Staff Update

University of Connecticut's Affordability to Students

October 3, 2013

Legislative Program Review
and Investigations Committee
Connecticut General Assembly

2013-2014 Committee Members

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PRI Staff Update Highlights

October 2013

The University of Connecticut's Affordability to Students

Background

In June 2013, the program review committee authorized a study to examine how the affordability of a University of Connecticut (UConn) undergraduate education has changed, with particular attention to in-state students. UConn is the state's flagship institution, with a main campus in Storrs, five regional campuses, and a medical center.

In part to support an increase in the number of faculty, UConn's Board of Trustees recently approved a series of tuition and fee increases over 5% annually.

The state supports UConn directly through appropriating funds and by covering a portion of the university's health benefits. The state also has given UConn over $2 billion in bond funding over the past 18 years for two building and expansion initiatives. An additional $1.5 billion in funding will be provided for construction activities as part of the NextGen initiative.

The affordability of UConn and other universities is somewhat difficult to evaluate. The perception of affordability is specific to individual students and their families, who bear short- and long-term costs. Postsecondary education is considered a long-term investment with generally positive – though variable – returns. In that context, it may be reasonable to incur substantial debt. However, data on both payoff and costs are difficult to locate.

Accepted methods to assess affordability over time include comparing college prices to inflation and income levels. Student debt and default rates also can be indicators.

To complete this update, program review committee staff analyzed price and income data from federal and private sources. UConn is compared to the median of the 50 flagships and the public four-year school average. Staff also interviewed experts and reviewed applicable literature.

Main Points

College prices have risen well beyond inflation. The three versions of list price - tuition and fees, comprehensive cost (tuition, fees, room, and board), and total price - have all increased far beyond inflation for UConn, the flagship median, and the average of public four-year schools.

By every way of considering price, college has become less affordable. Even in just the last four years, a higher share of median household income is needed to pay college prices. The income share required for the comprehensive cost grew for the public four-year sector (from 28% to 34%), the median flagship (from 31% to 36%), and UConn (from 29% to 33%).

UConn's in-state affordability levels and trends compare favorably to the flagship median in every measure of affordability based on state median household income. For each method of considering price, UConn falls well below the flagship median share of income needed for an in-state student. For example, among the 50 flagship universities, UConn tuition and fees required the 30th highest share of median income. UConn's affordability is favorably impacted by the state's high income levels.

UConn also is relatively affordable when examining net price, which is the price actually paid by students. UConn's average net price ranked 39th (i.e., 11th-lowest) among flagships. In addition, the net price at UConn consumes a smaller share of low income students' income and a larger share from high income students than the flagship median. Recent changes in the share of income, though, were progressive for the flagship median but not for UConn.

UConn compares favorably to other flagships and within its sector on some student debt measures. Although UConn had a higher percentage of graduates with debt (63%) than the flagship median (50%), the average debt for a UConn graduate was similar ($23,822 compared to $23,341). In addition, the short-term default rate for UConn (2.3%) was under the median flagship (3.4%).

Next Steps

1. Assess impact of financial aid policies and practices on affordability including analysis of financial aid packages, unmet financial need, and indebtedness; analyze post-graduation outcomes if possible for selected groups of students.

2. Explore trends in UConn's overall expenditures and revenues that appear to impact student costs.

3. Examine UConn's enrollment patterns for in-state and out-of-state students and determine how the profile of incoming freshmen has changed academically, financially, and demographically.

4. Compare UConn to peers, where possible.

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Acronyms

AGI	Adjusted Gross Income
CDS	Common Data Set
CPI	Consumer Price Index
CPI-U-RS	Consumer Price Index- Urban-Research Series
EFC	Expected Family Contribution
EPI	Economic Policy Institute
FRBNY	Federal Reserve Bank of New York
IPEDS	Integrated Postsecondary Education Data System
NCES	National Center for Education Statistics
NPSAS	National Postsecondary Student Aid Study
ROI	Return on Investment
UConn	University of Connecticut

Chapter I

Affordability

The affordability of obtaining an undergraduate degree at the University of Connecticut and other universities is somewhat difficult to evaluate. The perception of affordability is specific to individual students and their families, who bear short- and long-term costs. Postsecondary education is considered a long-term investment with generally positive – though variable – returns. In that context, it may be reasonable to incur substantial debt – if the payoff is strong and the costs are bearable. However, data on both payoff and costs are difficult to locate. Accepted measures of affordability do exist, but are limited.

What Does Affordability Mean?

A review of the literature regarding college affordability suggests that:

- the meaning is subjective;
- college can be considered a consumption or investment good;
- the time horizon is an important consideration; and
- measures of affordability are imperfect.

How is Affordability Subjective?

The perception of college affordability is specific to individual students and, in most cases, their families. What is considered affordable to one person may not be to another. This subjectivity is due to differing personal financial circumstances, preferences, and priorities of students and their families.

In order to attend college, some are willing to make great sacrifices in terms of current and future consumption, hours spent working, and other factors that affect ability to pay, while others are not. Further, any number of student decisions can affect the extent to which higher education is affordable, including enrollment choice, timeliness of degree completion, living arrangements, and lifestyle while in school.

Expected Family Contribution. The federal government effectively states what it thinks is affordable through its calculation of expected family contribution (EFC). The EFC is a key component of the federal student aid application process completed by a prospective student and the family. (Most colleges use the federal methodology to award institutional funds also, while some private colleges use a different formula.)

A family's EFC is calculated by a statutory federal formula which considers annually submitted information about family finances and circumstances. Financial information considered by the formula for dependent students includes income and selected assets of the student and the student's family. To determine a student's overall need, the EFC is usually subtracted from the total price of attendance of each college or university to which the student

applied.[1] It is important to note that many colleges are not able to offer a financial package that meets a student's full need. In these cases, the student and her family need to cover the gap (as well as pay the EFC).

The EFC formula has been criticized for using an unrealistic family budget and spending assumptions, as well as the lack of a regional cost adjustment. In 2013, the EFC ranged from zero for those who had an adjusted gross income (AGI) of $23,000 and below to about 25% of AGI for high income earners. The financial aid formula is so complicated that it is difficult to express eligibility thresholds for need-based aid. In a very simple example, for a household with a single student and a $57,500 AGI with no significant assets or investments, the EFC would be about $5,300. For purposes of comparison, the basic family budget calculator by Economic Policy Institute (EPI) shows the average one parent, one child household in the Hartford area needs an income of $58,000 to live a modest lifestyle – without any deduction for college costs. As the EPI family budget suggests, the EFC may be unrealistic for many families.

What Type of Economic Good is College: Consumption or Investment?

In economic terms, college could be considered a short-term consumption good or a long-term investment – but, predominantly an investment good.

A consumption good is a something that is purchased and is "used up" when it has been consumed. In this context, it means the immediate value one derives from attending a particular institution while enrolled. From this short-term perspective, college expenses would be affordable if they could be purchased out of current income. However, this is not possible for most students and their families.

If a product cannot be purchased out of current income, then the purchase should be considered against a backdrop of a long-term investment. An investment good is something that provides a return over time. Education can be viewed primarily as an investment wherein individuals forgo current labor market earnings and incur direct costs in return for higher future wages.

There are certainly elements of the college experience that enhance future earnings and contribute to the investment component, such as classroom instruction. On the other hand, components such as dormitories, meal plans, and recreational activities are considered consumption. While higher education has characteristics of being both a consumption good and investment good, most economists consider postsecondary education as a long-term investment.

Is College Worth The Price In the Long Run?

There is general agreement that higher education benefits tend to outweigh the costs, even in the face of increasing debt levels. Economic analysis shows that those with a college degree will, in general, earn a greater lifetime income than those with less education, have better employment prospects, and fare better during recessions.

[1] The cost of attendance includes the tuition and fees, room and board, books and supplies, transportation, and other education-related expenses. The federal aid application process is completed, in many cases, before college admissions decisions have been made.

For example, the Brookings Institution has estimated that over a lifetime the average college graduate earns about $570,000 more than the average person with a high school diploma only, even when accounting for the cost of tuition and fees as well as the "opportunity costs" of not working during college. Further, the unemployment rate among those with a high school diploma, as of August 2013, was more than double that of college graduates (7.6% versus 3.5%).[2]

In addition, higher education accrues benefits to the individual and society as a whole. College graduates pay more income taxes, are less likely to need social services, experience greater job satisfaction, have a healthier lifestyle, and better prepare their children for school compared to high school graduates.[3]

However, there are factors that complicate an understanding of how this long-term investment may still be affordable.

Investment orientation. Unlike other large investments like housing, people often have difficulty of thinking of college as an investment that generates benefits over a long period. In housing, for example, there has been a long tradition of the vast majority of people taking on debt equivalent to more than twice their current or expected income, with a 15 to 30 year repayment timeframe.

Uneven returns. There is a high *average* rate of return on the investment in a college education but it is an uncertain investment that does not pay off equally well for all students. Net benefits are influenced by a number of factors: the amount paid to attend college, the major field of study, ultimate degree attainment, college selectivity, and income. Uncertainty in the return on investment in any particular case may make investment risky and, therefore, less attractive.

Both unemployment and underemployment for young graduates are higher now compared to a decade ago, according to the Federal Reserve Bank of New York (FRBNY). There is some dispute as to how much underemployment exists but the FRBNY has stated that it is currently about 46% for college graduates between 22 and 27 years old. At the same time, however, it is not unusual for new college graduates to take some time to transition into the labor market - even in good economic times - and find jobs that use their education.

College major plays a key role in how well graduates do in the labor market. The Federal Reserve Bank of New York, for example, has shown that there are large differences in unemployment rates, underemployment rates, and average wages across majors.

In particular, those with degrees in majors involving technical training, such as "Engineering" and "Math and Computers," or in those that are geared toward the growth parts of the economy, such as "Education" and "Health," have tended to do well when compared to other majors. At the other end of the spectrum, those graduates with a "Liberal Arts" or "Leisure & Hospitality" major tend to have lower wages, higher unemployment, and higher

[2] U.S. Department of Labor, Bureau of Labor Statistics, *Table A-4. Employment status of the civilian population 25 years and over by educational attainment*

[3] Sandy Baum, Jennifer Ma, Kathleen Payea, *Education Pays 2010: The Benefits of Higher Education for Individuals and Society*, The College Board , 2010.

underemployment. Still, even recent college graduates who take a job that typically does not require a college degree tend to earn more than those with only an Associate's degree or high school diploma and this pattern is true for people with degrees in the lowest-paying majors.

Price confusion. There is often real confusion over the cost of college and how financial aid reduces the price that many students actually pay. This, in turn, makes it hard to balance investment and expected return. (The four main types of price are discussed further in the next chapter.)

Some students, especially those first in their family to attend college and/or from low income families may be more likely to consider sticker price (the listed price of college). They may not know their likelihood of receiving aid is probably high or how to apply for aid. Recent research has shown that over half of the high-achieving students from low-income families never consider selective public and private colleges even though the price of attendance there could actually be lower than the college they ended up selecting.

A college's net price – the total price of attendance minus the average institutional/government grant award – is ultimately the most important price but is probably the least understood in the beginning of the application process. This price is not known for the first year of enrollment until a student has been accepted and has submitted detailed financial and academic information. Even then, the price can change as tuition and mandatory fee sticker prices rise and if the family financial circumstances change.

Every college and university has been required to have an online net price calculator since the fall of 2011, but the tools can be difficult to use, hard to find, and inaccurate in many situations. The net price calculators are geared toward first time, full-time undergraduates. Financial aid packages can change dramatically after freshman year, so the calculator may only be an estimate of the first year's price. The net prices are based on the average grant among just grant recipients as opposed to the average among all students, which understates the real bottom-line calculated. Net price calculators for public colleges tend to be based on in-state tuition and can be meaningless for out-of-state students.

Are College Prices As Low As They Could Be?

Even if the benefits of a college education outweigh the costs, a question can still be asked if the costs to students are reasonable. Higher education prices are rising much faster than income and inflation, as shown in the next chapter. Many reasons for this trend have been cited in the literature. (An analysis of UConn's revenues and expenditures will be provided in the findings and recommendations report to follow.)

Competition. At least part of the reason higher education, in general, has become more costly is that it has become increasingly competitive. Some observers pin this competitiveness on a drive in many colleges to raise the institution's ranking in the highly publicized college guide. There appears to be an intense competition for the best students and faculty, since those are often used as quality metrics, as well as for administrative staff. Press accounts have derided some spending on student amenities as frivolous, but research has indicated that prospective students

respond to better amenities and services.[4] It may make some sense, then, that the Delta Cost Project has found that colleges' spending on student services has outpaced that on instruction for the past decade for all postsecondary sectors.

Financial pressure. An additional reason for increased competition – at least among public colleges – could be that colleges feel financial pressure to stand out and attract wealthier students due to both declining state support and an anticipated drop in the number of students who are of traditional "college age."

In addition, higher education appropriations have dropped on both a per capita basis and as a percentage of total state budgets. The National Association of State Budget Officers also noted, "State spending on higher education is also more erratic compared to other major areas of state spending –higher increases in 'good times,' and deeper reductions in 'bad times.'"[5]

Administration. Others have pointed to the increase in administrative payrolls as being a prime culprit of the cost increases. The number of employees hired by colleges and universities to manage or administer people, programs, and regulations increased faster than the number of instructors between 2001 and 2011, according to the U.S. Department of Education. The reasons cited for this trend have varied. These include assertions that:

- there have been new sorts of demands for administrative services that require more managers per student or faculty member than was true in the past;
- there has been a growing need to respond to mandates and record-keeping demands from federal and state governments as well as numerous licensure and accreditation bodies; and
- faculty members do not enjoy administrative activities and allow these to be undertaken by others.[6]

Economic theories. The economic literature on college costs contains discussions of two competing cost narratives: Baumol Effect and Bowen's Rule. The Baumol Effect states that the service nature of higher education makes it difficult to replace humans with capital equipment, unlike in many goods-producing industries. This means productivity growth lags behind other sectors, so over time the cost of inputs rises more in higher education than in the overall economy. Online instruction may begin to counteract some of this trend, but it is uncertain how pervasive it will become.

Bowen's Rule says universities raise all the money they can and then spend it on an unlimited list of projects that seemingly enhance "quality." Essentially, the rule says revenue drives cost. Some emphasize that the availability of financial aid and government-subsidized

[4] Stange, K. (2011). *The Consumption Value of Postsecondary Education*, Brian Jacob, University of Michigan, and NBER, Brian McCall, University of Michigan.
[5] National Association of State Budget Officers, *Improving Postsecondary Education Through the Budget Process: Challenges & Opportunities*, Spring 2013, p.3
[6] See for example, Benjamin Ginsberg, *Administrators Ate My Tuition*, Washington Monthly, September/October 2011

loans are factors that drive higher education revenues and, in turn, increase college costs. It is possible for the Baumol Effect and Bowen's Rule to be simultaneously true.

Given These Considerations, How Can We Measure Affordability?

A better way of measuring affordability across colleges would be to gather the return on investment (ROI) for each past student (including investment costs) to culminate in an ROI index. Students would possess, from the start of the college search, perfect information on the exact price they would pay, and then could choose a college with a desired level of investment and return.

It is far from clear what college investment choices – in amount, college, and field – will yield a specific return in a specific instance. A college may have a low sticker price but offer little aid, graduate few students, and have poor employment prospects for its graduates. Conversely, an expensive college might offer high completion rates with excellent employment opportunities; in this situation, a larger investment – even in terms of debt burden – could be merited.

Given this problem, it is generally agreed upon by experts that the following ways, explored in the next chapter, are reasonable, but limited, methods to assess affordability:

1) **Inflation/Consumer Price Index (CPI)**. Price comparisons to or adjustments for inflation are common and easily understood. The public is often concerned about the rate at which the average price of a good increases, especially compared to a measure of inflation – is it rising faster, the same, or lower than inflation?

2) **Income**. Another standard of affordability is the proportion of median family income required to pay for a year of college. Family income is imperfect because, as discussed above, education is fundamentally an investment good and should be evaluated based on the return it provides. However, PRI staff use this family income criterion in the following analysis because some families are not aware of or choose not to consider the long-term benefit. In addition, public policies and much of financial aid is generally based on income and this measure is commonly accepted as an affordability proxy in the literature.

3) **Student debt and default rates**. Student debt is a broad indicator of the long-term burden of college costs and the default rate shows the level of difficulty a group is having in paying for this investment. There is no common definition of what a reasonable debt limit would be. Some education lenders have recommended that student loan payments not exceed 8% to 10% of gross monthly income. Others have stated that the general rule of thumb for student loan borrowing is that the total amount of student debt should not exceed the borrower's anticipated annual salary for the first year out of school.[7] The federal government has recognized the increasing difficulty many borrowers are experiencing in paying back student loans. A number of payment options that are based on the borrower's income have been developed and expanded over the last several years in an attempt to better balance debts with actual post-college income.

[7] See for example, USA Funds, *Student Loan Repayment: Four Steps to Take Now*, 2013 and Christina Couch, *How Much College Debt is Too Much?*, Bankrate.com

Chapter II

Affordability Measures

College has become less affordable in every commonly considered way of measuring prices and affordability. Declining affordability is due to price increases outstripping consumer inflation and income growth – as well as continuing even during periods lacking income growth. Affordability is falling across public as well as private nonprofit colleges and universities.

The following two tables show that, evaluated against flagship universities and public four-year schools overall, the University of Connecticut (UConn) has had higher prices but comparable affordability. As discussed later in this chapter, UConn's affordability is relatively favorable because its prices are viewed in the context of the state's high income levels.

The first table, II-1, shows four types of college prices (defined in Table II-3) and indicates UConn's prices are higher than the flagship median and the average of the public four-year schools. All four UConn prices have been rising, even after adjusting for inflation.

Table II-1. UConn's In-State Prices Are High and Rising

Measure	***UConn's Most Recent Data (and its year)***	***UConn's Price: Better (+) or Worse (-) Than:****		***UConn's Trend***
		Flagship Median	***Public Four-Year Schools***	
PRICE: In-state				
1. Tuition & fees	$11,242 '12-'13	-	-	↑
2. Comprehensive cost On-campus	$22,622 '12-'13	-	-	↑
3. Total price On-campus	$26,122 '12-'13	-	-	↑
4. Net price Average	$14,877 '10-'11	-	Data not comparable	↑

*Comparison to public four-year schools uses 2011-12 data.
Sources of data:
Tuition and fees amounts are from The College Board's *Trends in College Pricing 2012*, Table 6 online.
Comprehensive cost data were calculated by adding tuition and fees to plus room and board costs from IPEDS.
Total price and net price data are from IPEDS.

Table II-2 displays UConn's affordability, indicating what percent of median household income would be needed to pay for UConn's four types of prices. Although UConn's affordability has been declining, it compares favorably to other flagships and, in some cases, to public four-year schools as a whole. The state's strong income level translates into relatively better affordability than its sticker prices – such as tuition and fees – might signal to some.

Table II-2. UConn's In-State Affordability is Declining But Compares Favorably				
Measure	***UConn's Most Recent Data (and its year)***	***UConn's Affordability: Better (+) or Worse (-) Than:****		***UConn's Trend***
		Flagship Median	***Public Four-Year Schools***	
AFFORDABILITY: Percent of median household income needed to pay in-state price ⬆ Indicates declining affordability (higher share of income needed)				
1. Tuition & fees	16% '11-'12	+	-	⬆
2. Comprehensive cost On-campus	33% '11-'12	+	=	⬆
3. Total price On-campus	39% '11-'12	+	=	⬆
4. Net price Average	23% '10-'11	+	Data not comparable	⬆

*Comparison to public four-year schools uses 2011-12 data. "Equal to" sign (=) was used when difference between UConn and public four-year schools was 1 percentage point; there were no measures on which the difference between UConn and the flagship median was within that range.
Sources of data:
Tuition and fees amounts are from The College Board's *Trends in College Pricing 2012*, Table 6 online.
Comprehensive cost data were calculated by adding tuition and fees to plus room and board costs from IPEDS.
Total price and net price data are from IPEDS.
The affordability calculations were made by PRI staff, using U.S. Census Bureau income data.

The rest of this chapter – along with Appendices A and B – provides detailed analysis of the price and costs of attending UConn compared to the flagship university median and public four-year schools overall. Specifically discussed are how:

- college price and affordability are commonly measured and have changed;
- household income has changed and affects affordability calculations; and
- student debt has grown.

What Measures Best Show the Price of Attending College?

There are four common ways to measure the price of attending college, described in Table II-3. No single measure is the best. Each has benefits and drawbacks when used to show college price; none is more correct than the others. All but net price have the additional disadvantage, from a consumer perspective, of being somewhat misleading because at every college, a large portion of students receives some form of financial aid to help defray all or part of the price.

Table II-3. There Are Several Ways to Measure College Price			
	Includes	***Advantages***	***Disadvantages***
1. Tuition and fees	• Class attendance • Mandatory service charges	• Simple • Data available	• Ignores other costs of attendance and all living costs
2. Comprehensive cost	• Tuition and fees • Room and board	• Relatively simple • Data available	• Ignores some costs of attendance and living
3. Total price	• Comprehensive cost • Other costs of attendance and living (e.g., books, transportation)	• Most complete price	• "Other costs" are estimates; can vary widely among students • Data less available
4. Net price (after grants and out-of-pocket)	• After grants: Total price less grant aid • Out-of-pocket: Total price less grants, loans, and employer benefits.	• Most accurate reflection of what student/family actually pays	• Varies tremendously among students so may be of limited value to prospective student • Limited data available
Source: PRI staff.			

How is College Affordability Measured?

To measure college affordability, one type of college price is compared to some measure of household income. Median household income is most commonly used, but examining the price compared to different income levels (e.g., 20th and 80th income percentiles) provides a more complete picture of how college prices can be perceived. In the analysis that follows, the affordability of UConn's various prices is compared to that all public four-year schools and the median of the 50 flagship universities.

How Have College Prices Changed?

College prices have risen well beyond inflation. Although net price data are limited, every method of examining price shows large increases. Tuition and fees as well as total price data are shown in Table II-4; information on other price measures (as well as additional detail on these) is found in Appendix A.

Table II-4. Tuition and Fees and Total Price: Inflation-Adjusted Trends and Recent Data*			
	Trend from 2007-08 to 2011-12	***Most Recent Data***	
	% Change	***Price***	***Year***
Tuition and fees			
1. Sector: Public four-year in-state average	Up 19%	$7,701	2011-12
2. Flagship median: In-state	Up 29%	$9,357	2012-13
3. Flagship median: Out-of-state	Up 21%	$26,336	2012-13
4. UConn: In-state	Up 11%	$11,242	2012-13
5. UConn: Out-of-state	Up 12%	$29,074	2012-13
Total price, living on campus			
1. Sector: Public four-year in-state median	Up 12%	$20,060	2011-12
2. Flagship median: In-state	Up 12%	$23,318	2012-13
3. Flagship median: Out-of-state	Up 16%	$40,178	2012-13
4. UConn: In-state	Up 13%	$26,122	2012-13
5. UConn: Out-of-state	Up 12%	$43,954	2012-13

*The percentage changes in prices are inflation-adjusted: The prices were adjusted for inflation using the Consumer Price Index – Urban – Research Series (CPI-U-RS) before changes over time were calculated.
Sources of data: Tuition and fees at the sector level is from the National Center for Education Statistics' (NCES's) *Digest of Education Statistics* and is an average weighted for student enrollment. All other data in this table are drawn from IPEDS and not weighted for student enrollment.

The chart shows that the percentage increases for UConn's tuition and fees have been lower than the flagship median and the public four-year schools (i.e., sector). UConn's total price increase for in-state students was slightly greater than the median flagship and sector, while the out-of-state total price increase was lower than the flagship median. Its most recent tuition and fees and total prices – as well as comprehensive cost (see Appendix A) – are higher than the median flagship for both in- and out-of-state students, as well as the sector average. A summary of how UConn compares to other flagship universities across all price categories is contained in Appendix B.

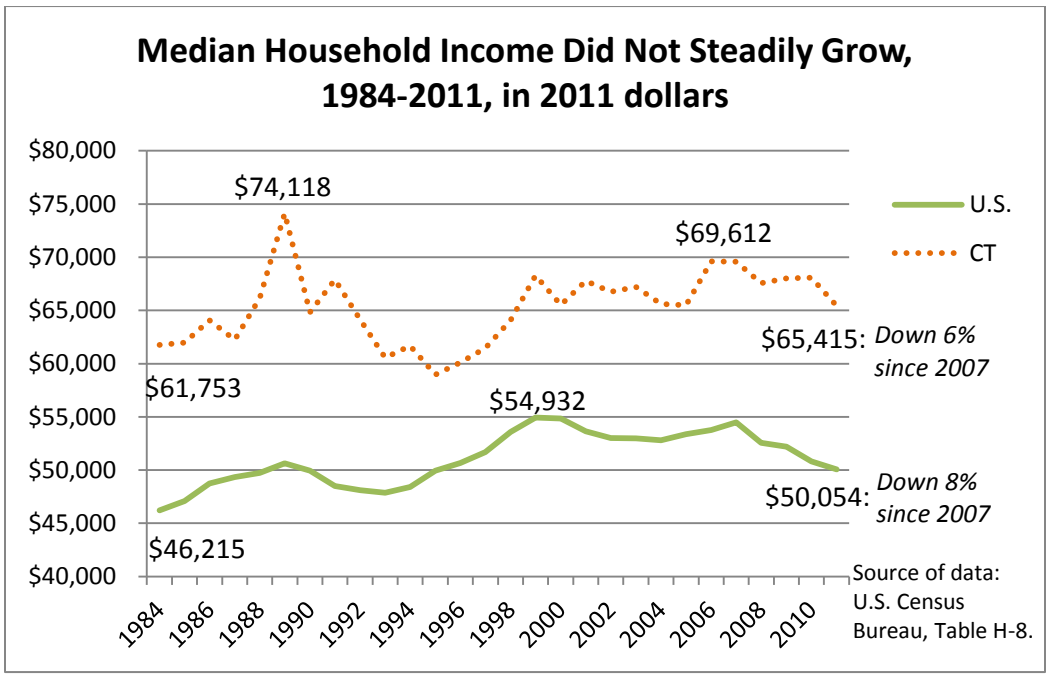
How Has Household Income Changed?

National median household income rose overall from 1984 to 1999; since then, it has generally been stagnant or declining, as depicted in the following graph (Figure II-1). Median household income dropped 8% from 2007 to 2011.

In Connecticut, median household income peaked in 1989 and hit a recent high in 2006. Between 2007 and 2011, it declined 6%.

Connecticut's median household income consistently has been substantially higher than the nation's, ranking 3rd among states in 2011, with an average difference of $14,249 (28% higher than the national median).

Figure II-1.



How Has College Affordability Changed?

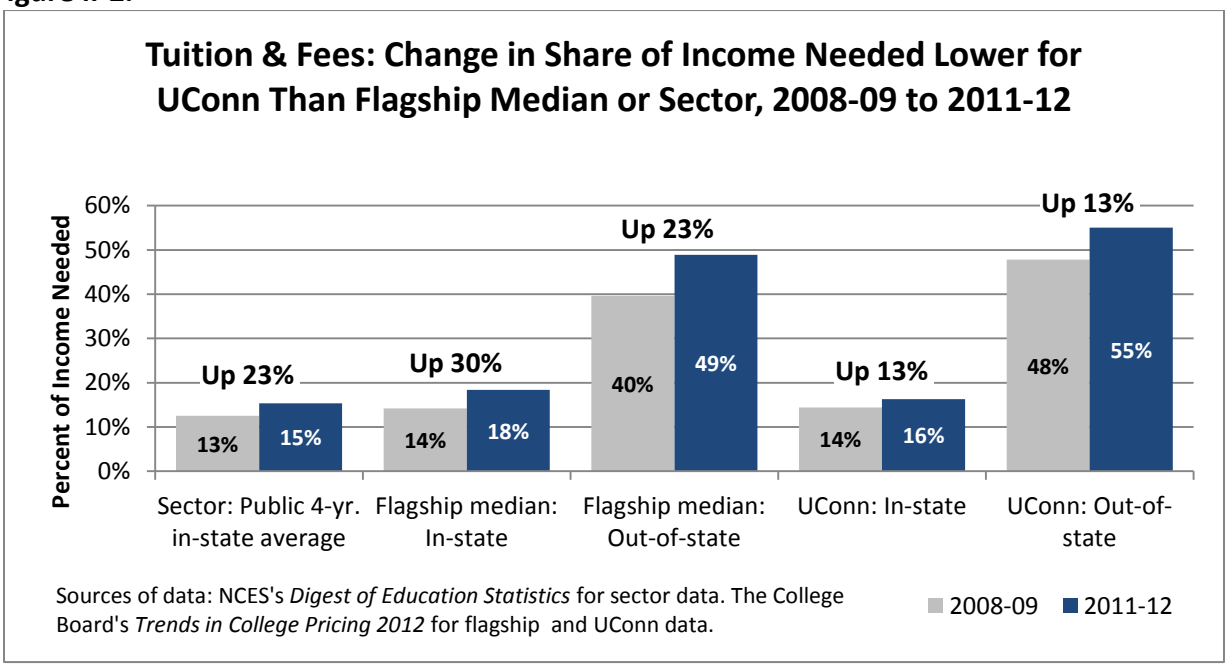
The basic affordability of every college sector (whether public or private nonprofit), flagship universities, and UConn have declined recently. It seems that the trend began decades before the Great Recession, based on the relatively limited data that are available far into the past and the program review committee staff's literature review.

Although UConn's affordability to in-state students has declined, it compares favorably to the flagship median, as discussed further in the next sub-section. When assessing affordability, UConn's high price levels are measured against the state's high median income. This leads the university to fare much better in affordability comparisons than those of absolute prices.

Price compared to median household income. By every common way of considering price, college has become less affordable. The charts below show that a higher share of median income is needed to pay college prices for the public four-year sector, flagships (at the median), and UConn.[8] (Graphs showing changes in price, alone, are included in Appendix A.)

[8] For the public four-year sector (whose price information is most often a student enrollment-weighted average) and flagship out-of-state prices, the national median household income was used as the income component. For flagship in-state students, the state-specific median household income was used. Flagship calculations were done on a state-by-state basis and then the medians were computed to arrive at the change in the median flagship prices or affordability,.

Figure II-2.

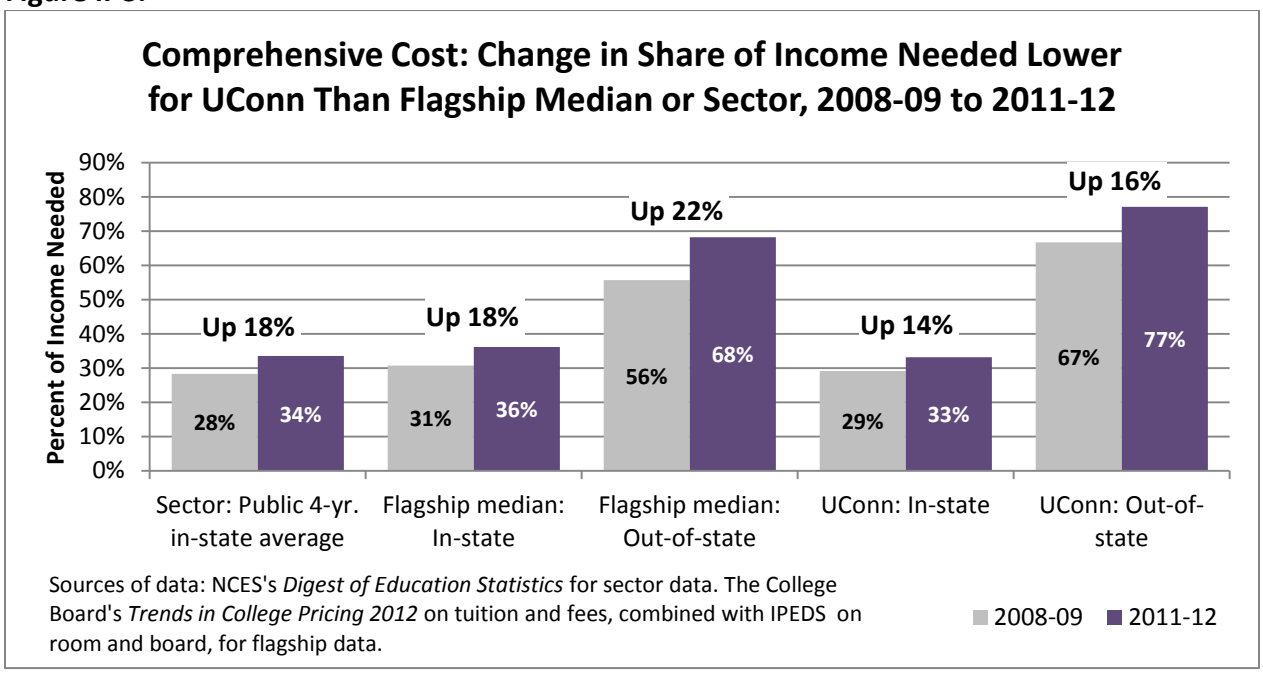


- UConn's affordability declined less than the public four-year school average (its sector) or the flagship median. For example, the share of income needed for in-state tuition and fees rose 13% for UConn but 30% for the flagship median.

- By 2011-12, UConn's in-state tuition and fees demanded a slightly smaller share of state median household income (16%) than the flagship median (18%).

- However, UConn's out-of-state price level required a larger share of the national median income than the flagship median.

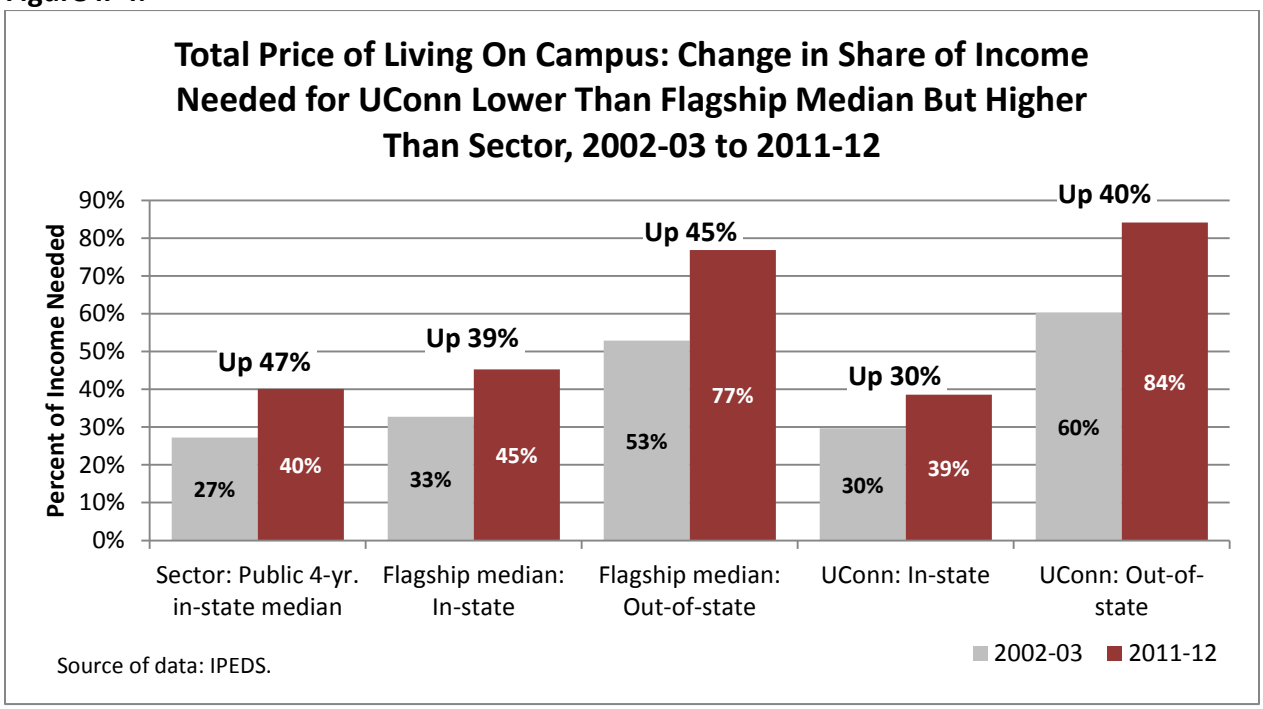
Figure II-3.



- When room and board are added to price considerations, the share of income needed approximately doubles – from 16% of income for tuition and fees in 2011-12 (Figure II-2), to 33% of income for the comprehensive cost the same year (Figure II-3) – for UConn in-state students. Yet its comprehensive cost is relatively affordable – particularly in 2011-12 – compared to both the flagship median and public four-year schools, whose comprehensive costs require 36% and 34% of median income, respectively.

- As with tuition and fees, UConn's share of median household income required for the full comprehensive cost is slightly lower than the flagship median for in-state students and higher for out-of-state students.

Figure II-4.



- UConn's total price is also more affordable for in-state students with median household income (needing 39% of income), compared to the flagship median (45%), but the total price is less affordable for out-of-state students (84% of income at UConn and 77% for the flagship median).

- The increases in UConn total prices since 2008-09 were 8% for in-state students and 9% for out-of-state students, which were lower than the flagship median (10 and 15%, respectively) and the sector (11% for in-state students).[9] The share of median income needed to pay the UConn total prices grew over that timeframe by 11% for in-state students and 14% for out-of-state students, less than the increases for the flagship median (18% for in-state and 26% out-of-state) and sector (16% for in-state).

[9] The changes in affordability of tuition and fees and total price are presented for 2008-09 onward in Figures II-2 and II-4 and their accompanying text, for simple comparison to the changes in affordability of comprehensive cost and net price (where data were only available for 2008-09 onward). Therefore, the percentage changes differ from those given in Table II-4, which are calculated from 2007-08.

Figure II-5.

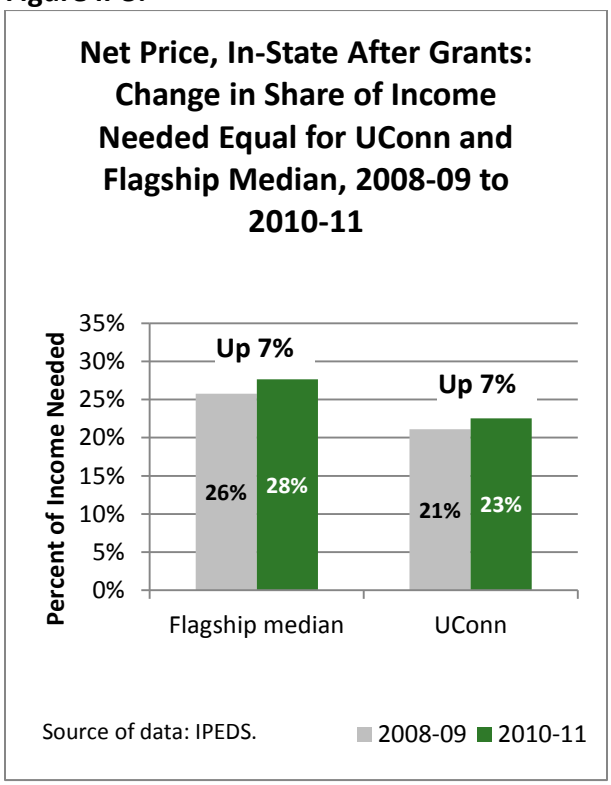
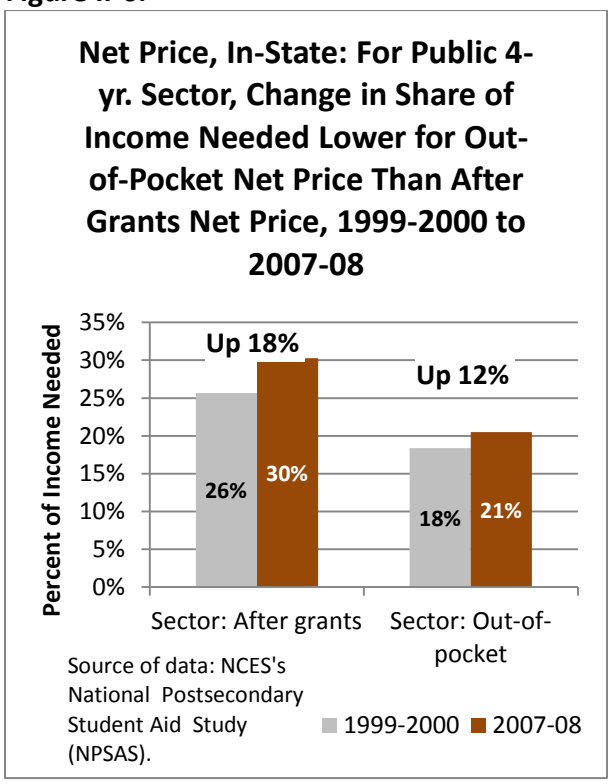


Figure II-6.



- The average after-grants net price for in-state students who received any grant aid is a smaller share of median household income for UConn than the flagship median – 23% versus 28%, in 2010-11.

- The affordability of the after-grants net price for public four-year schools – 30% of median income in 2007-08 – appears similar to that of the flagship median net price, which required 28% of median income one year later; however, the data are not comparable. The average net price for the public four-year schools includes all full-time dependent students, while the net price for flagships takes into account only first-time, full-time students who received any grant aid.

Price compared to income quintiles. Although median household income is an important benchmark for measuring college price changes, many families' income falls far short of or beyond it. Comparing college price levels to the mean income within each quintile shows that prices may appear out of reach for students from low-income families (those within the 1st to 20th percentiles), especially for those unaware of, or uncertain about, the availability of grant aid.

Figure II-7.

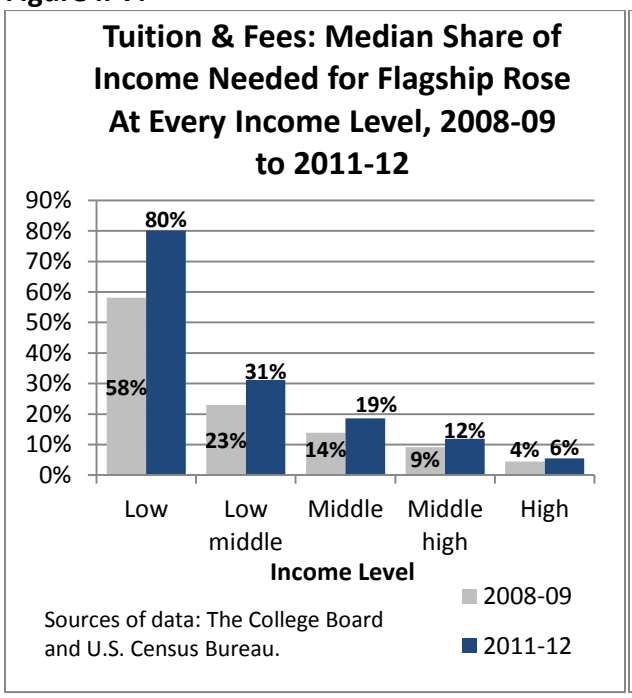
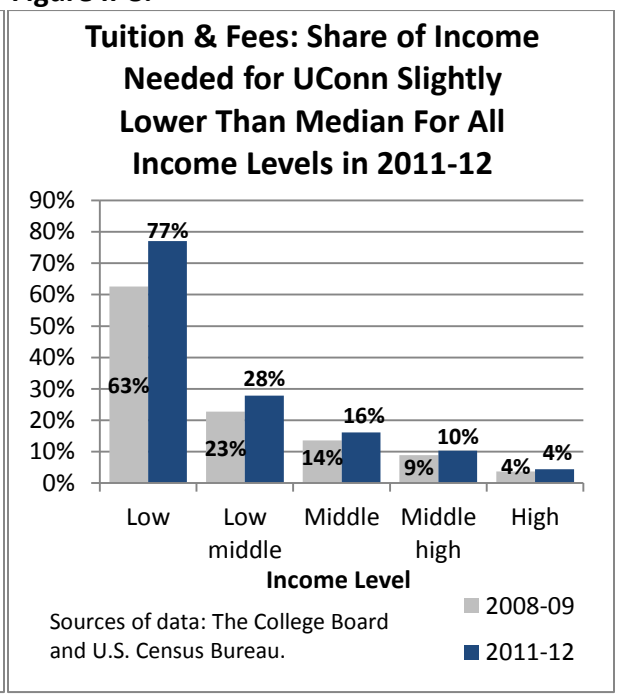


Figure II-8.



- UConn's tuition and fees required the same share of income (Figure II-8) as the flagship median (Figure II-7) for four of the five income brackets in 2008-09, and a larger share for the fifth (the low income bracket). However, by 2011-12 UConn's lower level of price increases resulted in slightly lower shares of income needed at every income level, compared to the flagship median.

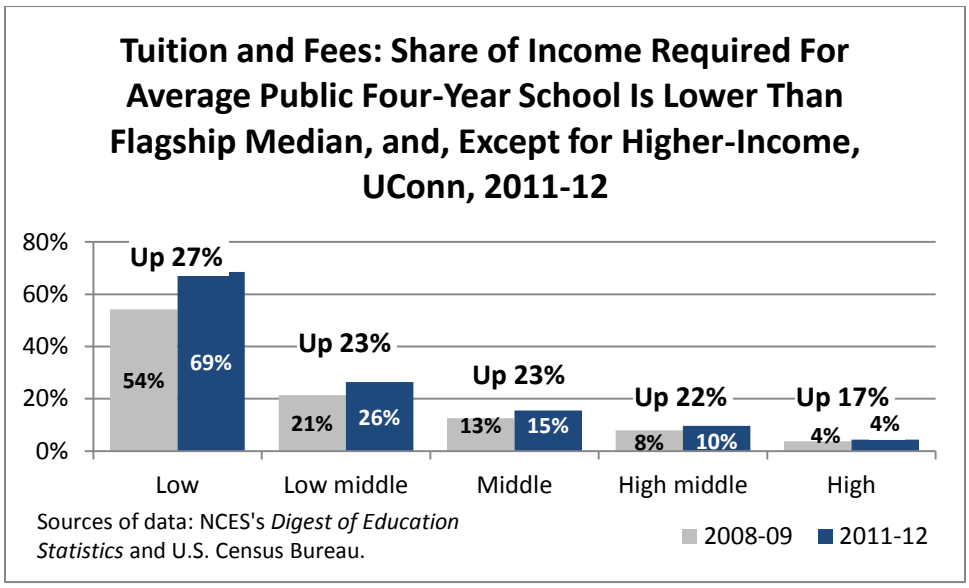
Table II-5. Increases in Share of Income Needed for Tuition and Fees Were Lower At UConn Than The Median Flagship, Across Income Levels, 2008-09 to 2011-12

	Low	***Low Middle***	***Middle***	***Middle High***	***High***
Flagship median	38%	36%	35%	30%	24%
UConn	23%	23%	19%	16%	19%

Sources of data: U.S. Census data and The College Board's *Trends in College Pricing 2012*.

- Table II-5 conveys the fact that because families at lower income levels by definition have relatively little income, an increase in sticker price results in a large increase in the share of income needed to pay that higher price (compared to a high-income family).

Figure II-9.



- For all but the highest income bracket, the public four-year sector's changes from 2008-09 to 2011-12 in share of income required for tuition and fees (Figure II-9) were larger on a percentage basis than UConn's (Figure II-8) but smaller than the flagship median (Figure II-7).

Figure II-10.

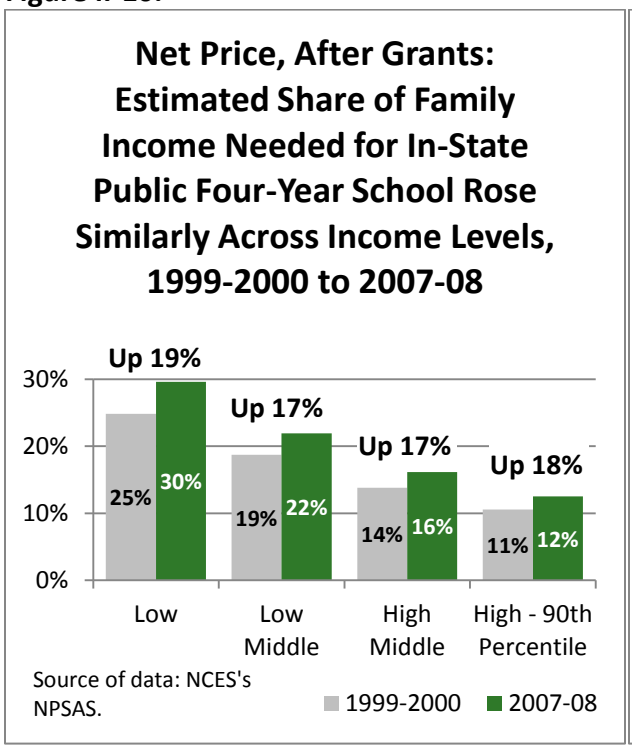
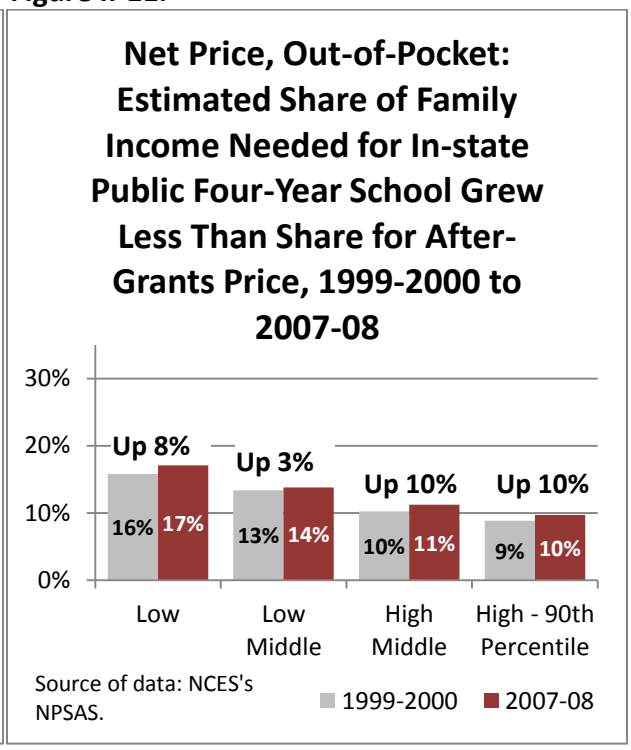


Figure II-11.



- The share of income needed to pay the net price is influenced by changes in the family income for each quartile. Between 1999-2000 and 2007-08, the lowest

quartile saw income drop 9%, with a 3% decline for the low-middle income group. The high-middle quartile and 90th percentile each gained slightly (1% and 2%, respectively). (See Appendix A, Figure A-5 for information on more recent income quintile changes).

- If the lowest quartile had experienced constant income, then the after-grants net price would have required 27% of family income, instead of 30%. This hypothetical presumes the net price in 2007-08 was not impacted by the change in the lowest quartile's income composition, which is uncertain.

Figure II-12.

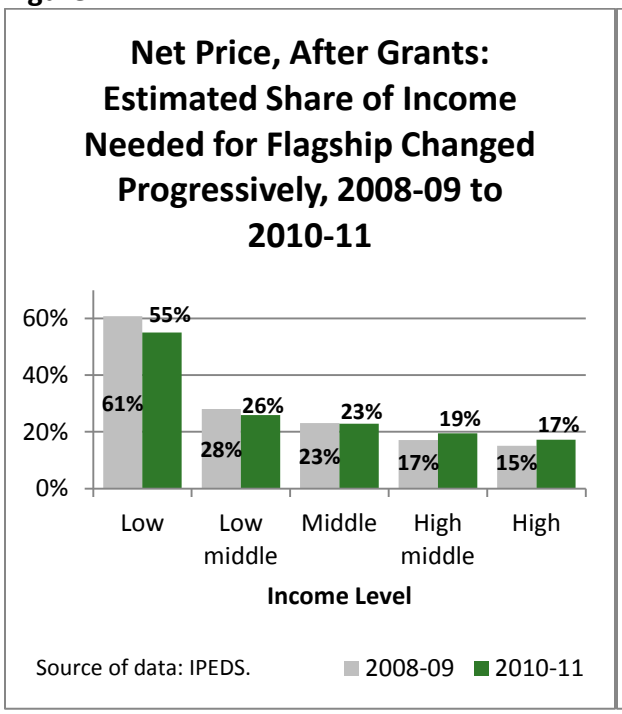


Figure II-13.

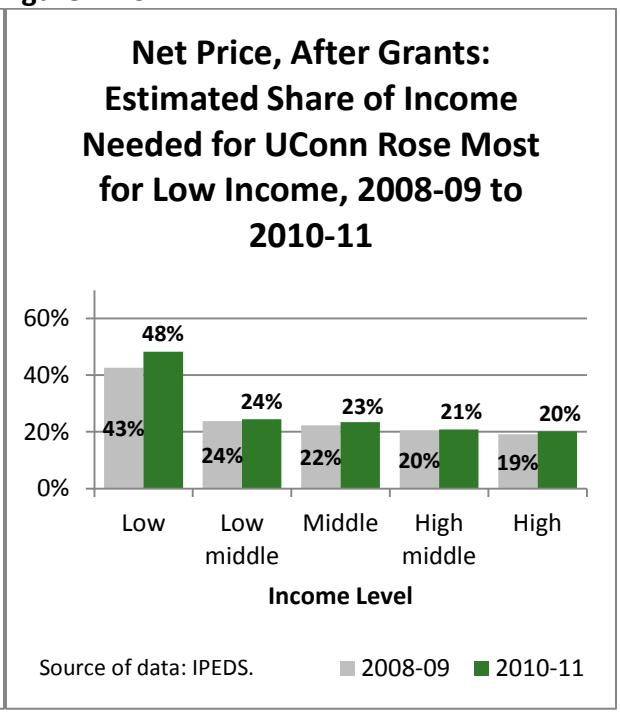


Table II-6. Changes in Share of Income Needed for Net Price Were Progressive at the Flagship Median but Not UConn, 2008-09 to 2010-11					
	Low	***Low Middle***	***Middle***	***Middle High***	***High***
Flagship median	-9%	-8%	-1%	14%	15%
UConn	13%	3%	5%	2%	6%
Source of data: IPEDS.					

- Figures II-12 and II-13 show the net price consumes a larger share of family resources as income declines. For example, paying the entire after grants net price out-of-pocket would have required 55% of family income for a low-income student at the flagship median, or 48% at UConn, in 2010-11. For a high-income student, however, only 17% of family income would have been required for the flagship median, or 20% at UConn.

- The reasons for shifts among income groups in flagship and UConn net prices are unclear. They could include changes in: aid distribution strategies; aid amounts; family

income within the bracket; and/or living situations (e.g., a shift from on-campus housing to residing with family).

Overall, How Has UConn's Affordability Compared to Other Flagships?

UConn's in-state affordability levels and trends compare favorably to the flagship median in every measure of affordability based on median household income. In the most recent year of data availability, UConn falls well below the median share of income needed for each in-state student price, ranking (with 1st being highest share, or least affordable, and 50th the most affordable):

- 30th regarding tuition and fees;
- 34th regarding comprehensive cost;
- 43rd regarding total price for a student living on-campus; and
- 39th regarding average net price for a student receiving grant or scholarship aid.

All UConn's rankings improved (i.e., lowered) over the timeframes considered, except that for net price – which was approximately stable.

Despite its relative affordability to in-state students, UConn reasonably might not be perceived as affordable to some families, especially those unaware or uncertain of financial aid. For example, UConn's comprehensive cost would have required 33% of the pre-tax median household income in 2011-12. In the same year, tuition and fees alone would have consumed 77% of the income for the mean household in the state's lowest income quintile.

In addition, at first glance, UConn might not appear affordable because its absolute prices are high, ranking from 10th for comprehensive cost and total price, to 16th for average net price. Connecticut's high income levels – which are influenced by its especially strong levels for those above the 40th percentile – favorably impact UConn's affordability measures.[10]

UConn is less affordable to out-of-state students, ranking 15th in the share of national median income required to pay tuition and fees, as well as 7th in the share needed for the comprehensive cost. Its out-of-state affordability is relatively low because its absolute out-of-state price levels are high and, unlike in-state price levels, it does not benefit from high state median income.

What are the Student Debt Trends?

Increasingly, the pursuit of a college education means the accumulation of more debt as both the number of student borrowers and amount of debt has been growing at the national level and at UConn. Student debt also affects college affordability, in ways that will be further explored in the study's final report.

[10] According to calculations using U.S. Census Bureau data, Connecticut ranked, in mean income by quintile: 7th for the lowest quintile, 6th for the low-middle quintile (20th to 40th percentile), 4th for the middle (40th to 60th percentile), 3rd for the high-middle quintile (60th to 80th), and 1st in the highest quintile.

National. According to the Federal Reserve Bank of New York, the total amount of outstanding student loans has mushroomed from $363 billion in 2005 to $966 billion in 2012.[11]

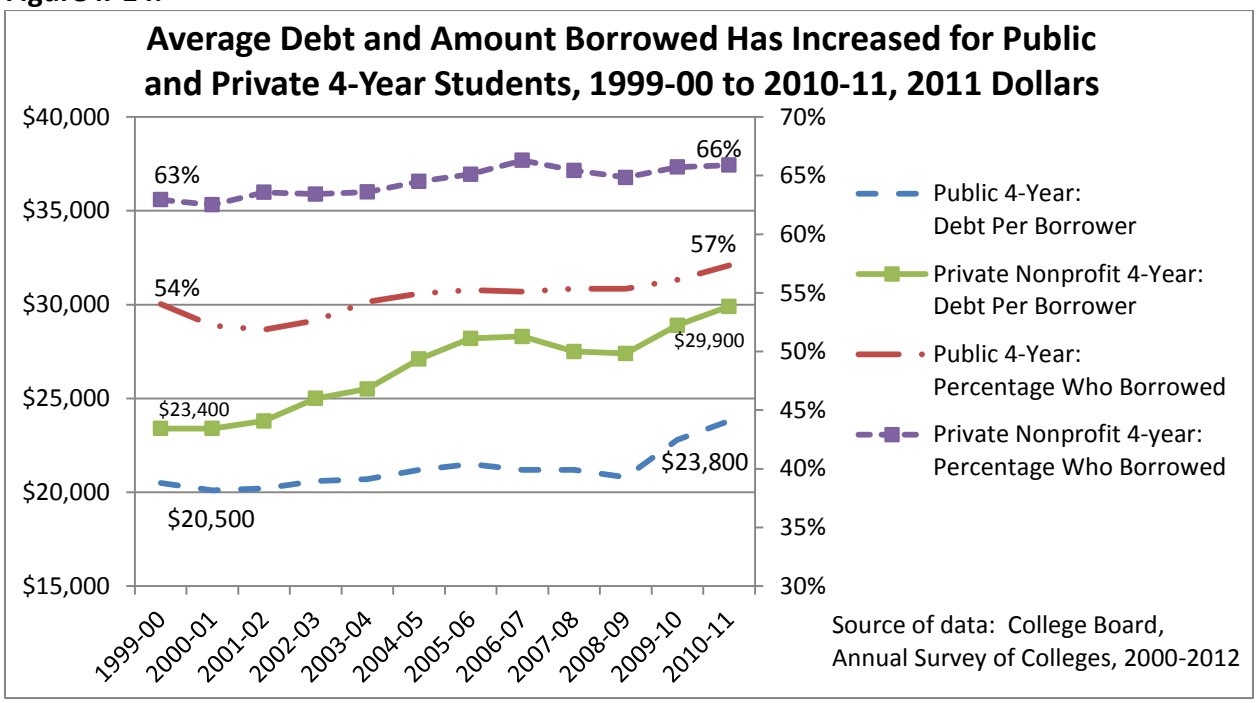
The percentage of U.S. households with outstanding student loan debt has more than doubled, from 9% in 1989 to 19% in 2010, meaning nearly one in five households has student debt. Over the same period, the average amount of that debt has risen from $9,634 in 1989 to $26,682 in 2010.[12] However, the average debt varies greatly among colleges, ranging from $3,000 to $55,250.[13] Similarly, the share of students with loans at a college varies from 12 % to 100%.[14] Most students are fairly cautious borrowers, as 90% of students who do borrow have a balance less than $50,000 and 40% are less than $10,000.[15]

Student loan defaults have been increasing, as well. According to the U.S. Department of Education, a federal student loan is in default if there has been no payment on the loan in 270 days.[16] In 2010, the national default rate was 9.1 %. The default rate has been increasing since 2005, when it was 4.6%.

UConn. The number of borrowers and the average debt load has increased at the University of Connecticut. As illustrated in the following chart, UConn generally compares favorably to other flagships and within its sector on the average amount of student debt and on the short-term default rate of student borrowers. UConn has a higher percentage of graduates with debt than the median flagship but less than its sector.

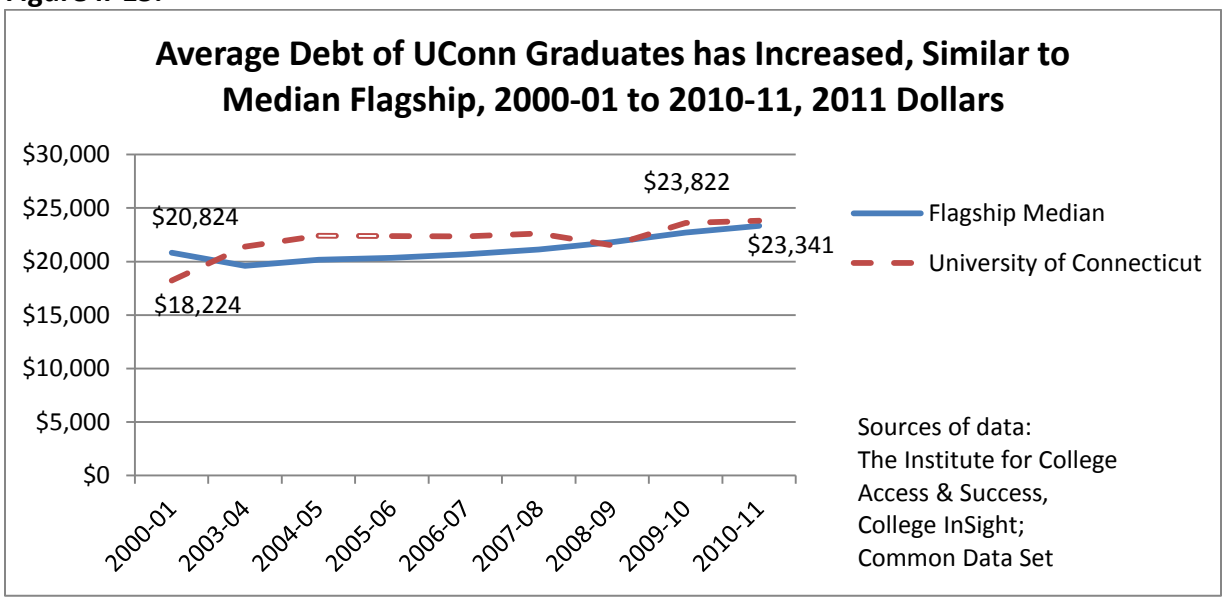
[11] Federal Reserve Bank of New York, "Household Debt and Credit: Student Debt," February 28, 2013, pg. 9.
[12] Pew Research Center. "A Record one-in-Five Households Now Owe Student Loan Debt," September 26, 2012, pgs. 1-3.
[13] The Project on Student Debt, "Student Debt and the Class of 2011," October 2012, pg. 9.
[14] Ibid
[15] Pew, 2012
[16] U.S. Department of Education, Federal Student Aid. Retrieved from http://www2.ed.gov/offices/OSFAP/defaultmanagement/defaultrates.html. The Department of Education calculates a two-year cohort default rate, which is the percentage of students who entered repayment in a given fiscal year (from October 1 to September 30) and then defaulted within the following two fiscal years.

Figure II-14.



- About 57% of students who earned bachelor's degrees in 2010-11 from the public four-year colleges at which they began their studies graduated with debt. Average debt per borrower was $23,800, up from $20,500 in 1999-00, an increase of 16%.
- About 66% of students who earned bachelor's degrees in 2010-11 from the private nonprofit four-year colleges at which they began their studies graduated with debt. Average debt per borrower was $29,900, up from $23,400 in 1999-00, an increase of 28%.

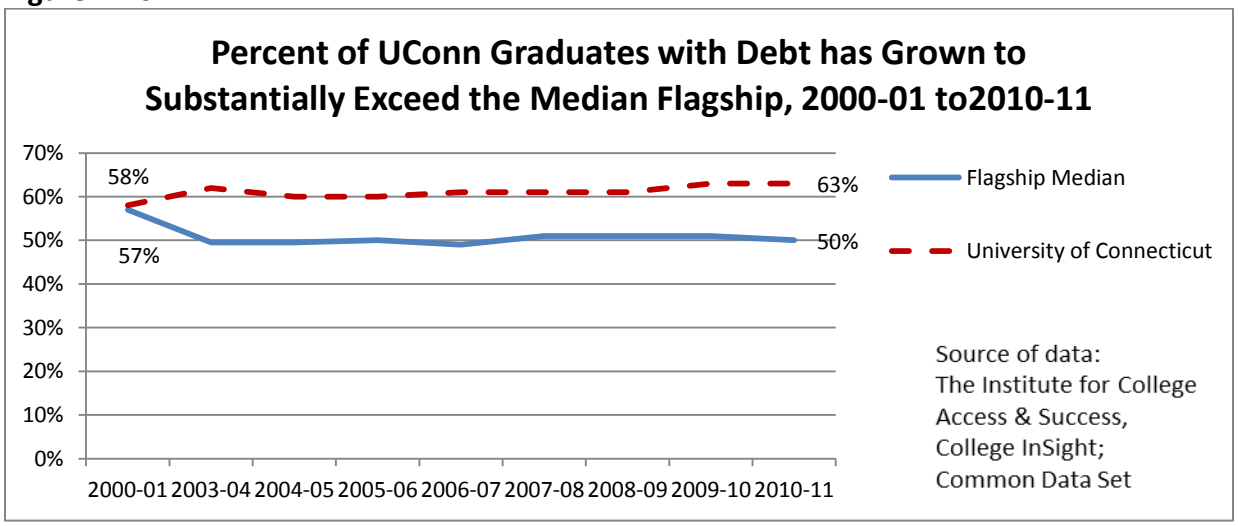
Figure II-15.



- Figure II-15 shows the average debt of a UConn graduate has increased by about 31%, while the median flagship university student's debt grew by about 12% over the last 11 years.

- The 2011 average student debt for a UConn graduate ($23,822) is similar to the median flagship university student ($23,341); UConn ranks about in the middle (24th) of all flagship universities in 201l for average debt.

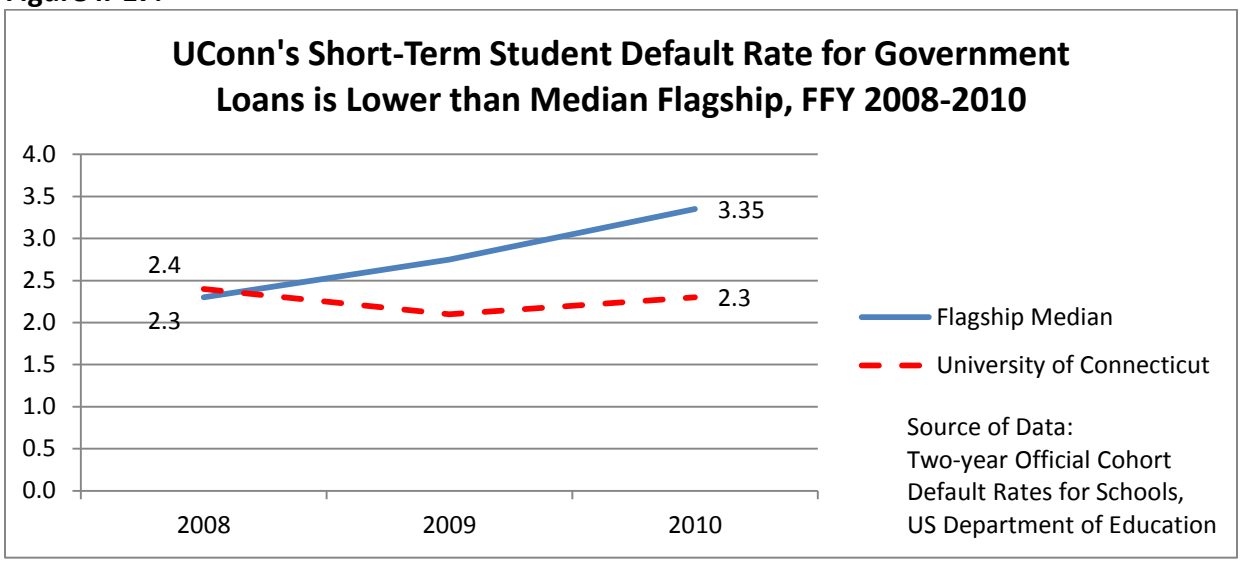
Figure II-16.



- The percent of UConn graduates with debt has grown from 58% to 63% over the last 11 years, while the median flagship university percentage has declined since 2001 and remained approximately the same since 2003 – at about 50%.

- UConn had the 9th highest ranking for share of graduates with debt.

Figure II-17.



- The percent of UConn students in default within the first two years of beginning repayment of federal student loans has decreased slightly since 2008 and was lower than the median of all flagship universities. It is also much lower than the average four-year public school (6%).

- In 2010, UConn ranked 35th (i.e., 15th lowest) on default rates among the 50 flagship universities.

- Student loan default rates per school are only available as this short-term rate – i.e., no school-specific information on the overall percent of loans in default is published. In addition, there is not any reliable information comparing debt to student income on a school by school basis.

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Appendix A

Affordability Measures: Additional Charts

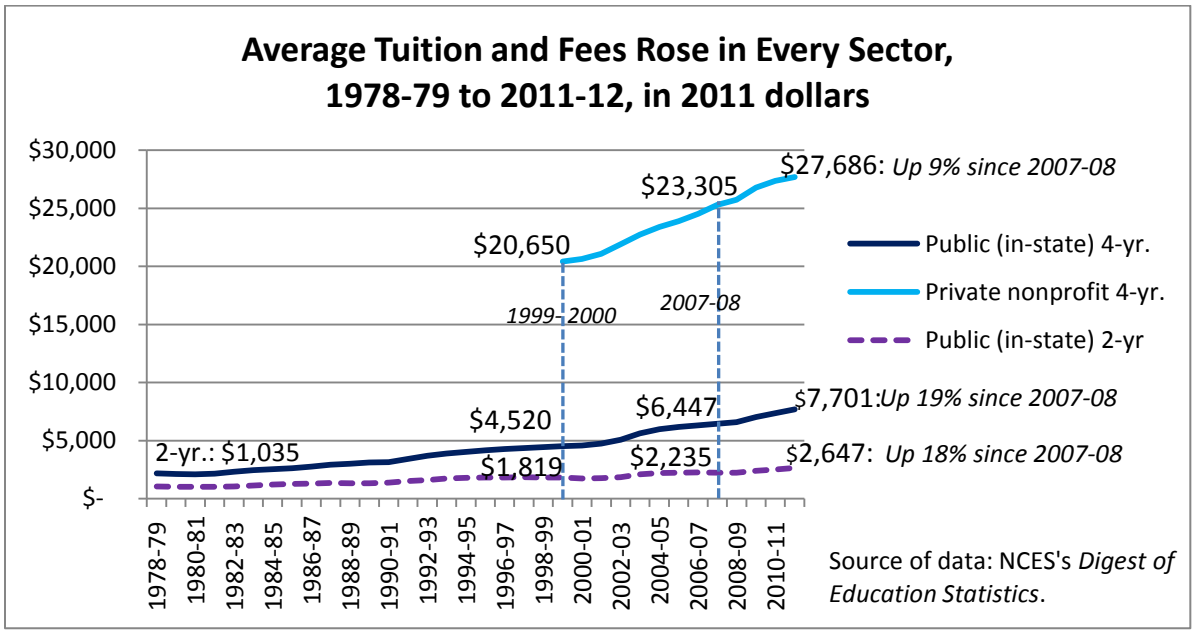
The charts below give supplementary information on price changes and affordability. Notably, three sectors – public four-year universities and colleges, public two-year colleges, and private nonprofit four-year schools – are included in the sector analysis, versus only the first in this update's main body. All charts showing dollar amounts have been adjusted for inflation using the Consumer Price Index-Urban-Research Series (CPI-U-RS).

1. TUITION & FEES

- Average tuition and fees have been steadily rising over time, after adjusting for consumer inflation.

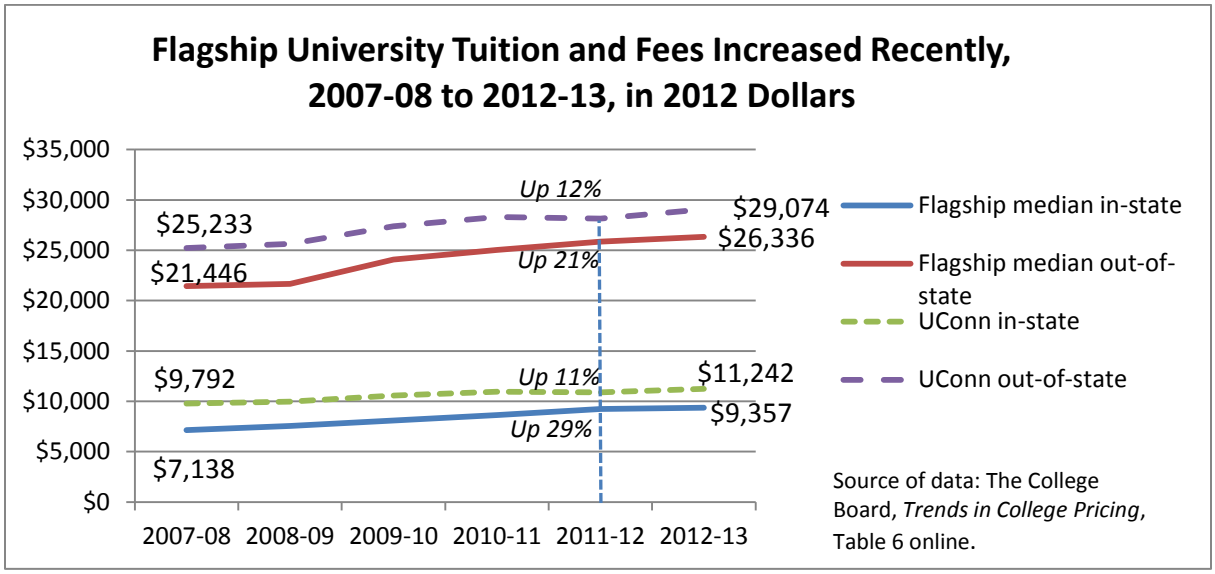
- The basic price of college attendance has become less affordable for the median household as tuition and fees price growth has outstripped consumer inflation and income increases.

Figure A-1.



- Annual increases since 1978-79 averaged 7.5% at public four-year schools and 4.59% at public two-year colleges. These boosts cumulatively caused tuition and fees to soar 254% and 156%, respectively, over 34 years.

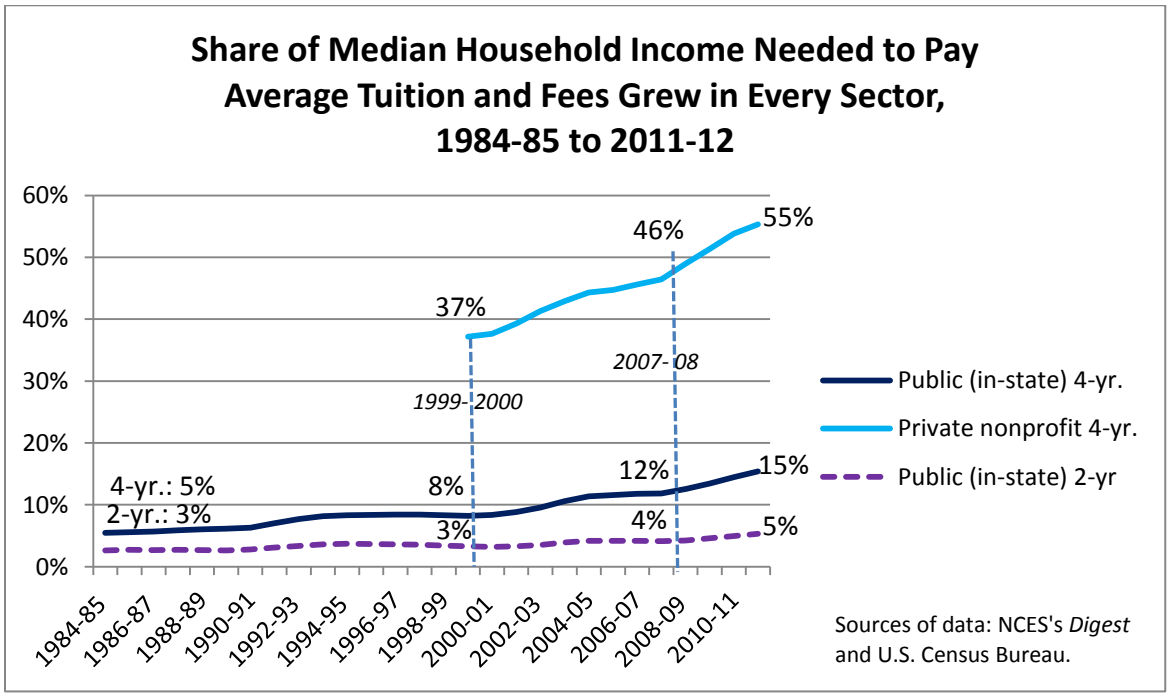
Figure A-2.



- Over the last six years, median flagship tuition and fees rose 31% for in-state students; the increase at Connecticut's flagship was comparable, at 15%.

- Connecticut's flagship, the University of Connecticut (UConn), had higher tuition and fee levels than the median flagship (ranking 9th highest in 2007-08 and 14th in 2012-13), but more moderate price increases.

Figure A-3.



- Figure A-3 shows that although prices and income each rose between 1984 and 1999, ballooning prices outstripped income growth. Afterward, prices continued to rise while incomes did not. Consequently, basic college affordability declined – especially since 1999 – but large differences among sectors remained.

- Between 2007-08 and 2011-12, the share of national median income needed to pay the average tuition and fees grew 30% for public 4-year schools, 19% for private nonprofit 4-year ones, and 29% for public 2-year colleges.

Figure A-4.

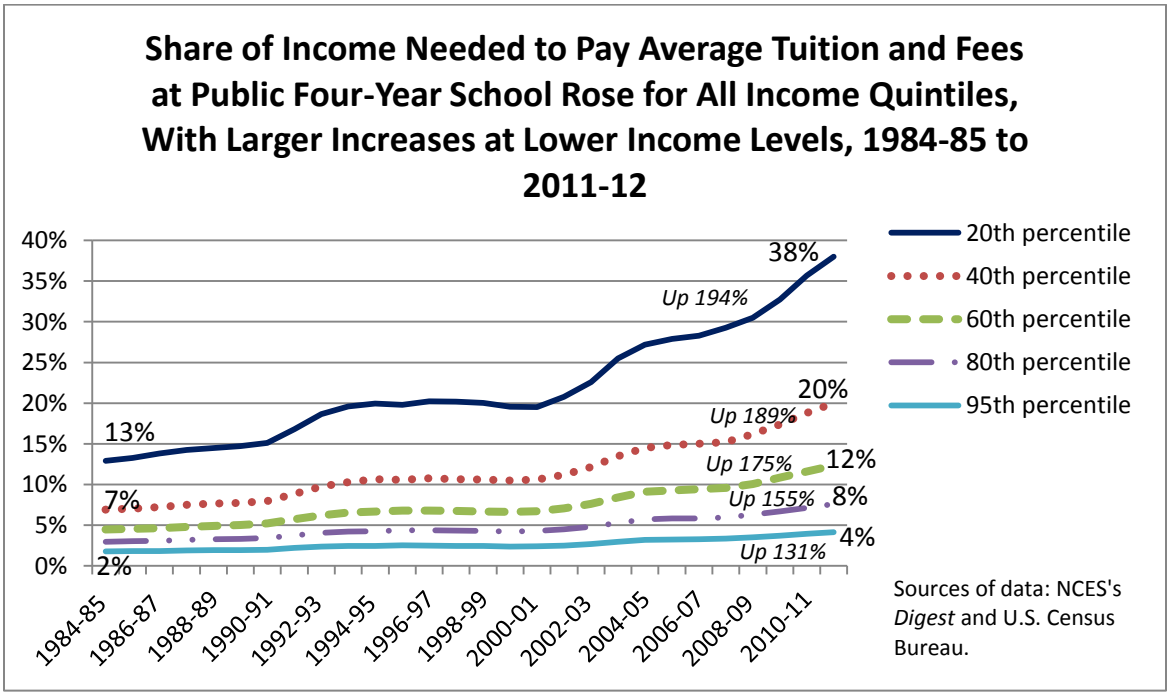
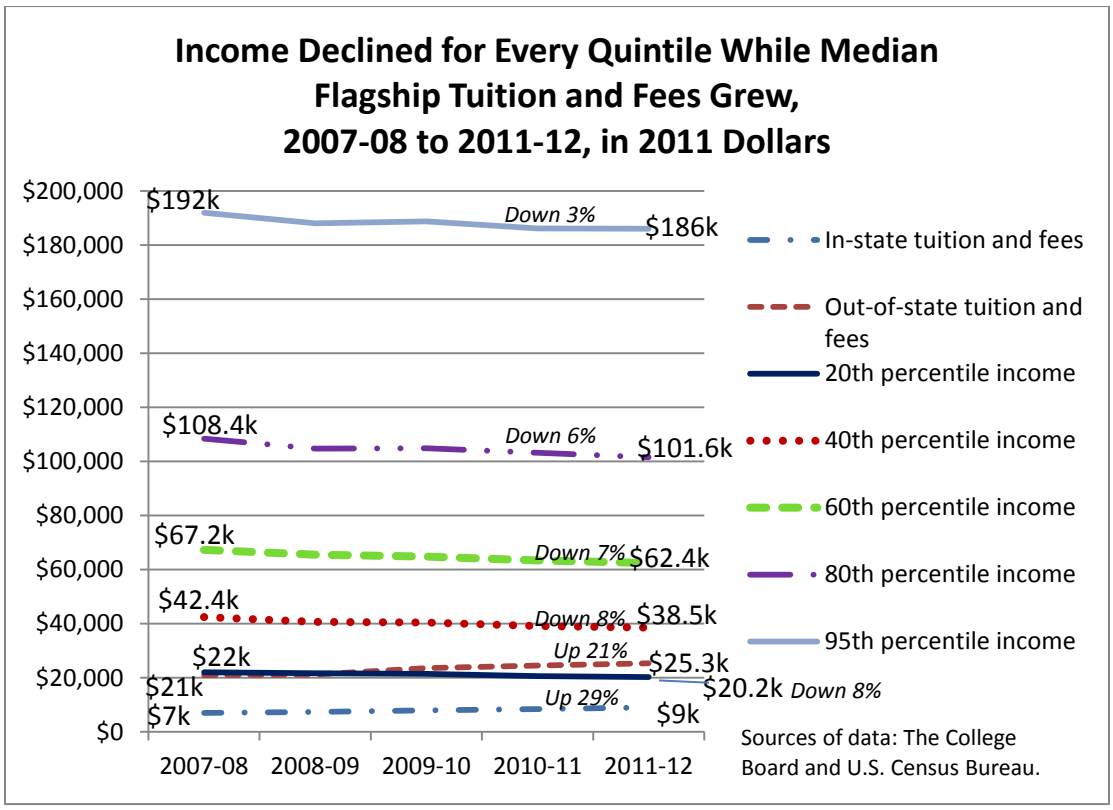
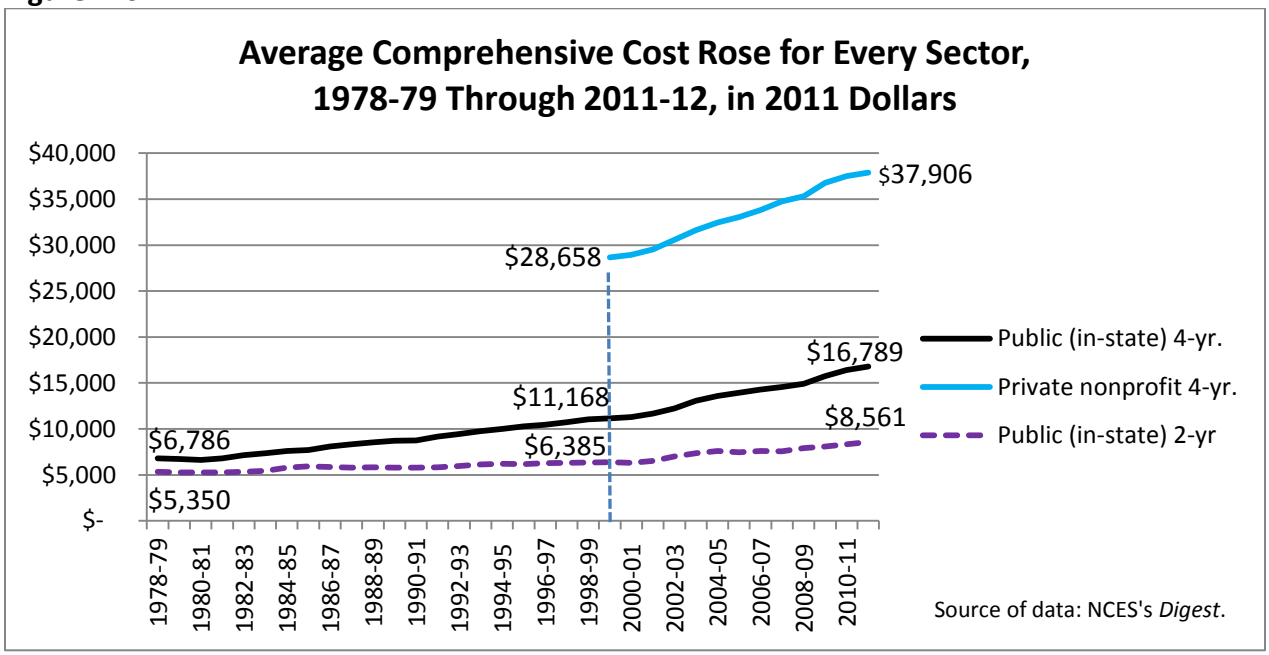


Figure A-5.



2. COMPREHENSIVE COST: Tuition, Fees, Room, & Board

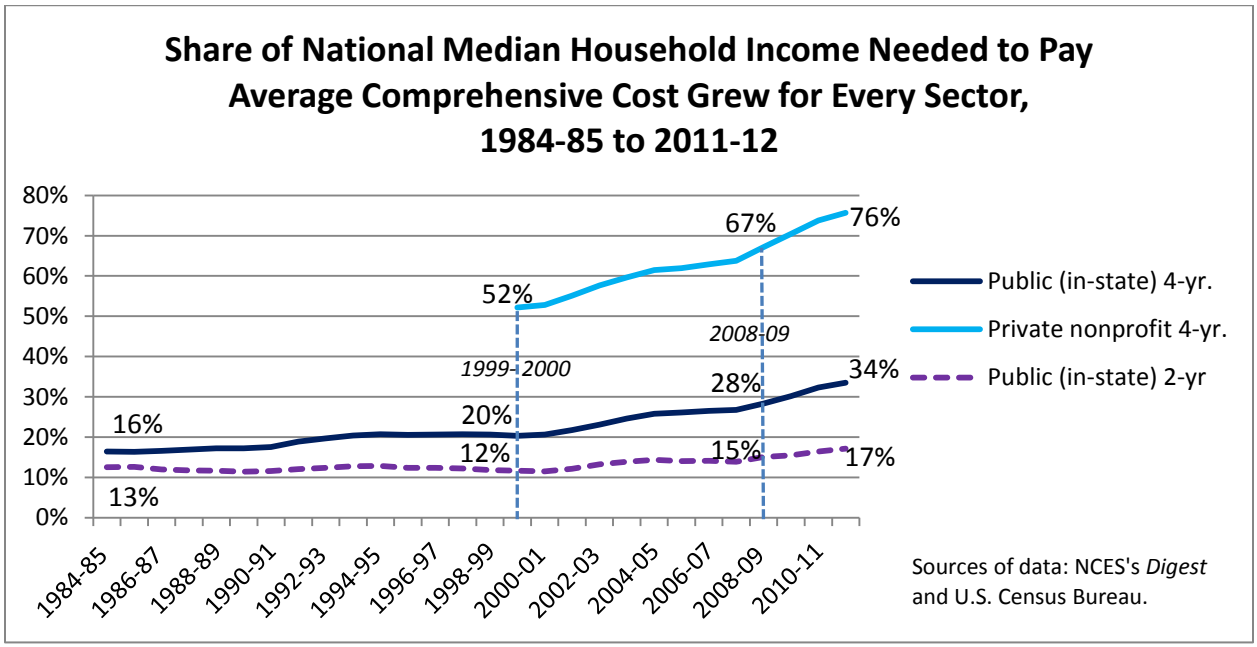
Figure A-6.



- Figure A-6 indicates that since 2008-09, the average comprehensive cost of attending a four-year public school has risen by 13%, compared to 8% for a public two-year and 7% for a private nonprofit.

- Going back to 1978-79, the average comprehensive cost for the public four-year sector rose 147% - more than twice the percentage increase of the public two-year sector (60%).

Figure A-7.



- The share of income needed to pay the average comprehensive cost of attending a public four-year school swelled 104% from 1984-85 to 2011-12; it grew 65% from 1999-2000 and 18% since 2008-09. The most recent increase is due to a combination of a 5% decline in household income and a 13% higher comprehensive cost.

- In comparison, the share demanded for the average comprehensive cost of a private nonprofit college rose 45% since 1999-2000 and 13% from 2008-09; the share began, however, at a much higher level than the public sectors.

Figure A-8.

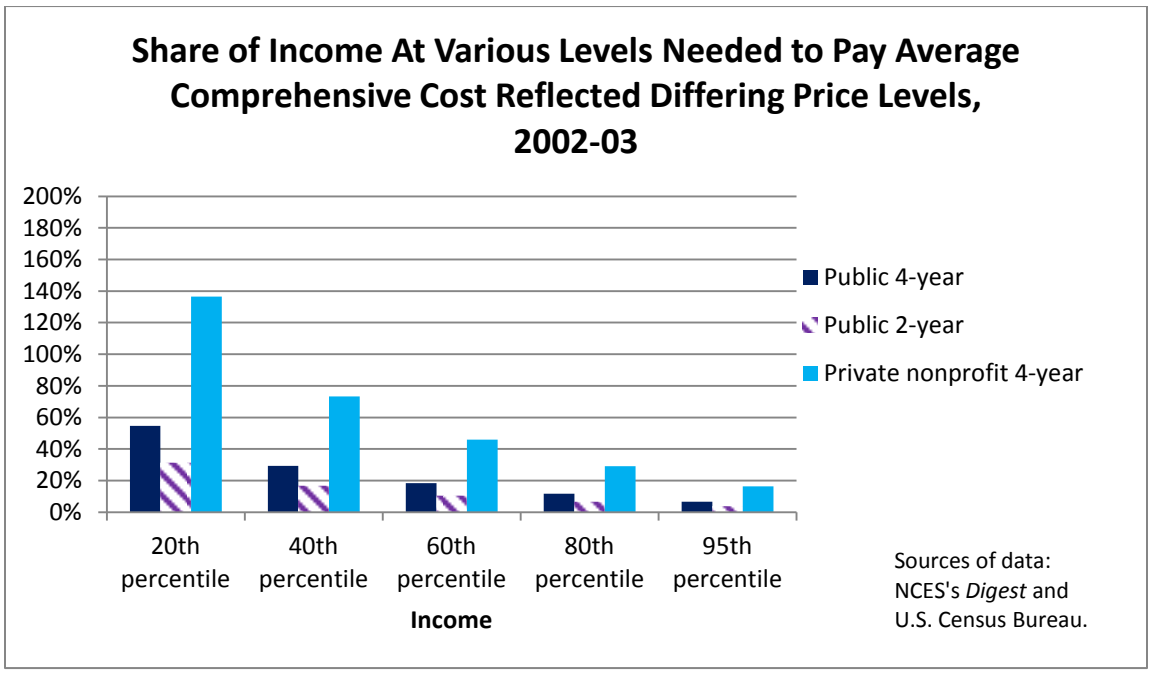


Figure A-9.

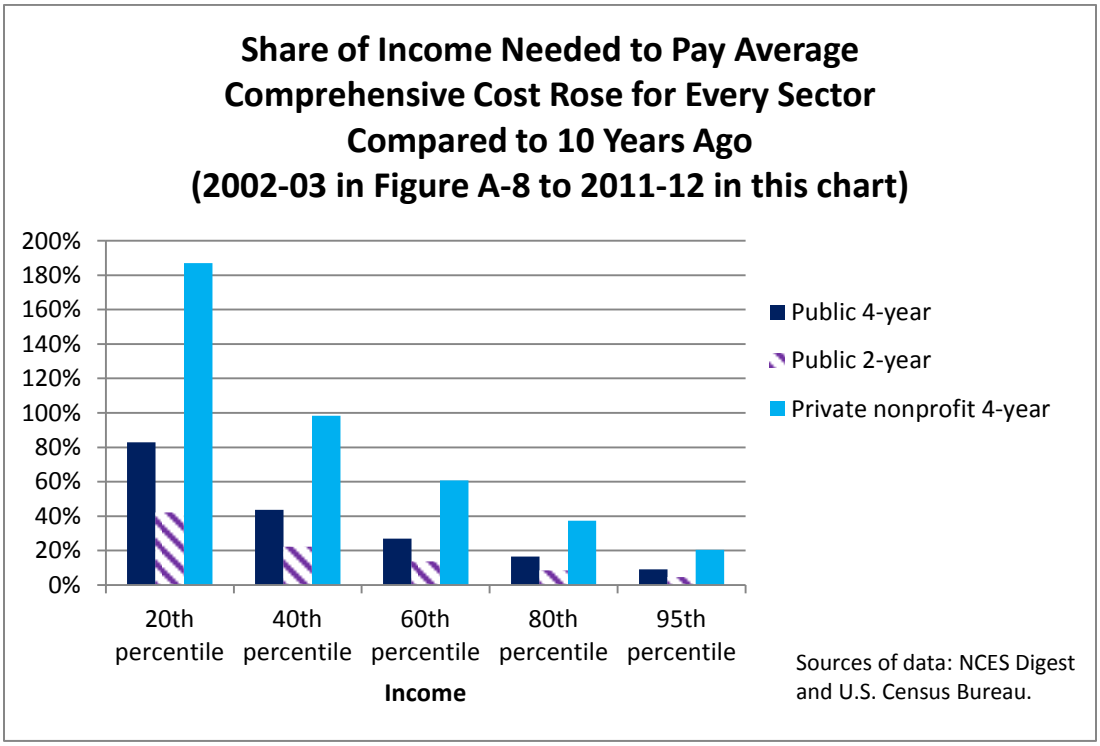


Figure A-10.

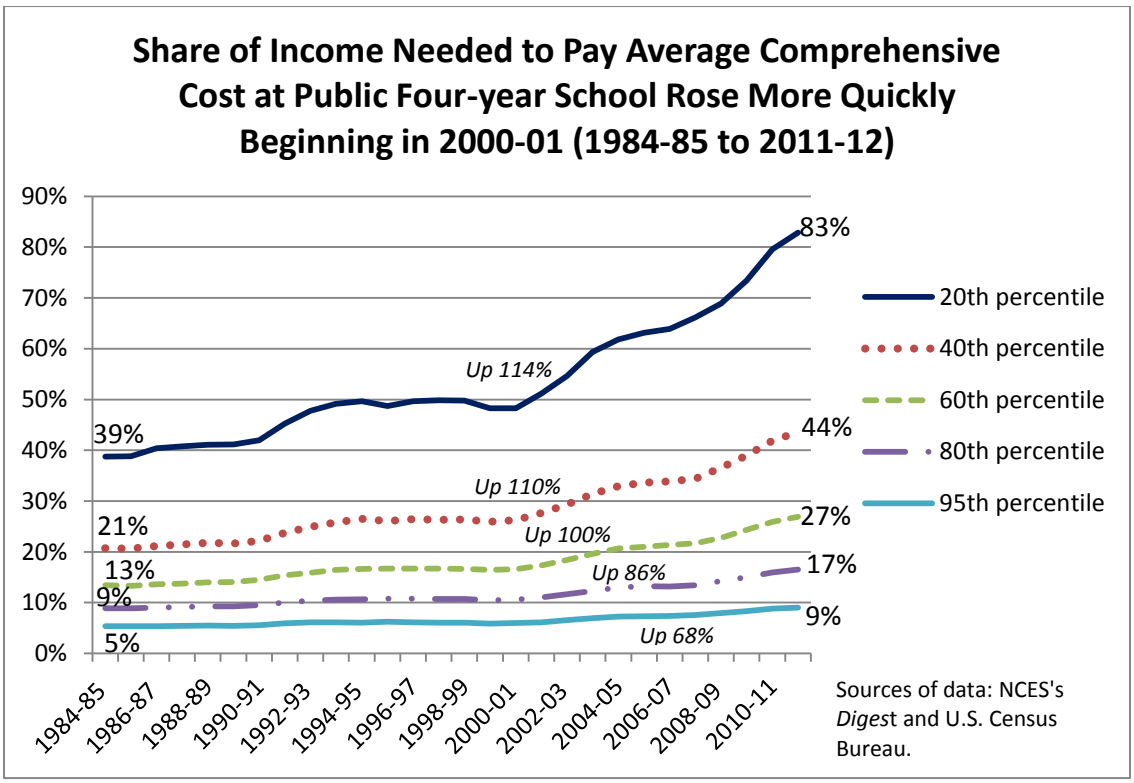


Figure A-11.

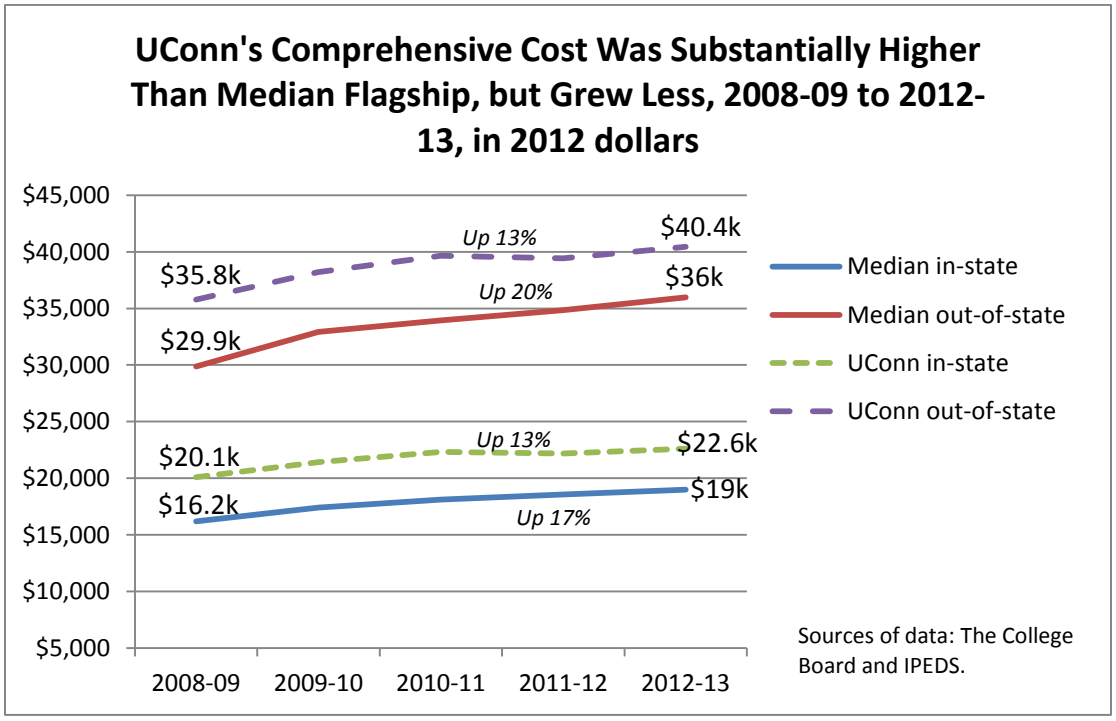
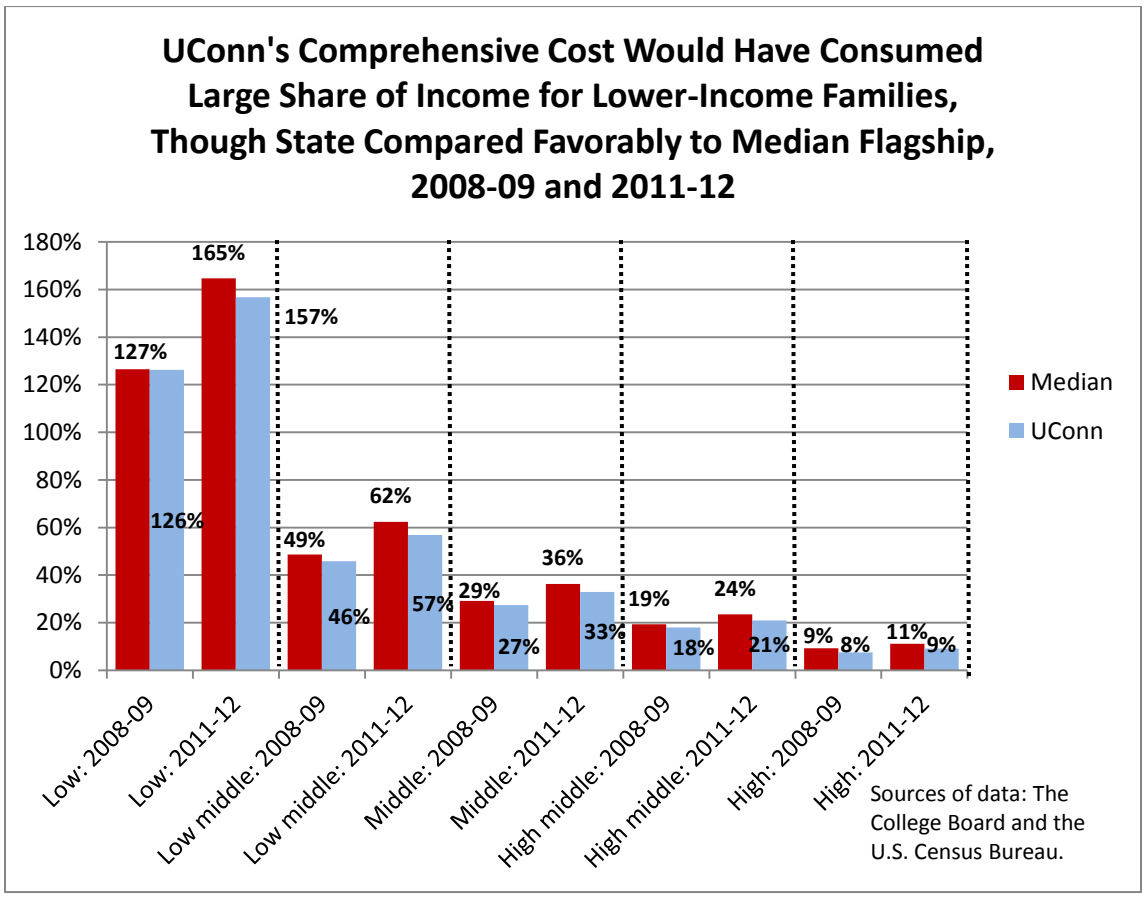


Figure A-12.



3. TOTAL PRICE: Comprehensive Cost + Other Expenses

Figure A-13.

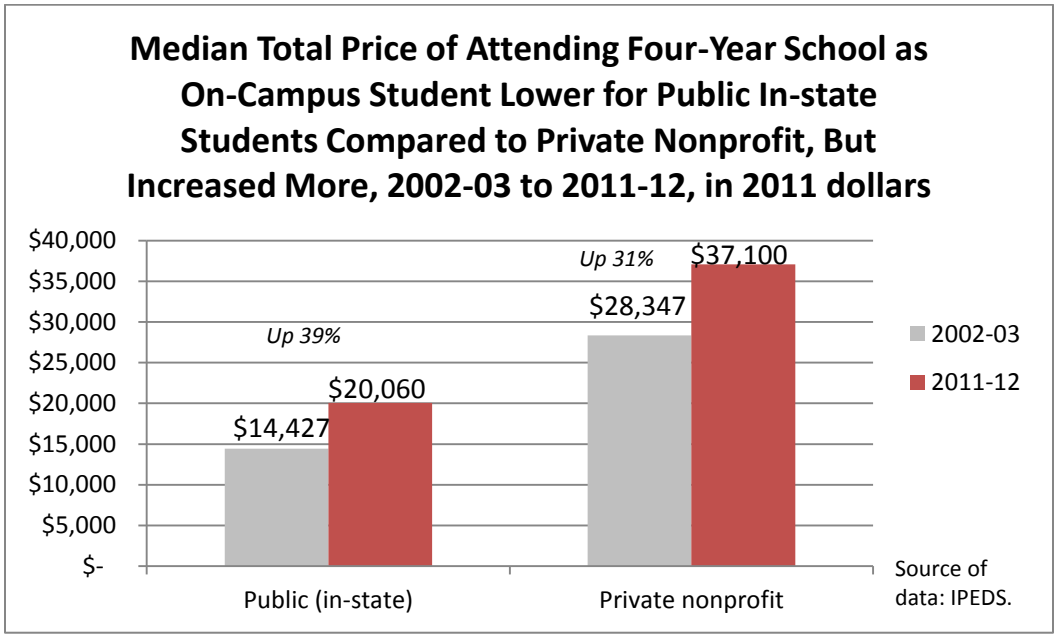
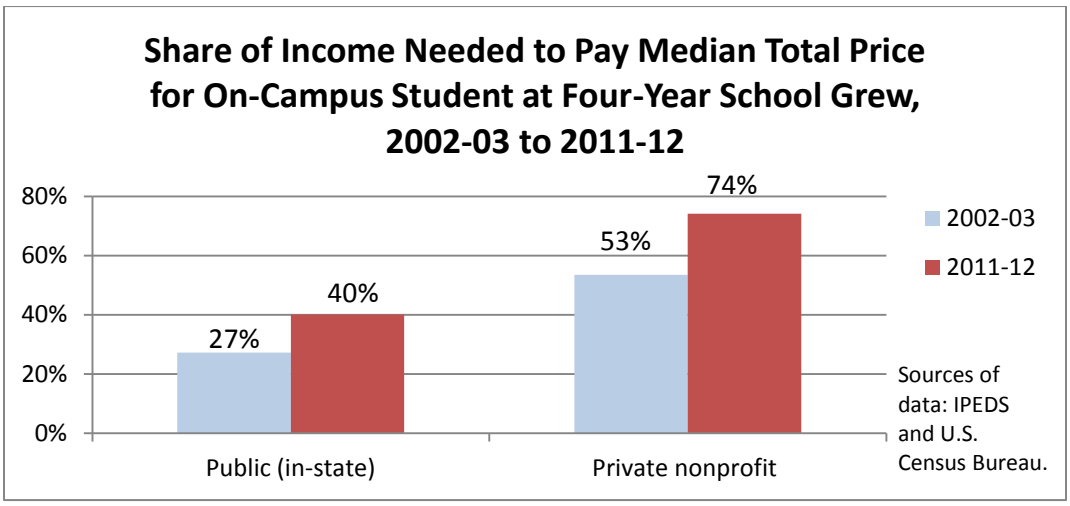
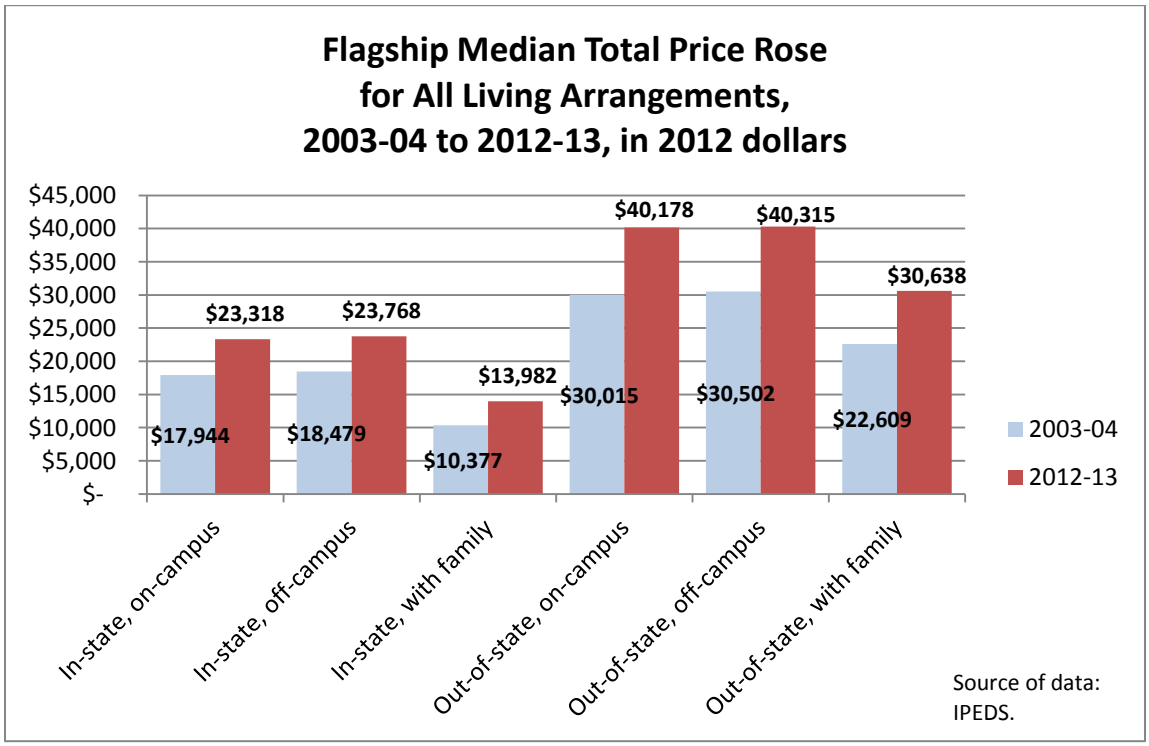


Figure A-14.



- Over the last decade, the percent of U.S. median household income needed to pay the median total price of a four-year degree and live on-campus rose 47% for public schools and 39% for private ones, as depicted in Figure A-14. These increases reflect the sectors' median total price increases above inflation of 39% and 31%, respectively.

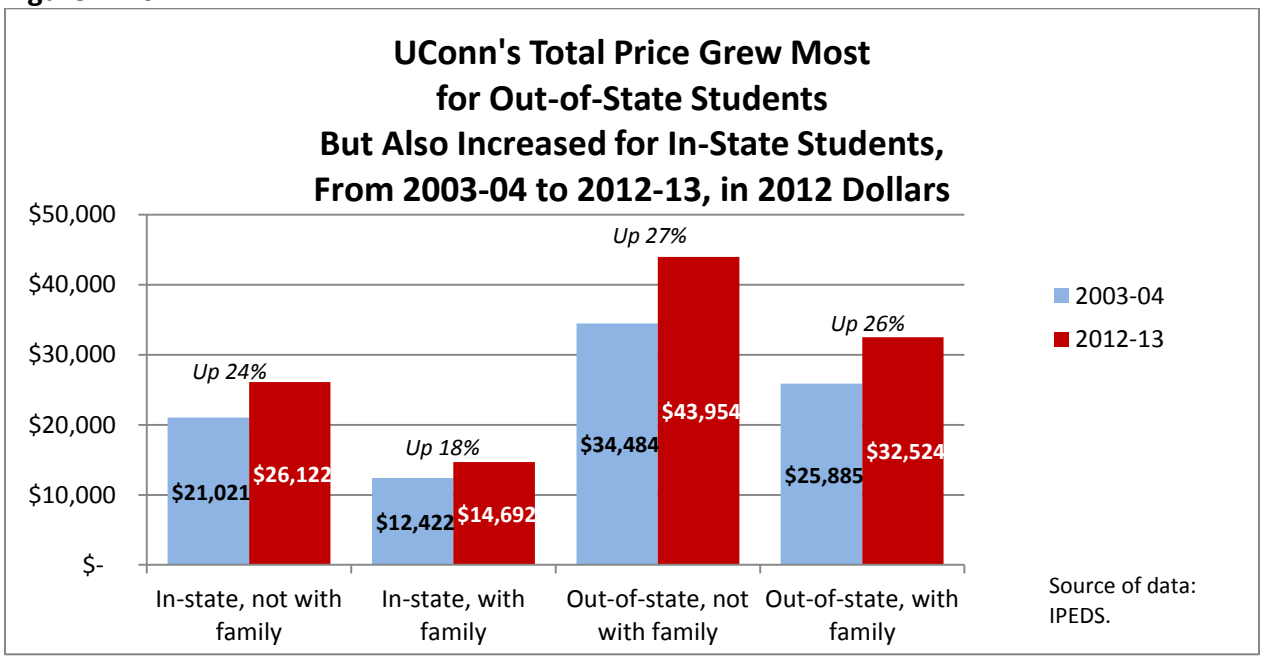
Figure A-15.



- At flagship universities, the median total price grew substantially for all types of living arrangements, from 2003-04 to 2012-13. The increases ranged from 29% for an in-state student living off-campus to 36% for an out-of-state student living with family – with the in-state, on-campus price increasing 30%.

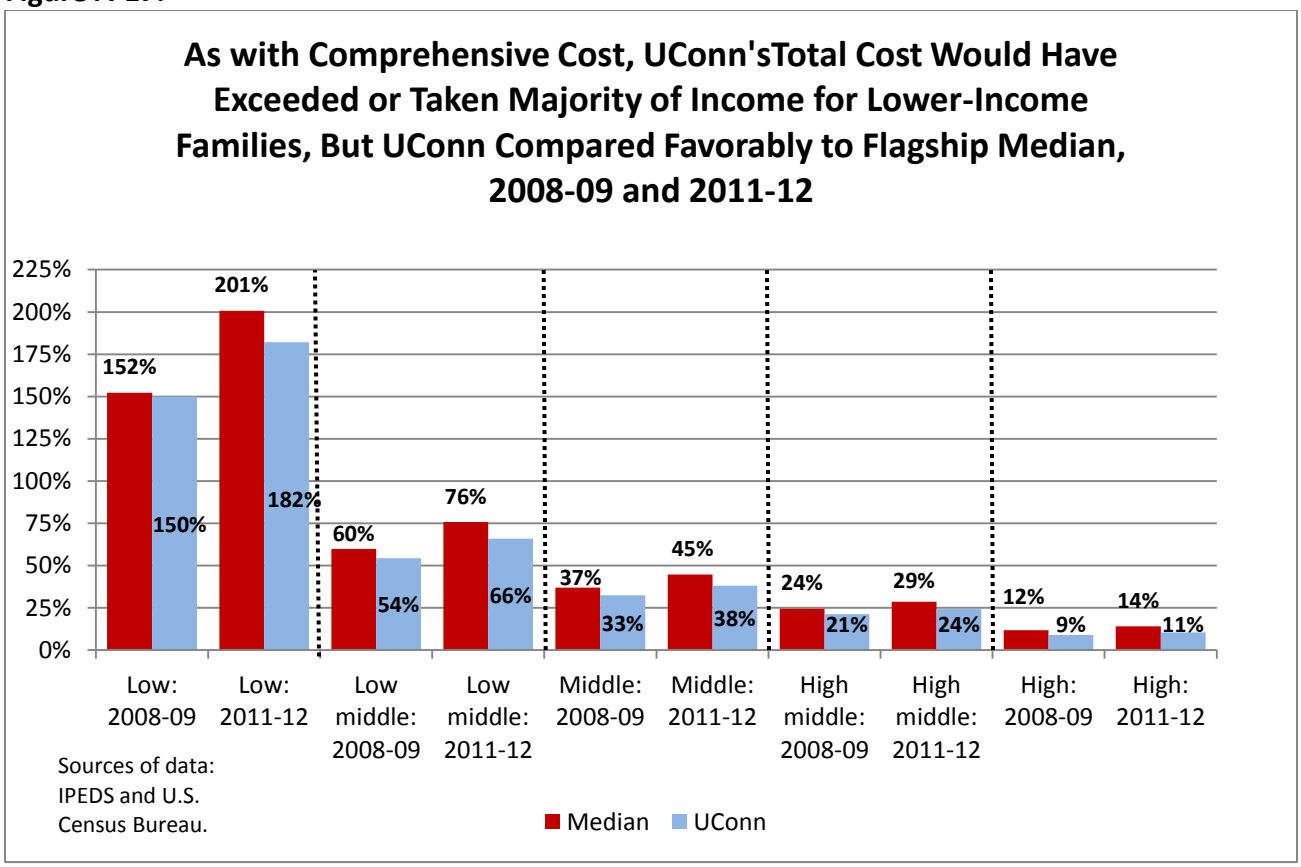
- Between 2002-03 and 2011-12 (not shown but given here for data comparability purposes), the total price increase for an in-state, on-campus student was 38% in the flagship median and 27% for Connecticut's flagship.

Figure A-16.



- UConn's total prices for both 2003-04 and 2012-13 were higher than the national median (ranking 11th and 10th highest among flagships, respectively, for in-state on-campus students), but the price growth was lower: from 18% for in-state students living with family to 27% for out-of-state students living on- or off-campus – and at 24% for an in-state, on-campus student.

Figure A-17.



4. NET PRICE: Price Actually Paid

Figure A-18.

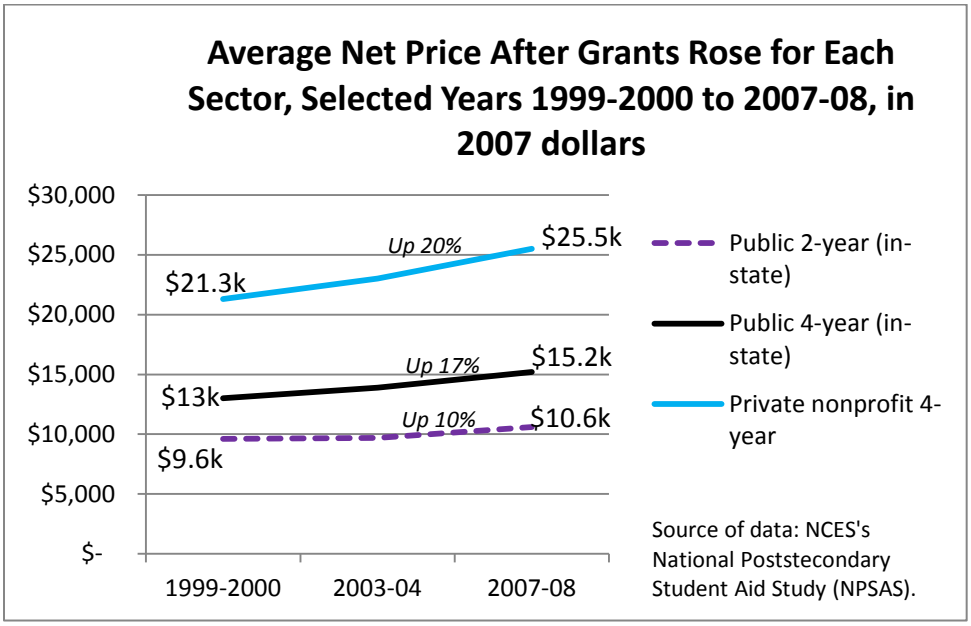


Figure A-19.

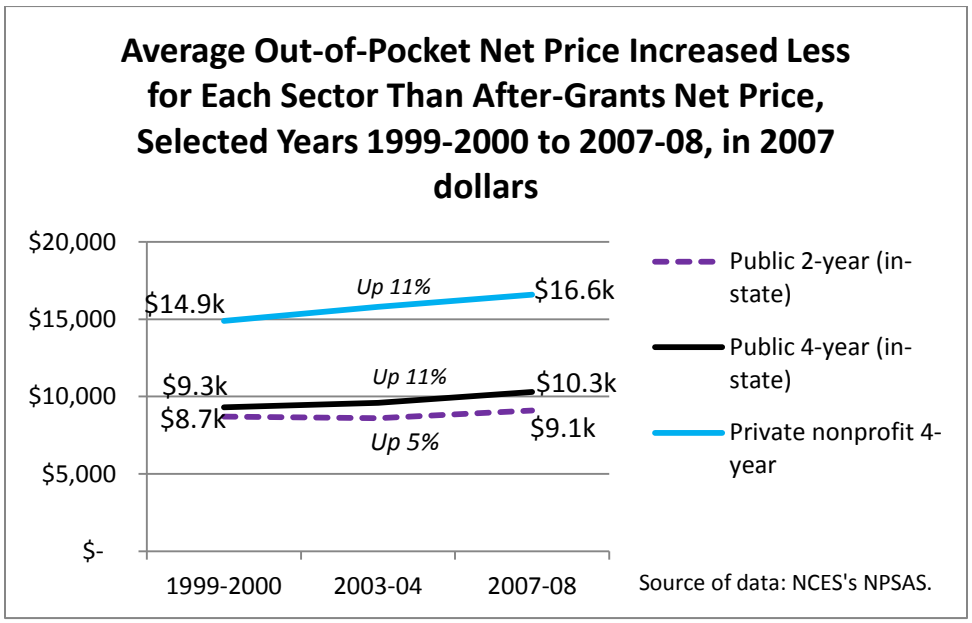


Figure A-20.

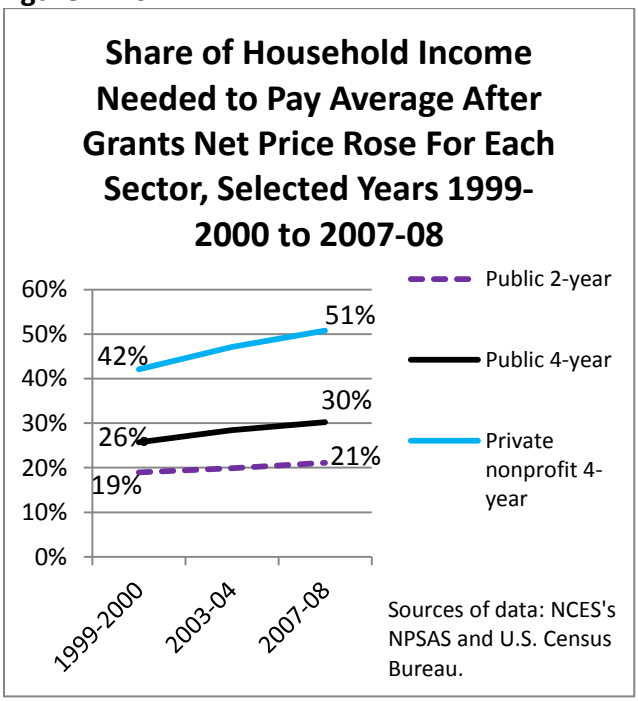
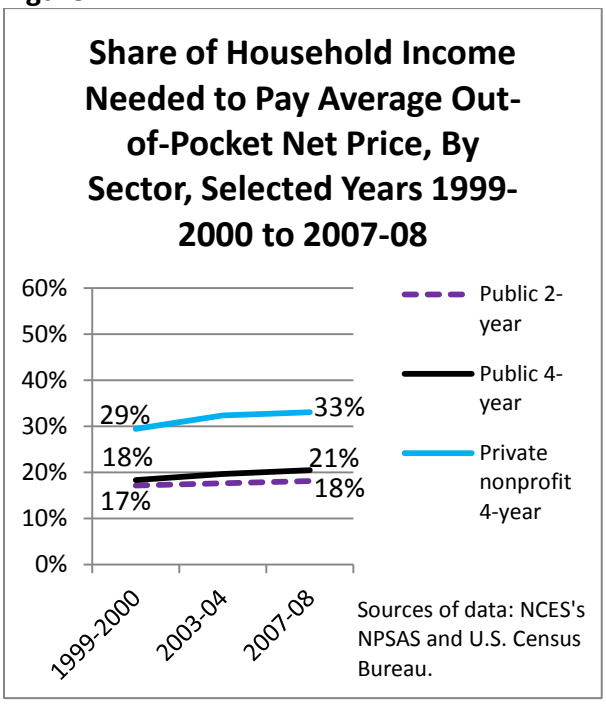


Figure A-21.

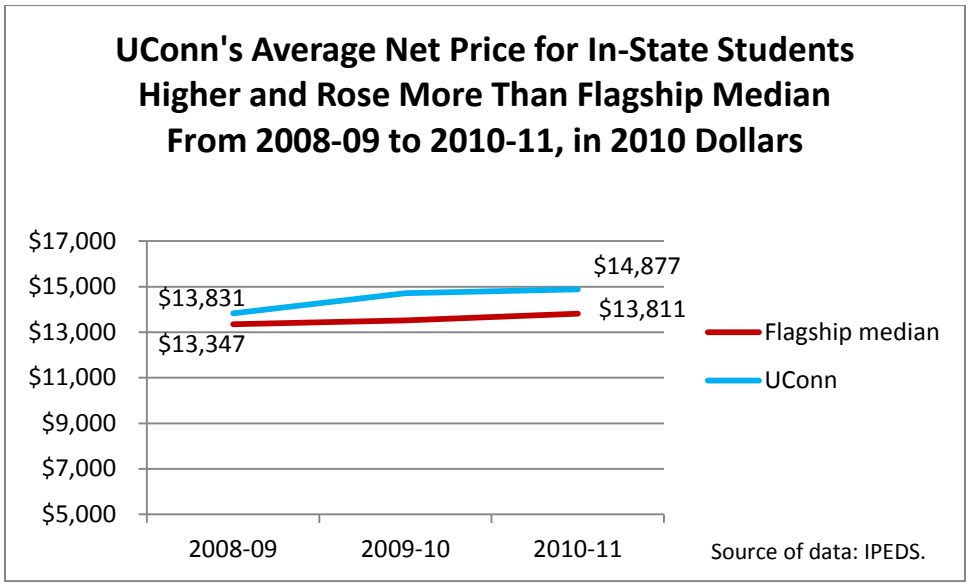


- From 1999-2000 to 2007-08, the share of median household income required to pay the average in-state net price after grants (Figure A-20) rose 11% to 21% for each sector, with the largest rise in the private nonprofit sector and an 18% increase for public 4-year schools.

- The share needed for the out-of-pocket net price (Figure A-21) – which excludes student loans, as well as government and employer benefits – grew 5% for public two-year colleges and 12% for the four-year sectors included here.

- Grants defray a substantial part of the cost in terms of median household income for students at four-year schools, but less so for students at public two-year colleges.

Figure A-22.



- The average net price for a first-time, in-state student who received grant aid increased 8% over three recent years at UConn, compared to 3% for the flagship median.

Figure A-23.

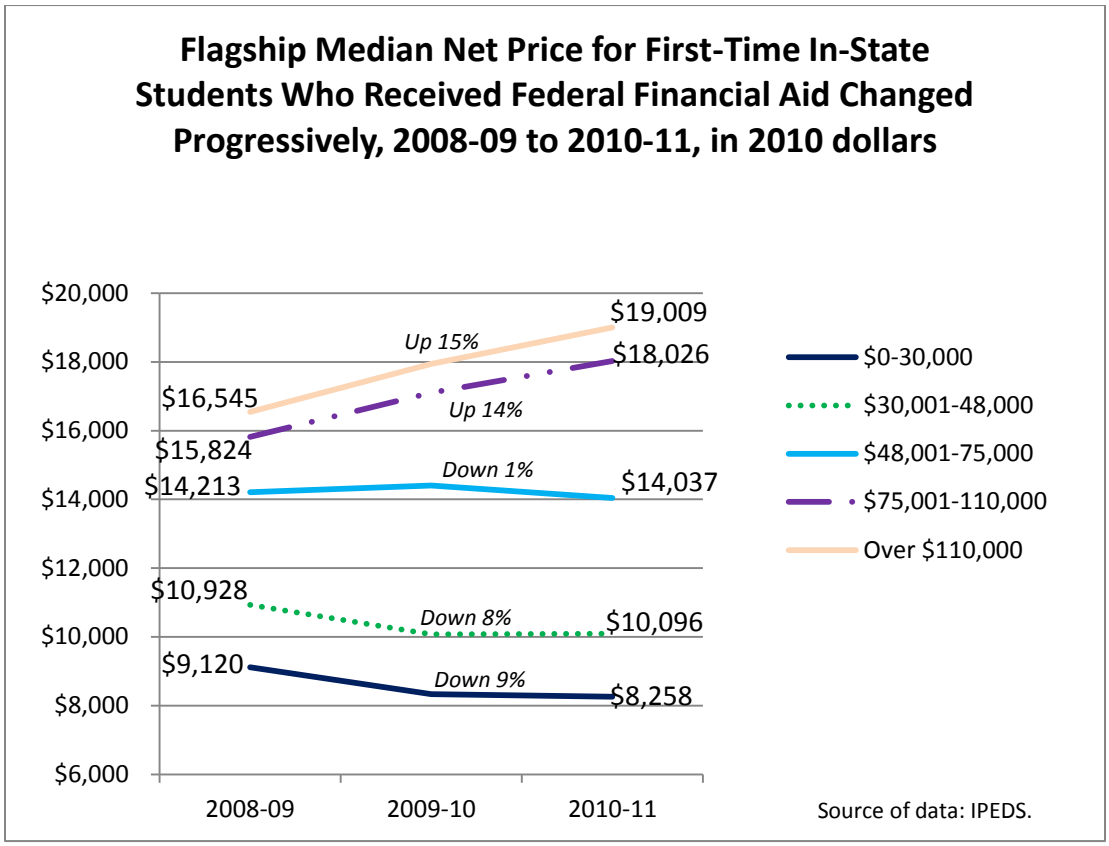
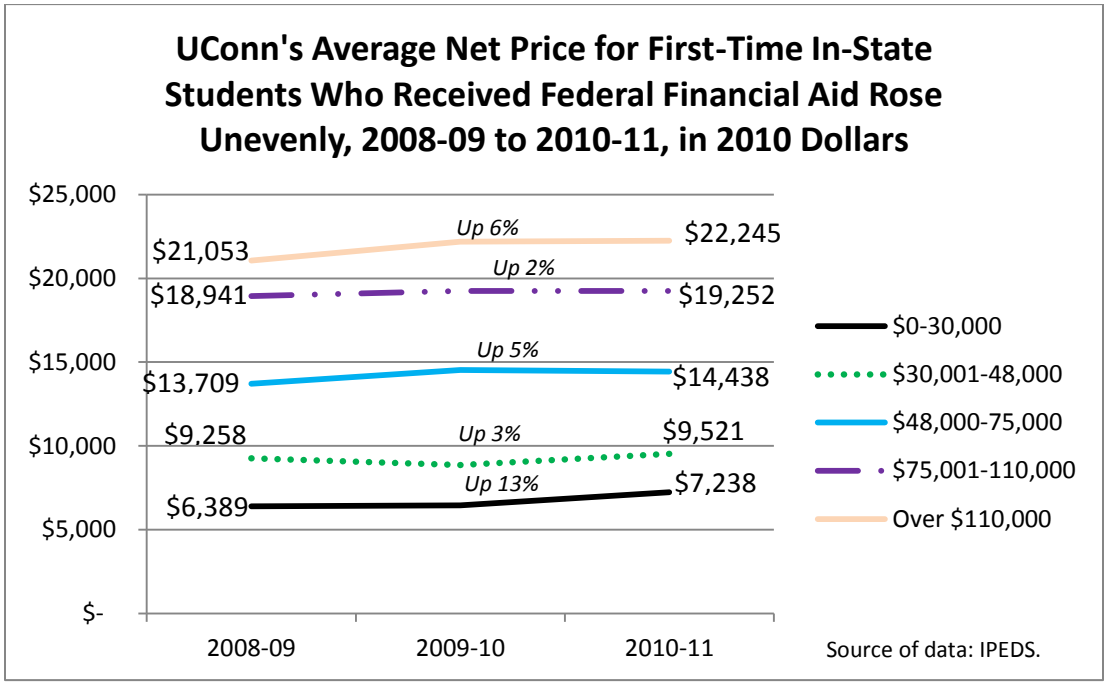


Figure A-24.



Appendix B

Affordability Measures: UConn's Rank Among 50 Flagships

Table B-1. Connecticut Flagship Price Data and Rankings						
	Past			Most Current		
	Year	*Measure*	*Rank*	*Year*	*Measure*	*Rank*
Tuition and Fees						
1. Amount: In-state	2007-08	$9,792	9	2012-13	$11,242	14
Out-of-state		$25,233	11		$29,074	9
2. Share of MHI: In-state	2007-08	14%	24	2011-12	16%	30
Out-of-state		45%	11		55%	15
3. Share of income: Low income	2008-09	63%	21	2011-12	77%	30
Middle income		14%	26		16%	31
High income		4%	35		4%	38
Comprehensive Cost: Tuition, Fees, Room, & Board						
1. Amount: In-state	2008-09	$20,093	8	2012-13	$22,622	10
Out-of-state		$35,782	10		$40,454	7
2. Share of MHI: In-state	2008-09	29%	28	2011-12	33%	34
Out-of-state		67%	10		77%	7
3. Share of income: Low income	2008-09	126%	26	2011-12	157%	29
Middle income		27%	33		33%	36
High income		8%	44		9%	43
Total Price: Comprehensive Cost & Miscellaneous Expenses						
1. Amount: In-state, on-campus	2003-04	$21,021	11	2012-13	$26,122	10
In-state, with family		$12,422	12*		$14,692	18*
Out-state, on-campus		$34,484	13		$43,954	9
Out-state, with family		$25,885	13*		$32,524	15*
2. Share of MHI: In-state, on-camp.	2003-04	31%	37	2011-12	39%	43
3. Est. income share for in-state, on-camp. (at group midpoint): Low income	2008-09	150%	27	2011-12	182%	32
Middle income		33%	42		38%	45
High income		9%	47		11%	47
Net Price: Price After Grants (i.e., Actually Paid)						
1. Average amount: In-state	2008-09	$13,831	19	2010-11	$14,877	16
2. Average amount by income (in-state): Low income	2008-09	$6,389	42	2010-11	$7,238	30
Middle income		$13,709	29		$14,438	21
High income		$21,053	9		$22,245	11
3. Share of MHI: In-state	2008-09	21%	40	2010-11	23%	39
4. Est. income share for in-state, on-camp.: (at group midpoint): Low income	2008-09	43%	42	2010-11	48%	30
Middle income		22%	29		23%	21
High income		19%	9		20%	11

Notes:
* Three flagships did not provide IPEDS with these data. Consequently, the rankings are out of 47 instead of 50.
For all ranks, 1 = highest (dollar amount, share of income).
Net Price data by income are available only for in-state students who received federal financial aid (e.g., Stafford or PLUS loans, Pell grants, and/or work study). Average net price is for in-state students who received any grant aid.
All dollar amounts inflation-adjusted to most current year.

Calculated data methods:

1. Share of median household income (MHI): The price was divided by the state median household income for in-state students and by the national MHI for out-of-state students. Median income data are from the
2. Share of income (by income level): The price was divided by the state mean income within three quintiles: first (low income), third (middle income), and fifth (high income).
3. Estimated share of income for in-state, on-campus: The price was divided by the midpoint of the lowest and middle income brackets in which data was provided by IPEDS, and also by the minimum of the highest income bracket.

Sources of data:
Tuition and fees amounts are from The College Board's *Trends in College Pricing 2012*, Table 6 online.
Comprehensive cost data were calculated by adding tuition and fees to plus room and board costs from IPEDS.
Total price and net price data are from IPEDS.

Appendix C

Data Sources and Methods

This update relies on a variety of sources, explained below, for affordability-related data. Program review committee staff drew upon data provided by the sources to perform all calculations and create every chart.

Sources

Common Data Set (CDS). The Common Data Set initiative is a collaborative effort among data providers in the higher education community and publishers as represented by the College Board, Peterson's, and U.S. News & World Report. The CDS data are provided voluntarily by colleges and contain data on undergraduate financial aid, including grants and the cumulative debt of graduates. The CDS has certain limitations. Many colleges do not report debt figures, and it has been reported that this is especially true of colleges whose students graduate with the greatest debt burdens. The Common Data Set also does not provide combined student/parent debt figures.

Digest of Education Statistics (i.e., NCES Digest). The U.S. Department of Education's National Center for Education Statistics (NCES) annually publishes a compilation of data and analysis regarding education at all levels (prekindergarten through graduate). This update draws upon the Digest's postsecondary prices data, which are presented as averages for each sector (e.g., public four-year institutions). The averages are weighted for student attendance, meaning that the price of an institution that enrolled 30,000 students would be counted more heavily than an institution with 10,000 students. Therefore, the average tuition and fee figures by sector presented in this report (which were adjusted for inflation by program review committee staff) represent the student-level averages, not those for institutions.

Integrated Postsecondary Education Data System (IPEDS). The NCES also produces and maintains IPEDS, an online database. The data come from a series of federally mandated surveys submitted annually by all the nation's postsecondary institutions that receive federal student aid. Although researchers consider IPEDS student-related data to be reliable, there is uneven data availability across years and, for some data items, across institutions. Specifically, room and board prices were not available prior to 2008-09; net prices were limited to 2008-09 through 2010-11; and many institutions' total prices were unavailable for certain types of students, from 2005-06 to 2011-12.

The IPEDS net prices for public institutions pertain to first-time, in-state tuition students only. These prices are given: 1) as an average for all students who received any grant or scholarship aid; and 2) as averages for each of five income brackets, for all students receiving federal financial aid, with the income brackets exactly the same in each of the three years of data availability (i.e., unadjusted for inflation). These income brackets are:

- Low: $0-30,000
- Low middle: $30,001-48,000

- Middle: $48,001-75,000
- High middle: $75,001-110,000
- High: Over $110,000

National Postsecondary Student Aid Study (NPSAS). The National Center on Education Statistics' every four years surveys institutions, government databases, and students to report on financial aid, among other related topics. The data of interest for this update involved net price by sector, which was calculated by NCES as an average among all the sector's full-time students for 1999-2000, 2003-04, and 2007-08. Net price is also presented by income quartile (specific to the student population). NPSAS makes available the 25th, 50th, 75th, and 90th income percentiles, which change with each survey. Consequently, this update's net price sector analysis uses those income figures for the calculations on the net price's estimated burden by income level. The NPSAS net price information provided in this update applies only to full-time, in-state dependent students. In contrast, IPEDS net price data are limited to those who are first-time, full-time in-state college attendees and received any grant aid.

The College Board. This organization – composed of more than 6,000 postsecondary institutions – annually releases two relevant reports: *Trends in College Pricing* and *Trends in Student Aid*. Researchers consider the data to be mostly reliable, but the reports have been criticized for discrepancies with IPEDS data regarding net price information. Consequently, data in this update drawn from the *Trends in College Pricing 2012* report are limited to flagship institution tuition and fees, given in a supplementary online table (Table 6).

Two-year Official Cohort Default Rates for Schools. The U.S. Department of Education collects data on loan default rates. The "cohort default rates" measure the share of each colleges' federal student loan borrowers who default within two years after entering repayment. Colleges with high default rates may lose future eligibility for federal grants and loans. The most recent two-year rates are for borrowers who entered repayment in federal fiscal year 2010 (FY10) and defaulted in FY10 or FY11. The education department has begun to collect three-year default rates but has only one year of official data.

U.S. Census Bureau. The U.S. Census Bureau collects, analyzes, and publishes data on national and state median household income. The bureau also calculates mean household income within quintiles, based on its American Community Survey. This update used these data for analysis of price burden, except for NPSAS data (which, for net price, is provided by income quartile, as described above).

Methods

Inflation. Prices over time (in current dollars) were converted into inflation-adjusted figures using the federal Bureau of Labor Statistics' Consumer Price Index – Urban – Research Series (CPI-U-RS). This version of the CPI is most consistent over time because the index values for previous months and years are continuously revised to reflect all methodological changes. For each academic year, program review committee staff used the index's annual average index corresponding to the fall portion of the year (e.g., 2009 average for the 2009-10 academic year). This method was selected because generally higher education prices are set in and paid in large

part during that first year. It should be noted that NPSAS data were published as inflation-adjusted only; it is unclear whether the CPI-U-RS was used.

Flagships. The College Board's list of flagship institutions, found in its online Table 6 as part of the *Trends in College Pricing 2012* report, was followed. That table's data on tuition and fees in current dollars were used. All other flagship price data – including the room and board component of comprehensive cost (unavailable in Table 6) – came from IPEDS.