ONE

The Spiraling Costs of Higher Education

Mind numbing.

—Chris Jones, Chairman of the Appropriations Committee of the House of Delegates in Virginia, after he learned of the College of William and Mary's substantial increase in tuition and fees, May 16, 2016

The precise causes of this increase are not yet well understood.

—The President's Council of Economic Advisors, referring to the causes of tuition and fee increases, July 2016

When Jackie Krowen, a thirty-two-year-old former college student living in Portland, Oregon, agreed to be interviewed by the venerable Consumers Union, it is unlikely she anticipated that she would crystalize the national predicament facing the United States concerning college pricing and affordability. Ms. Krowen averred dispiritedly, "I kind of ruined my life by going to college."

Having borrowed $128,000 to complete a nursing degree, Ms. Krowen found by 2016 that she owed $152,000 to her creditors because she had not kept up with the mounting interest accumulating on her obligations. Her confessional candor resulted in her words being featured on the August 2016 cover of *Consumer Reports* magazine.[1] By itself, the magazine cover was a signal that higher education had shifted to a new and less favorable position in the public imagination.

Ponder again this unhappy alumna's bleak assessment: "I kind of ruined my life by going to college." To some, her situation represented an indictment of a higher-education system that they believe has gone astray. To others, her problems were self-inflicted and not representative of the mass of students who may borrow, but who graduate with much lower levels of debt and repay those debts after they graduate.[2]

Approximately 30 percent of those who earn a bachelor's degree graduate with no debt at all.[3] Still, if we focus only on those who did borrow, then their total average obligation rose to a bit more than $31,000—not an overwhelming amount,[4] but problematic if the individual has graduated in a discipline such as education, where in 2016 the average salary earned by a graduate was only $34,891.[5]

Reputable economists have demonstrated that the high levels of debt accumulated by some students are inflicting measurable harm on our nation's economy. Among the adverse economic consequences that accrue to the 44.2 million Americans who have student debt are reduced rates of home ownership, smaller or no contributions to retirement savings, poor credit ratings, and lower rates of marriage.[6] Most adults agree that higher education is essential both to individuals and to society, but they also believe that sharply increasing costs of attendance are diminishing or denying collegiate access to promising individuals, especially those from less affluent backgrounds. Even the members of college governing boards are worried; a 2017 survey commissioned by the Association of Governing Boards of Universities and Colleges revealed that 68 percent of them rated the rising price of higher education as one of their top three concerns.[7]

The New York–based public policy organization Demos unabashedly labels this period in the higher-education world "the unaffordable era."[8] The economist Bryan Caplan put an exclamation point on a portion of this thinking by arguing that for many students, college simply "is not worth it."[9]

How did we get to this point? How did higher education lose its sheen?[10] Why does the cost of attending even public colleges today frequently outstrip the ability of students and their families to pay the accompanying costs? Providing carefully considered answers to these questions is the raison d'être of this book. The answers are more complex and interconnected than many believe.

If blame is to be apportioned, then some must reside within colleges and universities themselves. As we will see, presidents, senior administrators,

faculty, and members of governing boards have some culpability. But we should not neglect the roles played by state governors and legislators, many of whom prefer that public colleges and universities raise tuition rather than supplying them with state funding. The behavior of state and federal agencies and competition among institutions also emerge as factors.

A typical way to describe the existing situation in American higher education is "broken,"[11] whether the discussion is about higher-education finance, tuition and fee increases, lagging state appropriations, faltering connections between curricula and job markets, or flagging student financial aid. Indeed, the notion that our current approach to higher education is malfunctioning has become so prevalent that one university president authored an op-ed piece with the title "What Isn't Broken in American Higher Education?"[12] South Carolina's Commission on Higher Education warned recently that the predominant business model in public higher education is "not sustainable."[13]

There has been a significant decline in confidence in higher education. In late 2016, the *Hechinger Report* detailed a series of public-opinion surveys that showed "widespread skepticism about how colleges and universities are run, how much they cost, and whether or not they're worth the money."[14] Critics have ranged from President Barack Obama to ordinary citizens. It is time to admit that "Houston, we have a problem."

Implicit in the assertions that the current financial model in American higher education is broken or unsustainable is the reluctant conclusion that *too often, too many colleges and universities have not been acting in the best interests of their students or society.* Consider the 2018 complaint by a top administrator of Minnesota's public colleges and universities that "tuition freezes aren't working." Anne Blackhurst, president of Minnesota State University Moorhead, opined, "Freezing tuition, even when the Legislature replaces that with the allocation, really removes one of our most important tools in accomplishing our other objectives."[15]

One must ask, "Not working for whom?" Total state appropriations to public higher education in Minnesota increased by 21.2 percent after inflation between the 2012–13 and 2017–18 fiscal years.[16] Full-time equivalent enrollment at the seven institutions in the Minnesota State University system has fallen for eight years consecutively and is down more than 20 percent since 2010.[17] And despite the notion that tuition and fees have been frozen,

the *Chronicle of Higher Education* discloses that tuition at Minnesota State Moorhead increased 1.73 percent after inflation between 2012–13 and 2017–18.[18]

Controlling student costs and increasing student access do not appear to have been high-priority objectives in the Minnesota State University system. But let's not pick on Minnesota. Too many institutions of higher education have become grasping enterprises that operate primarily to further the interests of faculty and administrators (and in some cases intercollegiate athletic programs) rather than those of students and citizens. As a consequence, *Hechinger* found that 59 percent of adults now believe that "colleges care mainly about the bottom line" rather than educating students and benefitting society.[19]

Unfortunately, this behavior has been aided and abetted—sometimes unknowingly—by governors and legislators who have been overly parsimonious and inattentive; less than optimal federal financial aid policies; co-opted interested parties including governing board members; and alumni and media who seem to lack an awareness of the critical issues.

This book focuses on undergraduate students at four-year public colleges and universities. The rationale for this spotlight is straightforward: 16.30 million of the 19.01 million total college students in the United States in the fall of 2016—more than 85 percent—were undergraduate students.[20] Additionally, public colleges and universities now enroll 75 percent of all students. Further, essential data concerning performance and spending are more readily available for four-year public institutions than for two-year colleges and independent institutions. Finally, in most critical respects, four-year public institutions occupy the epicenter when we discuss adverse tuition and fee pricing trends and our ability to make meaningful changes in public policy.

NAGGING QUESTIONS

Numerous reputable empirical studies inform us that college graduates earn substantially more throughout their lives than high school graduates, and that the "skill differential"—the income premium attached to higher education—usually increased annually between 1980 and 2010. The most common way to measure this income premium has been to compare the earnings of college graduates to those of individuals whose education ended at high school. Researchers at the Federal Reserve Bank of Cleveland are

among many who have documented this development.* Claudia Goldin and Lawrence Katz have done the same at the National Bureau of Economic Research.[21]

Though financial comparisons based on skill differentials are commonplace, one should understand that by themselves they are not completely persuasive if one's goal is to ascribe economic value to a baccalaureate degree. Why not? Let's explore four major reasons. First, college graduates comprise a nonrandom and in some ways carefully curated group of individuals. In terms of ability, motivation, and labor market skills, they are on average more favorably endowed than those whose education ended at high school.

Further, a completion of a college degree reveals that the graduate has had some ability to take direction and to complete a range of sequential mental and physical tasks. These are desirable employee attributes. The "economics of signaling" suggests that many employers may not really need or highly value what college graduates have learned in college, but baccalaureate credentials convey to them useful information about recipients' mental abilities and their ability to complete tasks.[22]

College graduates might be expected to excel beyond ordinary high school graduates in earned income even if the individuals who graduated from college had never attended college at all. This follows not only because as a group they are differently endowed and motivated, but also because they are "connected" and are the beneficiaries of more useful social and economic contacts that often have nothing to do with their collegiate educations.

Second, related to the notion of social and economic connections, the college earnings premium is sensitive to the family income background of those who graduate and join the labor force. The Upjohn Institute has provided persuasive evidence that the earnings premium for a bachelor's

*A technical point of considerable substance: not only has the wage premium associated with higher education increased, but overall wage inequality has also increased. Even among college graduates, there now is more wage inequality than there was in several previous decades. This may reflect increased levels of underemployment—some graduates taking jobs that do not require four-year degrees—but also may be the result of generally slack demand for graduates in some disciplines. These labor market conditions likely are one cause of falling labor force participation rates among some graduates. San Yoon Lee, Yongseok Shin, and Donghoon Lee, "The Option Value of Human Capital: Higher Education and Wage Inequality," Working Paper 21724 (Cambridge, Mass.: National Bureau of Economic Research, November 2015).

The U.S. Department of Education (USDED) produces a College Scorecard, which attempts to assess the performance of individual colleges and universities. USDED recognizes the possibility of a difference in the ability/motivation of college graduates versus high school graduates by adjusting its estimates of the median earnings of graduates of specific institutions for typical student academic preparation, major course of study, and likelihood of obtaining a graduate degree.[23]

degree relative to a high school diploma declines significantly when the graduate comes from a low-income household. Specifically, the career earnings premium for a bachelor's degree is 71 percent above that of a high school diploma for an individual who comes from a low-income household (defined as an income below 185 percent of the poverty line), but 136 percent for those coming from a household above this line.[24] This warns us that the college earnings premiums we observe reflect a variety of societal, personal, and institutional factors in addition to the education and diploma received.

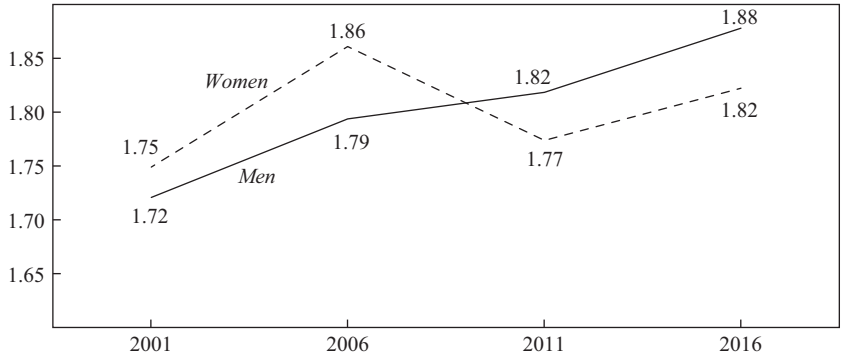
Third, earnings premiums are sensitive to the institutions students attend and their major courses of study. For example, the lifetime earnings premium for arts and humanities graduates is only about one-half of that for STEM graduates. Thus, a student who majors in a field such as history at a non-elite institution may experience no earnings premium at all.[25]

Fourth, even if earnings premiums exist (and few knowledgeable individuals deny their existence), by themselves they should not determine personal or public decision making until those premiums are weighed against the cost of acquiring them. Affordability ultimately must reflect both the cost of education and its payoffs.

These caveats should inspire caution when inferences are drawn about the productivity of a college education. Nonetheless, figure 1-1 is instructive. It compares the median weekly earnings of college graduate men and women workers age twenty-five or older to the incomes earned by those whose formal educations stopped after they earned their high school diplomas. Figure 1-1 expresses these comparisons as a ratio in which a college graduate's median weekly earnings are divided by a high school graduate's median weekly

FIGURE 1-1

Widening Income Premiums Associated with Higher Education: Ratios of Median Weekly Earnings of College Graduates to Earnings of High School Graduates for Male and Female Full-Time Workers Age 25+, 2001–16



Source: Bureau of Labor Statistics, Median Weekly Earnings, Full-Time Workers, 25+, Years. Series LEU0252921300, LEU 0252822500, LEU0252925300, and LEU0252926500 (www.bls.gov).

earnings. In 2016, for example, the median weekly income of a female college graduate was 1.82 times that of a high school graduate.[26]

One can see that ratios of the earnings of college graduates to those of high school graduates typically rose between 2001 and 2016. Higher education appears to pay off for most individuals if earned income is the measuring stick and we ignore the costs of acquiring degrees. Note, however, that for women, the relative payoff to a college education has been slightly smaller as well as more variable than that for men.

The income premiums depicted in figure 1-1 are averages, and the variability around those averages is substantial. What is true for a STEM bachelor's degree recipient from MIT does not necessarily hold true for an art major from a regional state university.

Of course, enhanced income is not the only factor individuals should consider when they reach decisions about whether they should attend college at all, what college they should attend if they do, and what they will study. There are significant non-economic reasons why an individual might wish to pursue higher learning, and why society might wish to subsidize

that individual's attendance. Interpreted broadly, higher education may enhance an individual's personal understanding and development and improve his or her appreciation of the human condition in its many different manifestations. Higher education has been tied positively to individuals' propensity to vote and participate fully in civic society, negatively to the number of crimes they commit, and positively even to their ability to raise children who become successful adults.

Nevertheless, in most current conversations, the income premium between college graduates and high school graduates is the dominant reason cited by the public at large for why earning a college degree is worthwhile. Given the changing nature of job markets for college graduates, one hears less frequently assertions that one should invest in a baccalaureate degree because it will enable one to appreciate Ravel's *Bolero*, or understand why the Russians believe they were the ones who really won World War II in Europe. Conversations concerning public higher education gradually have become more labor market oriented, especially in state legislatures.

The income differentials illustrated in figure 1-1 do not take into account the costs of attending college. Even so, *prima facie*, they have become part of a favorable narrative often presented in support of higher education: college degrees lead to better jobs, lower unemployment rates, higher incomes, and larger tax payments. This narrative is one of the pillars of a very traditional American success story that emphasizes the opportunities and mobility that colleges and universities provide citizens. Bureau of Labor Statistics income and employment data provide empirical support for most of the elements of this plot line, albeit without reference to any costs attached to postsecondary education and without considering the caveats noted above.

The narrative relating to the financial benefits of a college education is widely known and circulated and traditionally has been a central part of the American mythos. Because this is true, it is even more attention-grabbing when individuals suggest otherwise. However, considerable angst is being voiced today among some citizens and decision makers concerning the validity of this narrative. Widely cited has been Goldman Sachs's assertion that graduates of what the firm terms "the bottom twenty-five percent" of collegiate institutions earn less on average than high school graduates. Are they on to something new and important, or is this simply old wine in recycled bottles?[27]

HYPOTHESES AND HESITATIONS

Those who critique higher education today typically rely upon a knotty set of interconnected assertions and hypotheses. Only some of these hypotheses focus directly on rising tuition and fees at four-year public colleges and universities—the principal emphasis of this book. Let's begin with the two most prominent assertions:

- Tuition and fee charges at four-year public colleges and universities have been increasing at rates far in excess of increases in the Consumer Price Index and have dwarfed increases in median household incomes and worker wages.
- Except at a handful of prestigious "Public Ivy" institutions, financial aid available to students with demonstrated need has not kept up with rising costs of attendance at public colleges and universities.

Multiple other hypotheses focus on the same phenomena:

- Reduced state financial support is a major cause, perhaps *the* major cause, of tuition and fee price inflation at four-year public colleges and universities, but reduced state support cannot account for the dramatic increases in tuition and fees we have observed.
- Prices that students pay have been driven up because they are being assessed for nonessential activities such as intercollegiate athletics and accoutrements including upscale dining halls, lazy rivers, exercise facilities, and climbing walls.
- Though well-intentioned, the federal government has made the tuition and fee inflation problem worse via its financial aid programs because its actions essentially ratify the price increases of individual institutions.[28]
- Many colleges and universities have proliferated administrators and administrative complexity, and students end up paying for this.
- Rapidly increasing tuition and fees have not translated into high student graduation rates. Only 48.3 percent of first-time full-time students graduate within six years at the typical four-year public institution.[29]
- Of those students who take out loans to pay for their educations at four-year public colleges and universities, 36.5 percent subsequently do not earn more than $25,000 annually for six years after their enrollment.[30]

- Despite rapidly rising tuition and fee charges, many colleges and universities seem to be stuck in technological mud. Instruction at many public colleges and universities in 2017 often was implemented in ways that do not vary significantly from what would have taken place at the same institutions 50 to 100 years ago.
- Mission creep (regional state colleges' attempt to imitate flagship state universities) and curricular bloat (institutions' offer of excessive numbers of highly specialized courses) have pushed up costs that ultimately are transferred to students.[31]
- Rather than serving as engines that provide opportunity and reduce inequality, many public colleges and universities now perpetuate and even increase societal inequalities. Their tuition and fee pricing policies promote this development.[32]
- Governors, legislators, and members of public institution governing boards too often are co-opted by faculty, administrators, and alumni and no longer either pose critical questions to senior administrators or represent the best interests of students and citizens. Boards no longer act as bulwarks against price increases.
- Too many public colleges and universities now are being operated substantially for the benefit of faculty, staff, and administrators rather than for students and taxpayers. Despite occasional hand-wringing, these campus constituencies advocate policies that require tuition and fee price inflation.
- Redistribution of income from one student to another by means of differential tuition and fee charges and varying levels of financial aid support has become increasingly common and generates higher overall tuition collections.
- Confronted with reduced state financial support, many well-regarded public universities now prefer to enroll out-of-state students because they pay higher levels of tuition than in-state students.

These are powerful and often controversial hypotheses; thoughtful observers such as economists Robert Archibald and David Feldman of the College of William and Mary skewer many of them as "overheated rhetoric."[33] Nevertheless, as we will see, several have proverbial legs and cannot be dismissed as the products of mad scientists. Indeed, there is at least

some evidence in favor of each, and substantial evidence in favor of several, though the quality of this evidence varies and therefore must be viewed with a gimlet eye.

Faced with the preceding hypotheses and public consternation about tuition and fee increases, members of the higher-education establishment typically argue either that many students end up paying prices lower than advertised or that it is the fault of parsimonious state governments that have sliced institutional appropriations. They assert that larger societal and economic factors (such as changes in the distribution of income and systematic differences in productivity growth across economic sectors) are at work, and it is these forces beyond the control of institutions of higher education that are pushing up tuition and fees.

The economic behavior one observes in higher education, some argue, is analogous to that which one observes in other professional services markets that are heavily reliant upon well-paid, highly educated providers. Medicine is the most prominent example proffered in this regard. Here, despite a spate of fresh approaches and new technologies, the increasingly expensive services and activities provided by physicians and medical professionals have turned out to be resistant to productivity increases conventionally measured.

As applied to the realm of higher education, proponents of this argument assert that stagnant productivity and skill-based technological change requiring more expensive personnel have translated into price increases in higher education. Archibald and Feldman have skillfully presented this view in a series of publications, several of which have been commissioned by the American Council on Education, an organization that has a legitimate but proprietary interest in the topic. It is not that this argument does not hold some water—it does. Rather, it is that this argument is only a portion of the story and cannot account for or excuse some observed pricing behavior in higher education.

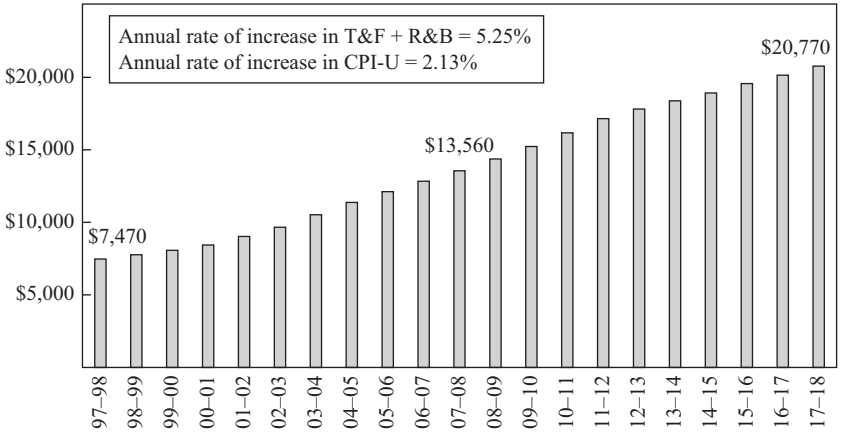
Let us take a quick tour of the evidence that has generated support for the hypotheses noted above. This in turn will lead us to a more lengthy examination of them.

GALLOPING PRICES

Hardly any adult is unaware that the price of attending a college or university has been increasing rapidly. Figure 1-2, which presents average published prices for tuition and fees and room and board at all four-year public

FIGURE 1-2

Published Average Annual In-State Tuition and Fees Plus Room and Board Charges at Four-Year Public Colleges and Universities, Enrollment Weighted, 1997–98 to 2017–18



Sources: College Board, *Trends in College Pricing 2017*, table 2 (https://trends.collegeboard.org/college-pricing); Bureau of Labor Statistics, Series CUUR0000SA0 for July of each year (www.bls.gov).

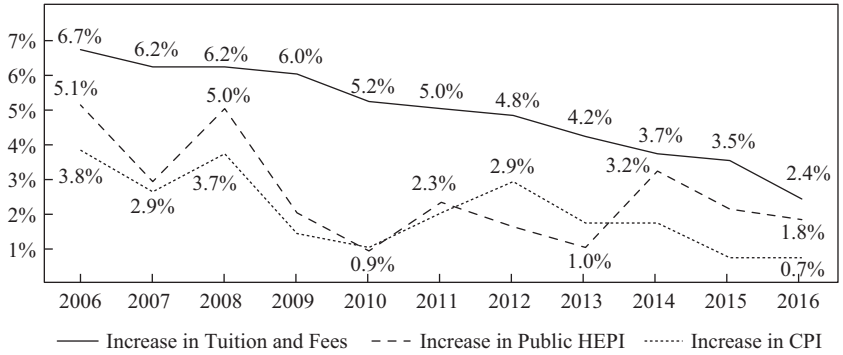
institutions, provides rough and ready support for this notion. No financial aid or loans received by students are considered in the data in figure 1-2, but we will introduce them shortly.

Between the 1997–98 and 2017–18 academic years, the College Board tells us that published enrollment-weighted tuition and fees and room and board at four-year public colleges and universities increased annually by an average of 5.99 percent (compounded). Meanwhile, the average annual increase in the Consumer Price Index for All Urban Consumers (CPI-U) was only 2.13 percent.[34]

Two immediate qualifying comments are in order. First, Archibald and Feldman point out that there have been post–World War II time periods when increases in tuition and fees have been much more moderate and comparable to changes in the Consumer Price Index. The 1990s provide a fairly recent illustration. Second, just as the list price pasted to the window of a new automobile sitting in the showroom of a dealership is unlikely to be the final price a customer pays for that automobile, so also higher-education list prices (the prices

FIGURE 1-3

Annual Percentage Changes in Average In-State Four-Year Public College Tuition and Fees versus the Consumer Price Index (CPI) and the Public Institution Higher Education Price Index (HEPI), 2006–16



Sources: CPI: Consumer Price Index for All Urban Consumers (June 2006 through 2016), table 2 (www.bls.gov). HEPI: Commonfund Institute, Higher Education Price Index (www.commonfund.org/commonfund-institute/higher-education-price-index-hepi). Tuition and fees: College Board, *Trends in College Pricing 2017*, table 2 (https://trends.collegeboard.org/college-pricing).

that are published in catalogs and brochures) frequently are much higher than the transaction prices students actually pay. I will have more to say about this in the next chapter, but one former member of a college governing board acerbically charged recently that published tuition and fee numbers are "as good as useless now" because they don't tell us the prices many students actually pay.[35]

The growing gap between published tuition and fee prices and prices in other markets has not gone unnoticed. Figure 1-3 zeroes in on the behavior of college tuition and fees, the Consumer Price Index (CPI), and the Higher Education Price Index (HEPI) over the past decade. The Bureau of Labor Statistics of the United States Department of Labor constructs the CPI, which is designed to reflect overall changes in the prices of items a typical consumer purchases, all weighted by frequency of purchase. The CPI is a well-known economic measure that receives wide attention in the media.

The HEPI, on the other hand, is less well known, but was developed by D. Kent Halstead for the United States Department of Health, Education, and Welfare to provide higher-education institutions and decision makers with a more accurate measure of the items they purchase. Colleges and universities

often argue that they purchase a different collection of goods and services than the usual consumer, and therefore the CPI is not an accurate reflection of the prices they face.

Today's HEPI is maintained by the Commonfund Institute and examines eight separate higher-education cost factors, including faculty salaries, utilities, and fringe benefits as a basis for generating an overall higher-education price index. The Commonfund has developed useful separate indexes for public, independent, and doctoral institutions. My presentation here relies upon HEPI's public institutions index.[36]

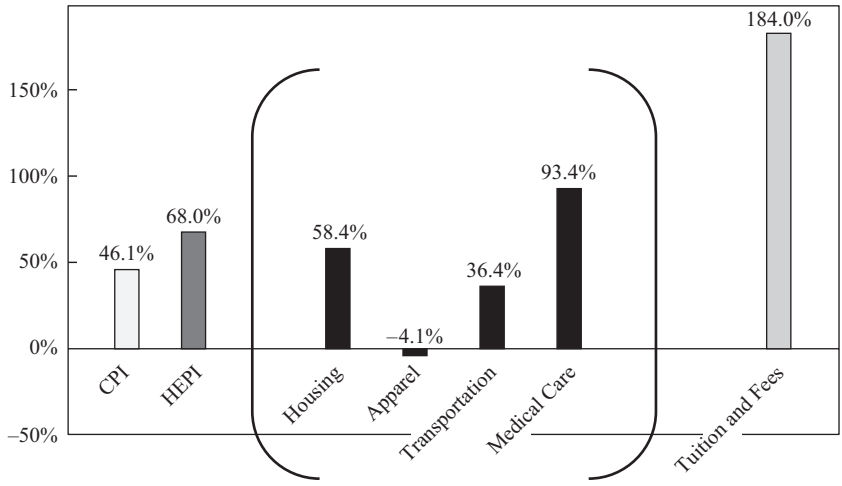
One can see in figure 1-3 that over the past decade, the annual published increases in tuition and fees at four-year public colleges and universities typically have dwarfed comparable annual changes in either the CPI or the HEPI. Thus, in 2010, tuition and fees increased by 5.2 percent, even while the CPI increased only 0.9 percent and the HEPI a mere 0.9 percent. Over an eleven-year time span ending in 2016, the average annual published tuition and fee increase was 4.9 percent, while the CPI increase averaged only 1.94 percent and the HEPI rose an average of 2.61 percent. Tuition and fees rose 98 percent faster than the HEPI and 166 percent faster than the CPI.

Further, when we extend the analysis to a longer period of time (2000 to 2016, as figure 1-4 does), the tuition and fees that institutions advertise in their catalogs and brochures rose more than 90 percent faster than the prices of medical services, and 116 percent faster than the HEPI. Apparel prices actually declined during the lengthy time period.

Only a brief perusal of figures 1-3 and 1-4 is required to understand that many believe that college and university tuition and fee increases have been exorbitant at worst, or only a bit exuberant at best. Nevertheless, as noted above, some argue that the buoyant behavior of tuition and fees simply mirrors what has been happening in several other service sectors of the economy where it has been difficult to generate productivity increases similar to those experienced in other sectors such as manufacturing and agriculture. Symphony orchestras supply an immediate illustration. Should we mandate an increase in their productivity by ordering them to play faster? This analogy has some validity, but turns on the relative inability (or unwillingness) of public colleges and universities to introduce innovations that would increase their measured productivity. We will examine this argument in greater detail in chapter 9.

FIGURE 1-4

Comparing the Percentage Increase in Tuition and Fees at Four-Year Public Institutions to Percentage Increases in Prices for Other Items, June 2000–June 2016



Sources: HEPI: Commonfund Institute, Higher Education Price Index (www.commonfund.org/commonfund-institute/higher-education-price-index-hepi). CPI: Bureau of Labor Statistics (www.bls.gov). Components of the CPI: Federal Reserve Bank of St. Louis (https://fred.stlouisfed.org/). Tuition and fees for four-year public institutions: College Board, *Trends in College Pricing 2017* (https://trends.collegeboard.org/college-pricing.)

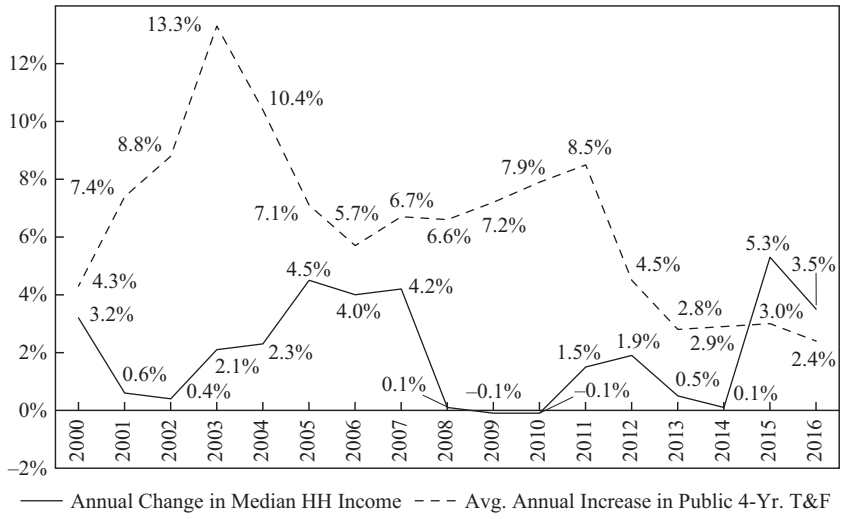
TUITION AND FEE INCREASES OUTSTRIP GROWTH IN INCOMES

Few among us worry very much about prices that we find easy to pay. We smile when the prices of computers fall, and most of us do not worry very much about the price of a burrito at Taco Bell. Rising prices of certain things, however, do give us pause and stimulate us to ask, "Can I really afford to buy this item?" This is particularly true when the item whose price is rising carves out a substantial portion of our income.

What has been the relationship between tuition and fee increases and changes in median household income—a broad measure of the ability of a student or family to pay college bills? Figure 1-5 illustrates this for us by tracing four-year public institution tuition and fee increases between 2000 and

FIGURE 1-5

Comparing Annual Average In-State Tuition and Fee Increases at Four-Year Public Colleges and Universities to Annual Changes in Median U.S. Household Income, 2000–16



Sources: Tuition and fees: College Board, *Trends in College Pricing 2016*, figure 3 (https://trends.collegeboard.org/sites/default/files/2016-trends-college-pricing-web_0.pdf). Median household income: Federal Reserve Bank of St. Louis, Table MEHOINUSA646N (https://fred.stlouisfed.org). 2016 median household income is estimated.

2016 and changes in the median (fiftieth percentile) incomes of households in the United States during the same period. One can see that tuition and fee increases easily outstripped increases in median household income every year between 2000 and 2014. Indeed, what only can be described as a huge 7.1 percent gap between the average percentage tuition and fee increase and the change in median household income appeared in 2009, and this was followed by an 7.8 percent gap in 2010 and a 7.0 percent difference in 2011. The persistent gaps between the behavior of tuition and fees and median household income help explain why many students and households have found it difficult to pay the rising tuition and fee charges of colleges and universities.

Figure 1-5 also helps us understand why even modest rises in student indebtedness have become burdensome. Stagnating incomes have made it

TABLE 1-1

The Ratio of Median Household Income to Average In-State Tuition and Fee Charges at Four-Year Public Institutions, 2000–01 to 2016–17

Year	*Median HH Income*	*Enrollment-Weighted Average Tuition and Fees at Four-Year Public Institutions*	*Ratio of Median HH Income to Average Tuition and Fees*
2000	$41,990	$3,508	11.97
2001	$42,228	$3,766	11.21
2002	$42,409	$4,098	10.35
2003	$43,318	$4,645	9.33
2004	$44,334	$5,126	8.65
2005	$46,326	$5,492	8.44
2006	$48,201	$5,804	8.30
2007	$50,233	$6,191	8.11
2008	$50,303	$6,599	7.62
2009	$49,777	$7,073	7.04
2010	$49,276	$7,629	6.46
2011	$50,054	$8,276	6.05
2012	$51,017	$8,646	5.90
2013	$53,585	$8,885	6.03
2014	$53,657	$9,145	5.87
2015	$56,516	$9,420	6.00
2016	$59,000	$9,650	6.11

Sources: Annual median household income data: Federal Reserve Bank of St. Louis (https://fred.stlouisfed.org). Tuition and fees: College Board, *Trends in College Pricing 2016*, figure 3 (https://trends.collegeboard.org/college-pricing). 2016 median household income is an estimate.

increasingly difficult for students and households to service even small increases in debt.

Table 1-1 elaborates on the data used in figure 1-5 and provides additional perspective on the financial vise that is clamping typical American students and families. The ratio of median household income to average annual published four-year public college and university tuition fell from 11.97 in 2000 to 6.11 in 2016. Holding constant increases in financial aid, this represents a 49.0 percent decline in four-year public college and university affordability—if median household income is the criterion. Only in 2015 and 2016 did this

deterioration moderate as the United States substantially emerged from the Great Recession.

Notably, this measured decline in college affordability occurred while head-count enrollment at degree-granting postsecondary institutions in the United States shifted from an expansionary mode to one of stagnation or decline. In the fall 2017 semester, for example, the unduplicated head count of college students nationally fell by 1.0 percent—the seventh year in a row that headcount enrollment declined.[37] Whether economic times have been bad (during the Great Recession) or good (in 2016 and 2017), head-count enrollment has wilted. While the causes of declining enrollment undoubtedly are several, a reasonable supposition is that the rising gap between household incomes and the cost of higher education was one factor discouraging college enrollment.

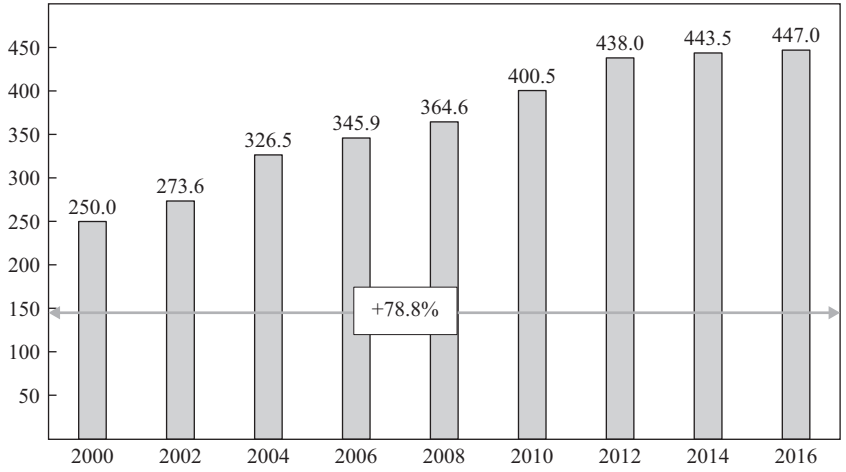
To provide context, let's consider how these trends have affected a typical production or nonsupervisory worker in the United States such as a machinist. In 2016, the median wage rate paid him/her was $20.05 per hour. In the same year, the College Board reported that the average published tuition and fee charge at a four-year public college or university was $9,650. This tells us that it took 481.3 hours of labor in 2016 for this typical worker to pay the average four-year public college or university tuition and fee charge, which represents a 110 percent increase over the 228.7 hours required in 2000.[38] Recognize also that this 481-hour computation does not taken into account taxes that might be paid on the $20.05 per hour, or deductions for benefits, etc. Hence, a much larger number of hours of work likely would be necessary to pay the $9,650.

The key takeaway from figure 1-6 is this: there has been a *continuous, unabated increase in the number of hours of work required from a typical private-sector worker for him/her to be able to pay the average student's published tuition and fee charges at one of our nation's public institutions of higher education*. This tells us that unless tuition and fee increases have been matched by equivalent increases in financial aid (which has not occurred), the affordability of a college education to most families has declined.

It comes as no surprise, then, that many argue that public higher education is in the process of pricing itself out of the reach of prospective middle class and poor students and their families. The *Washington Post* prominently published a ten-part series of critiques of college and university pricing practices in 2013 under the provocative title "The Tuition Is Too Damned High."[39] Additionally, critics ranging from Thomas Frank and the *New York*

FIGURE 1-6

Number of Hours of Work Required for the Average Private-Sector Employee to Earn Income Sufficient to Pay the Average In-State Annual Tuition and Fee Charge at a Four-Year Public College, 2000–16



Sources: For hourly earnings: Bureau of Labor Statistics, Series CES 500000003 (www.bls.gov). For average four-year public tuition and fees (weighted by enrollment): College Board, *Trends in College Pricing 2016*, table 3 (https://trends.collegeboard.org/college-pricing).

Note: Year 2000 tuition and fees are for the 2000–01 academic year, etc.

Times on the left to Rich Vedder of Ohio University and the Martin Center for Academic Renewal on the right have questioned the current operational and pricing patterns of institutions of higher education. They have chorused almost in unison that the existing model cannot persist if higher education is to remain accessible to qualified students.[40]

FINANCIAL AID HAS NOT KEPT PACE

Fortunately, the published tuition and fee and room and board charges that public colleges and universities advertise are not the prices that end up being paid by a majority of individual students. From these published prices must be deducted grants and scholarships that accrue to students from federal, state, and private sources as well as from the colleges and universities themselves.

Federal grants (not including loans) to students come from three major programs: (1) Pell Grants, which go to students from lower-income families for a maximum of twelve semesters and could not exceed $5,920 annually per student in 2017–18; (2) Federal Supplemental Education Opportunity Grants (SEOGs), which typically go to students who already have Pell Grants and substantial financial need; and (3) veterans and military grants, which may or may not focus on financially needy students. Pell Grants dominate this mixture and in 2014–15 accounted for 68.0 percent of total federal grants, followed by grants to veterans and members of the military at 30.4 percent. However, the total dollar amount of Pell Grant expenditures declined from a high of $39.4 billion in 2010–11 to $26.6 billion in 2016–17, and the percentage of undergraduates receiving Pell Grants fell from 37 percent to 32 percent over the same period.[41]

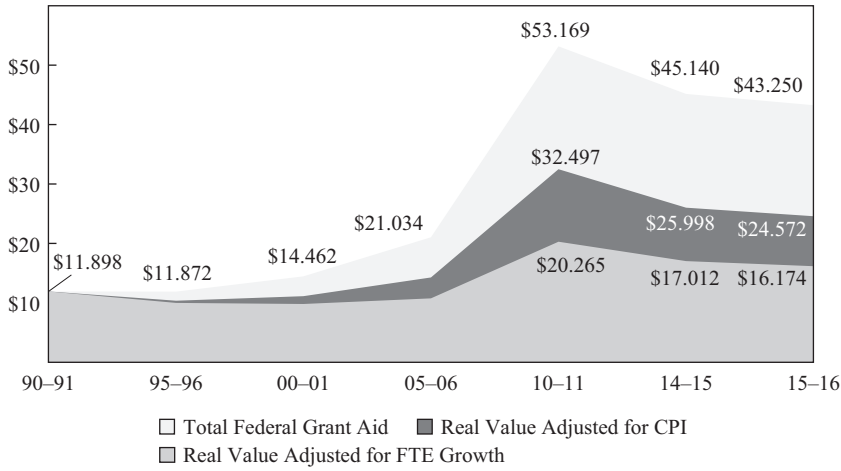
Figure 1-7 demonstrates that the total dollar value of federal grants to undergraduate students increased dramatically through the first decade of this century, but then began to tail off. We need to place this expansion in context. Much changed during the twenty-five-year period portrayed in the figure. Two of the more significant changes in the higher-education environment were increases in the Consumer Price Index and fluctuations in the total enrollment at four-year public colleges and universities. The Consumer Price Index rose 76 percent during this period, while full-time equivalent enrollment at four-year public institutions increased 52 percent. Figure 1-7 recognizes these variations by deflating total federal student grant largesse to recognize this price and enrollment growth. The $43.25 billion in federal student grants in 2015–16 declines to $24.6 billion after we adjust for increases in the Consumer Price Index and further to $16.2 billion when we consider increases in public college and university enrollment.

This illuminates the college affordability challenge. Federal financial grants (until recently) increased on a per student basis even after adjusting them for price inflation. The problem is that tuition and fees and other expenses rose even more rapidly.

What really counts in terms of college affordability is the amount of money a student must actually pay to attend an institution after deducting any grants and scholarships received. *Net price* is the term most often used to describe the residual, actual price students pay their college or university after their grants and scholarships have been deducted from the institutions' published prices. It is a term we will utilize often.

FIGURE 1-7

Federal Grants to Undergraduate Students, 1990–91 to 2015–16, Adjusted for Changes in the Consumer Price Index and Full-Time Equivalent Students (Billions of Dollars)



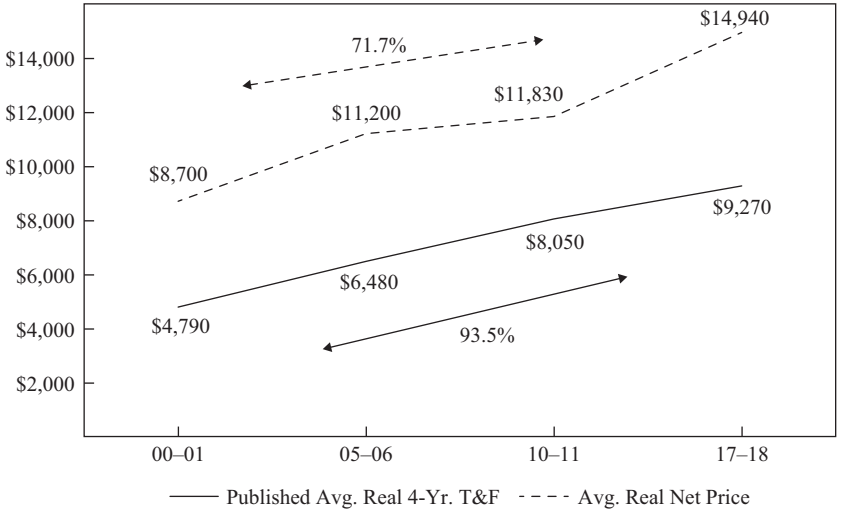
Source: College Board, *Trends in Student Aid 2016*, table 2 (https://trends.collegeboard.org/student-aid).

The College Board has computed and kept track of the actual net prices paid by students for approximately three decades. Between the 2000–01 and 2017–18 academic years, average published tuition and fees for in-state undergraduates at four-year public institutions, adjusted for inflation, rose 93.5 percent. If financial aid grants had risen comparably, affordability challenges would have been minimized. However, this is not what occurred. Even after taking financial aid grants from all sources into account, the College Board found that *the average inflation-adjusted net price at four-year public colleges and universities rose an eye-opening 71.7 percent between 2000–01 and 2017–18*. Figure 1-8 displays these data.

Students and families might have been able to handle even a 93.5 percent increase in the real net price of attending the typical four-year public college or university if their wages and incomes had grown commensurately. Unfortunately, as we already have seen, median household income has stagnated or declined in many years since the turn of the century. Students and their

FIGURE 1-8

Published Average Four-Year Public Undergraduate College and University In-State Tuition and Fees (T&F) Compared to the Average Net Price at the Same Institutions



Source: College Board, *Trends in College Pricing 2015*, table 7 (http://trends.collegeboard.org/sites/default/files/2015-trends-college-pricing-final-508.pdf).

Note: All dollar values are expressed in constant 2015 dollars.

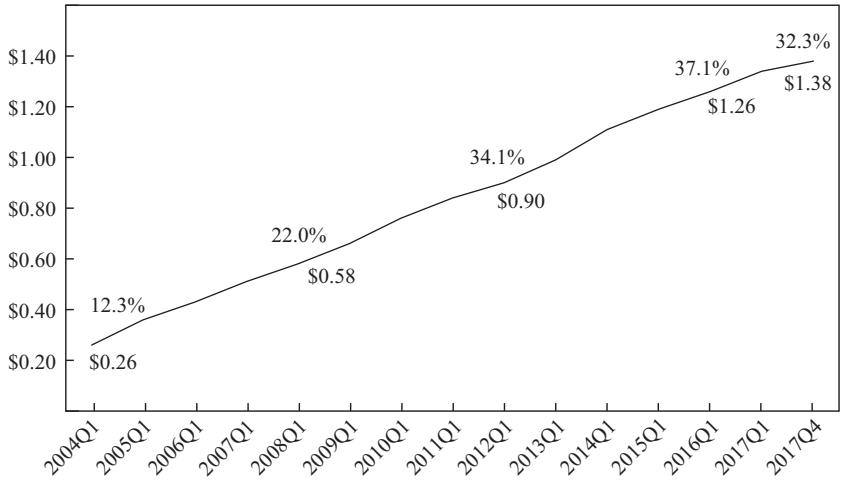
families have had to cope with higher net prices at the same time median household income has remained constant or declined.

The bottom line? The net price of student attendance (after considering grants and scholarships) at four-year public colleges and universities has risen significantly at the very time when the ability of a typical student and his or her family to pay these prices has declined. The consequences? Some students who clearly could benefit from college now cannot afford to attend. Many have had to take loans and, in some cases, accumulate substantial amounts of debt to complete their degrees; others have opted to attend part-time; still others have dropped out.

We will examine the phenomenon of rising student loans and debt in detail in the next two chapters. However, figure 1-9 may pique your interest in this topic. It shows that households indeed are assuming increasingly large

FIGURE 1-9

Total Student Debt of Households (Trillions of Dollars) and the Percentage of Total Household Nonhousing Debt That Is Student Debt



Source: New York Federal Reserve Bank, *Quarterly Report on Household Debt and Credit (Fourth Quarter, 2017)* (www.newyorkfed.org/microeconomics/databank.html).

amounts of debt to send their members to colleges and universities. Student debt held by households rose 430 percent between first quarter 2004 and fourth quarter 2017. In real terms (taking account of price inflation), the increase remained a substantial 322 percent, and this occurred at a time when real household median income was declining.[42] This is one of the reasons why some observers argue that higher education's current business model is not sustainable.