “Overall Starting Salary for Class of 2017 Remains Flat,” Bethlehem, PA, July 19, 2018, available at <https://www.nacweb.org/job-market/compensation/class-of-2017s-overall-starting-salary-shows-little-gain/>.
- 36 The Institute for College Access and Success, “Student Debt and the Class of 2017,” Oakland, CA, September 2018, https://ticas.org/sites/default/files/pub_files/classof2017.pdf. Notably, the average debt by college ranged from \$4,400 to \$58,000.
- 37 Craig Copeland, “Student Loan Debt: Trends and Implications,” Employee Benefit Research Institute Issue Brief 453. Washington, DC, July 9, 2018, <https://www.ebri.org/content/student-loan-debt-trends-and-implications>.
- 38 Ibid.
- 39 Matthew S. Rutledge, Geoffrey T. Sanzenbacher, and Francis M. Vitagliano, “Do Young Adults with Student Debt Save Less for Retirement?,” Issue Brief 18-13, Center for Retirement Research at Boston College, Chestnut Hill, MA, June 2018, http://crr.bc.edu/wp-content/uploads/2018/06/IB_18-13.pdf.
- 40 For example, this is similar to guidance issued for many automatic retirement savings plans. See Peter Chandler and Gary Mottola, “Retirement Saving Policy: Five Tips for Successful Default Contribution Rates in Automatic Retirement Savings Plans,” AARP Public Policy Institute Spotlight 6, Washington, DC, October 2014, at <https://www.aarp.org/content/dam/aarp/ppi/2014-10/spotlight6-tips-for-successful-contrib-rates-ars-AARP-ppi-econ-sec.pdf>. However, many plans automatically enroll workers at contribution rates as low as 3 percent: See Emily Brandon, “Why You Shouldn’t Stick with Your 401(k) Plan’s Default Settings,” *U.S. News and World Report*, March 20, 2017, <https://money.usnews.com/money/retirement/401ks/articles/2017-03-20/why-you-shouldnt-stick-with-your-401-k-plans-default-settings>. It is also important to note that auto-escalation of contributions up to 10 percent of income may also dissuade some employees from saving, as noted in experiments conducted for the Connecticut Retirement Security Board. Center for Retirement Research at Boston College, “Report on Design of Connecticut’s Retirement Security Program,” Hartford, CT, December 2015, Appendix A, https://www.osc.ct.gov/crsb/docs/finalreport/Appendix_A_CRSB.pdf.
- 41 For a discussion of the benefits of matching provisions, see: Joe Valenti and Christian E. Weller, “Creating Economic Security: Using Progressive Savings Matches to Counter Upside-Down Tax Incentives,” Center for American Progress, Washington, DC, November 2013, <https://www.americanprogress.org/issues/economy/reports/2013/11/21/79830/creating-economic-security/>.
- 42 This assumes a worker who begins saving at 5 percent and gradually increases to 10 percent, as in the example above, then continues at a 10 percent annual contribution rate to age 65. It also assumes that each year, annual income increases 3 percent and retirement savings earn a 6 percent annual return. The retirement balance estimates in this report do not take into account potential tax advantages or implications for saving.
- 43 This assumes an interest rate of 4.05 percent, which is the average rate incurred for federal student loan borrowers who took out undergraduate loans between 2012 and 2016. See “Interest Rates and Fees,” US Department of Education, accessed April 11, 2019, <https://studentaid.ed.gov/sa/types/loans/interest-rates#older-rates>.
- 44 Discretionary income is defined as all income greater than 150 percent of the federal poverty guideline for a given family size and state of residence: \$18,210 in 2018 for a resident of the contiguous 48 states in a one-person household. See “2018 Poverty Guidelines,” US Department of Health and Human Services, accessed April 11, 2019, <https://aspe.hhs.gov/2018-poverty-guidelines>. Borrowers in income-driven repayment plans have debt balances forgiven after 20 or 25 years, depending on the program, unless they have 10 years of qualifying payments while

working in a public service capacity. For non-Public Service Loan Forgiveness participants, the amount forgiven remains taxable under current law.

45 These assumptions are based on a 2 percent inflation adjustment in the poverty guideline each year (for the income-based repayment borrower), and the same savings assumptions as above.

46 A few additional caveats: Some assumptions may make the retirement gap appear smaller than it actually would be. This assumes universal access to the most generous income-driven repayment plan, Pay As You Earn, which caps payments at 10 percent of income instead of 15 percent for the Income-Based Repayment plan, constant saving

throughout one's career, no lapses in work or saving, and no consideration of student loan payments post-age 32 (which income-driven repayment plan participants may still be making) or the tax implications of loan forgiveness. But if some recent graduates were generally able to consistently direct more than 10 percent of their gross income toward both debt repayment and retirement saving at the same time, the gap in savings would be larger than the estimates shown in table 1.

47 At the end of the fourth quarter of 2018, total student debt outstanding was approximately \$1.46 trillion according to Federal Reserve Bank of New York Center for Microeconomic Data, "Quarterly Report."

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