

# **Net Tuition and Net Price Trends in the United States**

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**2000-2009**

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A Policy Paper from the  
Center for College Affordability and Productivity  
November 2011

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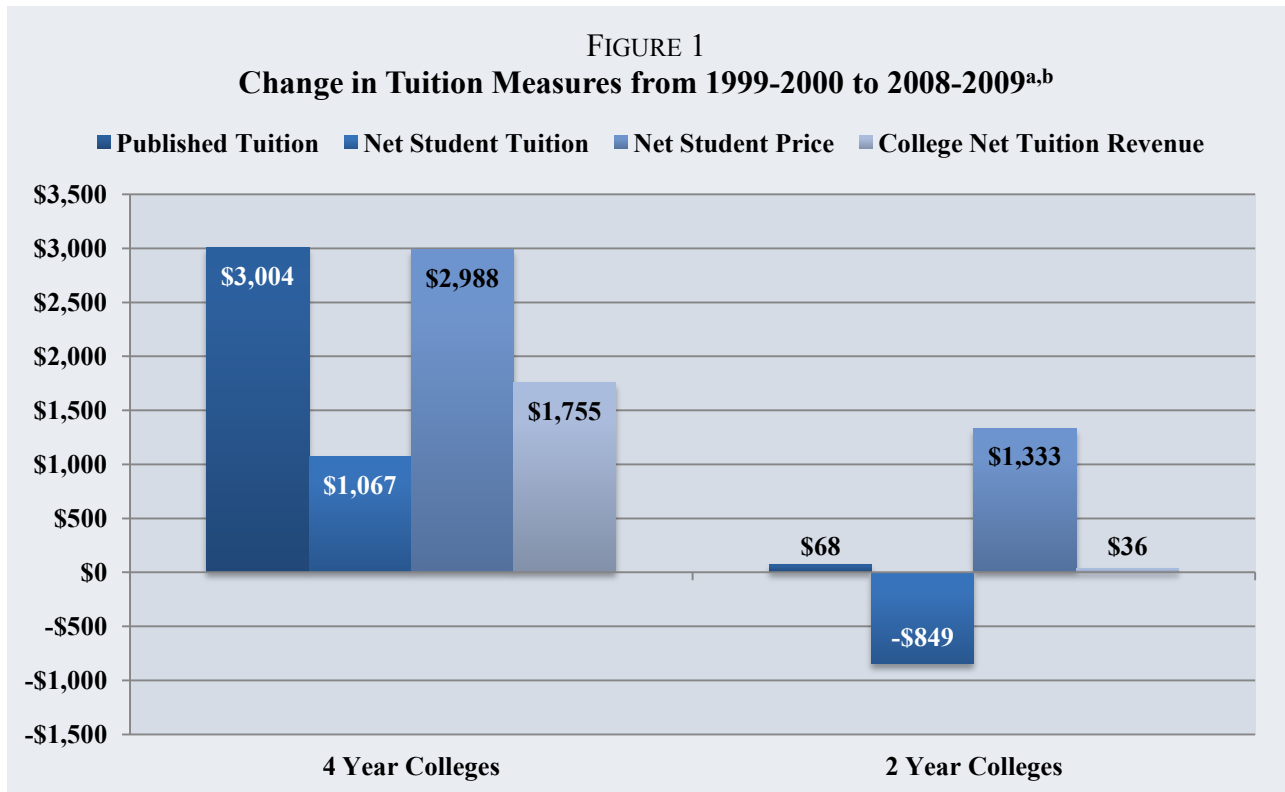
## Overview

While the most visible measure of college costs is published tuition, because of financial aid, this “sticker price” does not necessarily reflect the costs that students and their families actually pay. To the extent that students and their families are concerned about what costs they will need to pay to cover tuition charges, the relevant measure is “net tuition,” which is the “sticker price” less any grant aid students receive.

This report provides estimates for the following measures:

- **Published Tuition:** the “sticker price” of college.
- **Net Student Tuition:** how much students actually pay for tuition (that is, sticker price less grant and scholarship aid).
- **Net Student Price:** how much students actually pay, including non-tuition expenses, after accounting for grant and scholarship aid.
- **College Net Tuition Revenue:** how much tuition revenue colleges receive per student.

Figure 1 shows the change in inflation adjusted dollars for each of the four variables from 1999-2000 to 2008-2009 (our estimates for Net Student Price, however, cover the period from 2000-2001 to 2008-2009).



Notes: a=All numbers are expressed in terms of real, 2010 dollars.

b=Net Student Price shows the change from 2000-2001 to 2008-2009 due to limited data availability.

## Net Tuition and Net Price Trends in the United States: 2000-2009

As Figure 1 indicates, Published Tuition has barely increased at two-year colleges (by only \$68 over the course of nine years), but has increased substantially at four-year colleges (by \$3,004 over the same nine year period). From the 1999-2000 academic year to the 2008-09 academic year, Net Student Tuition actually fell by \$849 at two-year colleges, representing a fairly dramatic decrease in net tuition at the two-year level, given that the national average for net tuition was never higher than \$900 any single year, according to our data. In contrast, Net Student Tuition has increased by \$1,067 at four-year colleges over the same time span. While this absolute growth in net tuition at four-year institutions may not seem particularly high, keep in mind that per capita income in the US *declined* by \$1,325 from 2000 to 2009.<sup>1</sup>

We can also see that Net Student Price has increased by \$1,333 and \$2,988 at two- and four-year colleges respectively. While the increase was smaller for two-year colleges, this indicates that the success in reducing net tuition for two-year colleges has been more than offset by increases in other costs, such as books and (off-campus) room and board. While tuition tends to get most of the attention when it comes to public discussions of college costs, the \$2,988 increase at the four-year level indicates that roughly two-thirds of the increase in total college costs originates from non-tuition sources. This suggests that perhaps more attention needs to be paid to cost control for these other expenses.

Lastly, College Net Tuition Revenue (that is, how much revenue a college gets from the student, including federal aid awarded to those students to cover their tuition and other educational expenses) has barely budged from 1999-2000 to 2008-09 at two-year colleges (rising by only \$36) but has increased by much more at four-year colleges (an increase of \$1,755). At the two-year level, this finding, combined with the fall in Net Student Tuition suggests that the decrease in tuition costs is entirely due to increases in financial aid, with colleges receiving virtually the same amount of tuition revenues per student for the 2008-09 academic year as they did nine years previously. At the four-year level, the significant increase in tuition revenue undermines the common argument that colleges are pursuing a high-tuition/high-aid model (where any increase in tuition is used to offer more scholarships and aid). In actuality, four-year colleges are receiving much larger increases in tuition revenue than they are paying out in scholarships.

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<sup>1</sup> U.S. Census Bureau, Income, Table P-1, CPS Population and Per Capita Money Income, All Races: 1967 to 2010, available at: <http://www.census.gov/hhes/www/income/data/historical/people/>.



### Introduction

The most visible measure of college costs is published tuition; nearly all of the stories in the popular press, such as headlines blaring that tuition has increased 8% over the past year or that yet another college has joined the \$50,000 tuition club, focus on published tuition. However, the main drawback to looking primarily at published tuition is that such an analysis obscures the role financial aid plays in lowering the amount that students and their families actually pay to cover their tuition bills. To the extent that students and their families are concerned about what costs they will need to pay to cover tuition charges, the relevant measure is “net tuition,” which is essentially the “sticker price,” less any grant aid students receive. Indeed, for a sizeable majority of full-time full-year students, the tuition they pay themselves is less than the sticker price because just over 64% of such students receive some form of grant aid, according to the U.S. Department of Education (for all undergraduates, barely more than a majority—51.7 percent—receive some form of grant aid).<sup>2</sup>

This report seeks to document the trends in net tuition (using multiple cost measures, as described briefly below) over the period starting with the 1999-2000 academic year and ending with the 2008-09 academic year and relate the trends in net tuition to the trends in published tuition.

This report provides estimates for the following measures:

- **Published Tuition:** the “sticker price” of college.
- **Net Student Tuition:** how much students actually pay for tuition (that is, sticker price less grant and scholarship aid).
- **Net Student Price:** how much students actually pay, including non-tuition expenses, after accounting for grant and scholarship aid.
- **College Net Tuition Revenue:** how much tuition revenue colleges receive per student.

### Trends in Net Tuition and Net Price Measures

In Tables 1 through 4 we present national averages for Published Tuition, Net Student Tuition, Net Student Price, and Net College Tuition Revenue, respectively.

All dollar values are in terms of per student amounts (not per aid recipient, the form in which the raw data are reported to the U.S. Department of Education), are corrected for inflation and expressed in 2010 dollars. We report averages according to both institutional level (that is, two-year or four-year) and sector (e.g., public four-year, public two-year, private not-for-profit and private for-profit), as well as by 2010 Carnegie Classification (for a brief summary of the various categories used in the Carnegie Classification system, see Appendix B). Details about the method we used to derive all of these estimates are laid out in the Methodology section of this report.

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<sup>2</sup> U.S. Department of Education, National Center for Education Statistics (NCES), 2007-08 National Postsecondary Student Aid Study (NPSAS:08). The data on percentage of students receiving aid is available in the NCES publication, *The Digest of Education Statistics: 2010*, Table 349.



**Published Tuition**

“Published Tuition” is the sticker price for college tuition, comprised of average published tuition and required fees, as reported by the institutions to the U.S. Department of Education. While Published Tuition is the number many people typically focus on when comparing different colleges on price, because many students receive financial aid, they therefore pay less themselves than the full Published Tuition.

TABLE 1  
Published Tuition, 1999-2000 to 2008-2009<sup>a</sup>

	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	Percent Change 1999-2009
<b>Level</b>											
Four-Year	\$7,546	\$7,671	\$7,872	\$8,310	\$8,928	\$9,426	\$9,715	\$10,006	\$10,315	\$10,551	39.8%
Two-Year	2,237	2,249	2,342	2,481	2,726	2,872	2,904	2,304	2,292	2,306	3.1%
<b>Sector</b>											
Private Not-for-Profit Four-Year	19,462	19,780	20,280	21,116	21,929	22,531	23,122	23,904	24,676	25,079	28.9%
Public Four-Year	4,017	4,067	4,200	4,511	5,022	5,389	5,556	5,699	5,874	6,047	50.5%
Private For-Profit Four-Year	11,586	12,350	12,897	13,529	14,490	15,021	15,056	14,880	15,333	15,452	33.4%
Public Two-Year	2,083	2,086	2,164	2,297	2,534	2,685	2,711	2,104	2,097	2,095	0.6%
<b>Carnegie Classification</b>											
Public Associate's	1,894	1,897	2,030	2,167	2,386	2,533	2,539	2,088	2,078	2,076	9.7%
Private Not-for-Profit Research	24,360	24,649	25,191	26,304	27,381	28,252	28,953	29,797	30,675	31,049	27.5%
Public Research	4,376	4,439	4,635	5,000	5,582	6,015	6,216	6,416	6,651	6,890	57.5%
Private Not-for-Profit Master's	18,112	18,503	19,106	19,953	20,740	21,217	21,751	22,614	23,378	23,910	32.0%
Public Master's	3,677	3,708	3,773	4,049	4,579	4,894	5,055	5,118	5,271	5,402	46.9%
Private For-Profit Bachelor's	10,885	11,364	11,810	12,594	13,136	13,435	13,649	13,604	14,145	13,941	28.1%
Private Not-for-Profit Bachelor's	14,618	14,826	15,148	15,601	16,059	16,450	16,834	17,358	17,969	18,083	23.7%
Public Bachelor's	4,114	4,164	4,232	4,524	4,865	5,045	5,130	5,288	5,420	5,444	32.3%

Notes: a=All numbers amounts are expressed in terms of real, 2010 dollars.



**Net Student Tuition**

“Net Student Tuition” measures how much student pay for tuition after financial aid. It is equal to published tuition less all grant aid (federal, state, local and institutional grants) and tax benefits. Because loans must be repaid, we do not include any loans in our discounting of tuition.

TABLE 2  
Net Student Tuition, 1999-2000 to 2008-2009<sup>a</sup>

	1999- 2000	2000- 2001	2001- 2002	2002- 2003	2003- 2004	2004- 2005	2005- 2006	2006- 2007	2007- 2008	2008- 2009	Percent Change 1999-2009
<b>Level</b>											
Four-Year	\$3,380	\$3,331	\$3,180	\$3,471	\$3,725	\$4,158	\$4,446	\$4,642	\$4,690	\$4,448	31.6%
Two-Year	748	639	523	522	699	814	884	329	252	-101	-113.5%
<b>Sector</b>											
Private Not-for-Profit Four-Year	10,539	10,904	10,864	11,383	11,635	12,307	12,627	13,266	13,593	12,974	23.1%
Public Four-Year	1,196	1,015	837	1,055	1,276	1,546	1,801	1,857	1,800	1,624	35.8%
Private For-Profit Four-Year	8,781	9,139	9,372	9,520	10,103	11,116	11,192	11,090	11,546	11,168	27.2%
Public Two-Year	634	523	398	390	565	674	743	176	104	-254	-140.0%
<b>Carnegie Classification</b>											
Public Associate's	396	283	171	165	325	453	526	131	20	-346	-187.4%
Private Not-for-Profit Research	13,672	14,065	14,179	15,158	15,092	16,227	16,397	17,655	18,117	16,969	24.1%
Public Research	1,355	1,151	1,033	1,350	1,549	1,810	2,064	2,134	2,098	1,937	43.0%
Private Not-for-Profit Master's	9,524	9,967	9,636	10,102	10,669	11,067	11,523	11,864	12,220	11,701	22.9%
Public Master's	980	827	568	661	1,002	1,260	1,564	1,615	1,585	1,418	44.7%
Private For-Profit Bachelor's	7,655	7,982	8,172	8,084	8,027	9,565	9,511	9,506	10,061	9,188	20.0%
Private Not-for-Profit Bachelor's	6,728	6,979	7,210	7,235	7,346	7,685	7,939	8,183	8,425	8,116	20.6%
Public Bachelor's	1,463	1,161	972	1,146	1,302	1,627	1,862	1,831	1,809	1,652	13.0%

Note: a=All numbers are expressed in terms of real, 2010 dollars.





**Net Student Price**

“Net Student Price” is the total amount students pay to attend college, including room and board expenses. It is equal to the “total price for in-state students living off campus (not with family),” less all grant aid (federal, state, local, and institutional grants) and tax benefits. As with Net Student Tuition, we do not take loans into account.

TABLE 3  
Net Student Price, 1999-2000 to 2008-2009<sup>a</sup>

	2000- 2001	2001- 2002	2002- 2003	2003- 2004	2004- 2005	2005- 2006	2006- 2007	2007- 2008	2008- 2009	Percent Change 2000-09 <sup>b</sup>
<b>Level</b>										
Four-Year	\$15,101	\$15,094	\$15,793	\$16,480	\$17,122	\$17,448	\$17,886	\$18,033	\$18,089	19.8%
Two-Year	11,622	11,717	12,145	12,576	12,733	12,865	13,062	13,240	12,954	11.5%
<b>Sector</b>										
Private Not-for-Profit Four-Year	22,313	22,231	23,108	23,966	25,013	25,422	26,028	26,720	26,136	17.1%
Public Four-Year	12,897	12,905	13,456	14,104	14,539	14,811	15,193	15,163	15,384	19.3%
Private For-Profit Four-Year	20,633	21,318	24,293	24,201	25,295	25,506	25,521	25,857	25,197	22.1%
Public Two-Year	11,485	11,576	12,003	12,430	12,585	12,720	12,915	13,098	12,804	11.5%
<b>Carnegie Classification</b>										
Public Associate's	11,356	11,414	11,848	12,241	12,447	12,443	12,816	13,001	12,781	12.6%
Private Not-for-Profit Research	26,713	26,574	27,893	29,040	30,418	30,636	31,909	32,662	31,478	17.8%
Public Research	13,155	13,177	13,685	14,382	14,799	15,155	15,486	15,503	15,470	17.6%
Private Not-for-Profit Master's	21,151	20,889	21,726	22,466	23,108	23,685	23,854	24,585	24,142	14.1%
Public Master's	12,734	12,725	13,304	14,079	14,454	14,791	15,067	14,971	15,364	20.6%
Private For-Profit Bachelor's	18,847	19,490	20,199	21,063	22,659	22,739	22,838	23,985	22,783	20.9%
Private Not-for-Profit Bachelor's	16,233	16,540	17,008	17,329	18,403	18,811	19,190	19,819	19,905	22.6%
Public Bachelor's	11,908	11,959	12,563	12,914	13,599	13,830	13,968	14,344	15,293	28.4%

Notes: a=All numbers are expressed in terms of real, 2010 dollars.

b=Due to limited data availability, this percentage change covers the period from 2000 to 2009 rather than 1999-2009.



### College Net Tuition Revenue

College Net Tuition Revenue is the tuition revenue per student received by the college. It is equal to published tuition minus financial aid provided by the school (institutional grant aid).

TABLE 4  
College Net Tuition Revenue per Student, 1999-2000 to 2008-2009<sup>a</sup>

	1999- 2000	2000- 2001	2001- 2002	2002- 2003	2003- 2004	2004- 2005	2005- 2006	2006- 2007	2007- 2008	2008- 2009	Percent Change 1999-2009
<b>Level</b>											
Four-Year	\$5,624	\$5,715	\$5,784	\$6,152	\$6,515	\$6,918	\$7,065	\$7,262	\$7,413	\$7,378	31.2%
Two-Year	2,110	2,132	2,225	2,359	2,600	2,737	2,765	2,160	2,149	2,147	1.7%
<b>Sector</b>											
Private Not-for-Profit Four-Year	13,517	13,859	13,990	14,574	14,796	15,313	15,523	16,119	16,474	16,019	18.5%
Public Four-Year	3,196	3,198	3,247	3,531	3,889	4,184	4,283	4,356	4,426	4,463	39.7%
Private For-Profit Four-Year	11,216	11,882	12,404	12,959	13,850	14,300	14,402	14,221	14,743	14,621	30.4%
Public Two-Year	1,958	1,971	2,050	2,178	2,413	2,553	2,577	1,966	1,960	1,942	-0.8%
<b>Carnegie Classification</b>											
Public Associate's	1,765	1,776	1,903	2,043	2,259	2,395	2,401	1,947	1,933	1,920	8.8%
Private Not-for-Profit Research	16,658	16,894	17,172	18,108	18,091	19,054	19,228	20,155	20,690	19,671	18.1%
Public Research	3,340	3,341	3,412	3,748	4,107	4,424	4,519	4,613	4,694	4,737	41.8%
Private Not-for-Profit Master's	12,572	13,081	13,021	13,547	14,014	14,263	14,521	14,976	15,310	15,020	19.5%
Public Master's	3,077	3,080	3,104	3,315	3,760	4,064	4,197	4,244	4,336	4,383	42.4%
Private For-Profit Bachelor's	10,426	10,769	11,457	11,878	12,421	12,726	12,945	12,739	13,664	13,159	26.2%
Private Not-for-Profit Bachelor's	9,768	10,029	10,260	10,466	10,577	10,841	10,885	11,241	11,562	11,353	16.2%
Public Bachelor's	3,723	3,745	3,808	4,133	4,417	4,541	4,640	4,715	4,813	4,812	29.2%

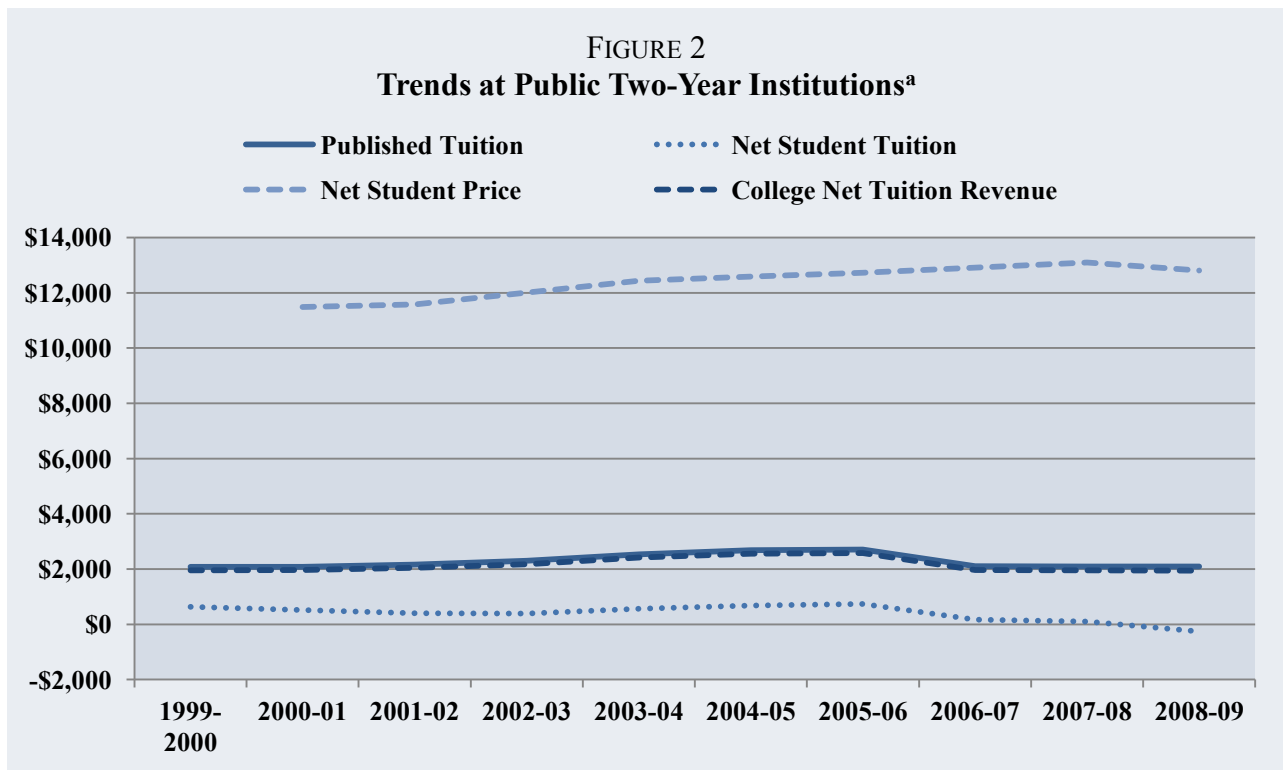
Note: a=All dollar amounts are expressed in real, 2010 dollars.



**Selected Results by Sector**

*Public Two-Year Institutions*

Published Tuition has been remarkably stable at public two-year colleges during the period starting in academic year 1999-2000 and ending with academic year 2008-09. Published tuition increased by just \$13 from 1999-2000 to 2008-2009 for public two-year colleges, as shown in Figure 2. Because two-year colleges do not give out many tuition discounts or scholarships, College Net Tuition Revenue tracks Published Tuition closely. The cost to students, as measured by Net Student Tuition, has actually fallen by almost \$900, likely a reflection of the large increases in federal grant aid (especially Pell grants over this period). Net Student Price has increased significantly (by an amount of \$1,300), but it should be noted that this increase cannot be attributed to higher net tuition since net tuition fell over this period, as shown in Figure 2.



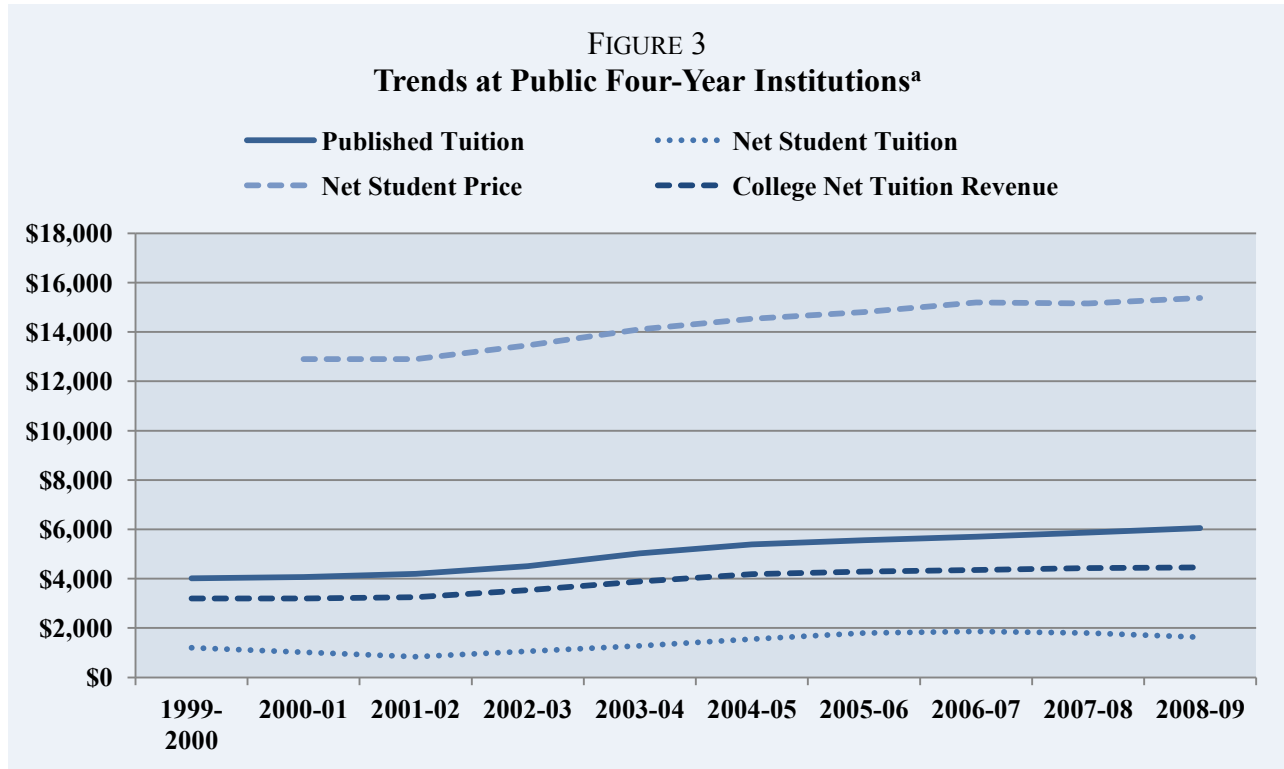
Note: a= All dollar amounts are expressed in real, 2010 dollars.

*Public Four-Year Institutions*

From 1999-2000 to 2008-09, public four-year colleges and universities raised Published Tuition by, on average, about \$2,000, while Net Student Tuition increased by slightly more than \$400, as shown in Figure 3. Part of the difference in the increase of Published Tuition compared to Net Student Tuition is due to the fact that tuition discounts and scholarships given by these colleges also increased. Our estimates show that the gap between Published Tuition and College Net Tuition Revenue increased from \$820 in 1999-2000 to \$1,400 in 2008-2009, indicating that the actual revenues institutions receive from tuition sources has not been growing nearly as fast as Published Tuition (meaning that college and universities likely partially



buffered the rise in sticker price by increasing their financial aid packages to their own students). Net Student Price has increased by about \$2,500 since 2000-2001, with less than one-fifth of that increase directly attributable to higher net tuition.

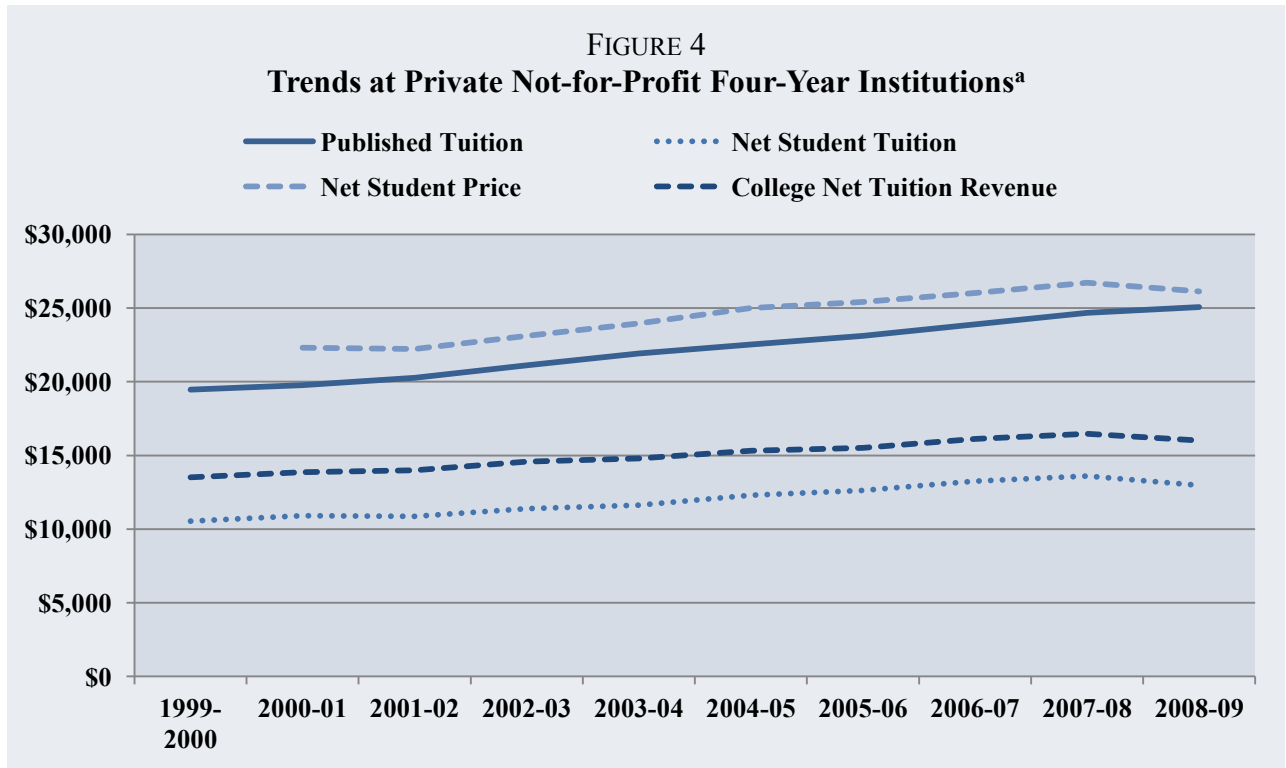


Note: a= All dollar amounts are expressed in real, 2010 dollars.

*Private Not-for-Profit Four-Year Institutions*

At private non-profit four year colleges and universities from 1999-2000 to 2008-09, Publish Tuition increased by a little over \$5,000, while Net Student Tuition and College Net Tuition Revenue increased by roughly half as much (about \$2,400 and \$2,500, respectively over that same period), as depicted in Figure 4 (shown on the next page). These colleges give substantial tuition discounts and scholarships to their students, and the amounts of these discounts have been growing (note that the gap between Published Tuition and College Net Tuition Revenue increased from roughly \$5,900 to \$8,200 during the nine year period covered by our analysis). Net Student Price has also grown by \$3,800 over this time span.





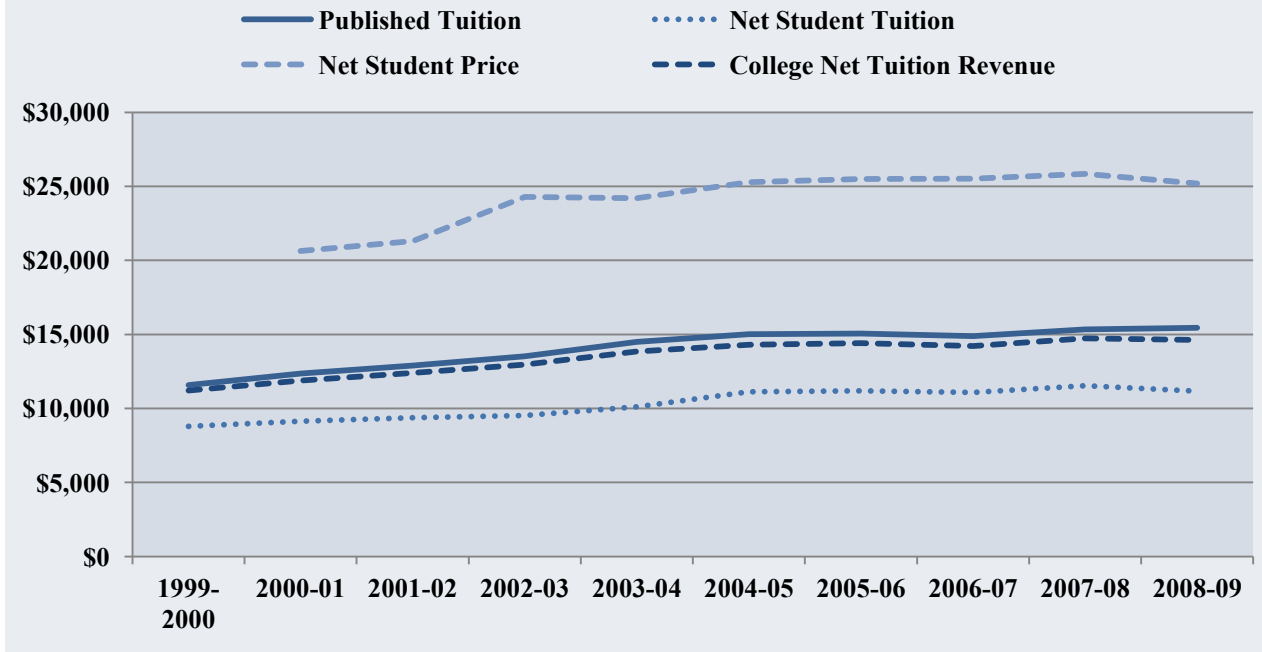
Note: a= All dollar amounts are expressed in real, 2010 dollars.

*Private For-Profit Four-Year Institutions*

As shown in Figure 5 (shown on the next page), private for-profit four-year institutions increased average Published Tuition by slightly less than \$4,000 from 1999-2000 to 2008-09. However, Net Student Tuition increased over that same period by just under \$2,400. Like two-year colleges, for-profit institutions do not give many tuition discounts or scholarships to their students, as indicated by the close tracking of College Net Tuition Revenue and Published Tuition. The fact that Net Student Tuition increased much less dramatically than both Published Tuition and College Net Tuition Revenue suggests that non-institutional source of financial aid (particularly grants from the federal government) played an important role in buffering students’ “sticker shock” at for-profit institutions. While Net Student Price at for-profit institutions has increased somewhat markedly over the entire period (an increase of \$4,600 over this nine year time span), unique among the sectors, Net Student Price has been roughly constant for the five years culminating in the 2008-09 academic year.



FIGURE 5  
Trends at Private For-Profit Four-Year Institutions<sup>a</sup>



Note: a= All dollar amounts are expressed in real, 2010 dollars.



### Methodology

#### Data Sources

The primary data source for our estimates is the U.S. Department of Education's Integrated Postsecondary Education Data System (IPEDS) which reports institutional level data. The IPEDS data we use includes published tuition, total price (tuition plus room and board and other educational expenses), financial aid and student enrollments. Tax benefit data come from a different U.S. Department of Education data source, the Data Analysis System (DAS), which includes only aggregate figures, not data at an institutional level.

#### Definitions of Terms

**Published Tuition** refers to the IPEDS variable “published in-state tuition and fees.”

**Net Student Tuition** is “published in-state tuition and fees” minus all grant aid (federal, state, local, and institutional) and tax benefits. Veterans' educational benefits are included in the federal grant category.

**Net Student Price** is “Total price for in-state students living off campus (not with family)”<sup>1</sup> minus all grant aid (federal, state, local, and institutional) and tax benefits.

**College Net Tuition Revenue** is published in-state tuition and fees minus institutional grant aid. Institutional grants refer to aid provided by the educational institution itself, such as tuition discounts or merit scholarships awarded by the college.

#### Data Complications

There are a number of irregularities with the raw data from the IPEDS and DAS datasets which would tend to introduce imperfections in our estimates. These problems include the following:

- Full-time equivalent (FTE) enrollment data were not available for the 1999-2000 academic year, so the weights for 2000-2001 were used for 1999-2000.
- Reliable estimates of total price for 1999-2000 could not be provided due to very limited data in IPEDS..
- There are no private (non-profit or for-profit) colleges classified as “Associate's” (using the Carnegie Classification system) with sufficient data to include in our analysis.
- The tax benefit data are available by the 2000 Carnegie Classifications, but we report results using the 2010 Carnegie Classifications. We assumed a straightforward matching from the former classification system to the latter (see Appendix C for details on how we matched the 2000 and 2010 Carnegie Classifications).



**Sample Size**

We started with the 2009 IPEDS universe of 7,319 institutions. Only 4,868 of these are degree granting institutions, and many of those institutions are missing relevant data for some years and were dropped from our sample. Our analysis included all 1,702 institutions with sufficient data. Just under 8 million full-time equivalent (FTE) students were enrolled at these institutions in 2008-2009, as shown in Table 5.

TABLE 5  
**Number of Institutions and Total Enrollment, by Level, Sector and Carnegie Classification**

	<b>Number of Institutions</b>	<b>Total FTE Student Enrollment (2008-2009 academic year)</b>
<b>Level</b>		
Four-Year	822	4,877,238
Two-Year	880	3,012,465
<b>Sector</b>		
Private Non-Profit 4 Yr	374	1,056,243
Public 4 Yr	335	3,623,073
Private For-Profit 4 Yr	113	197,922
Public 2 Yr	738	2,948,534
<b>Carnegie Classification</b>		
Public Associate's	578	2,234,658
Private Non-Profit Research	31	355,535
Public Research	97	2,048,749
Private Non-Profit Master's	142	443,657
Public Master's	120	1,101,468
Private For-Profit Bachelor's	30	33,703
Private Non-Profit Bachelor's	113	173,985
Public Bachelor's	74	225,469

**Calculations**

We computed our estimates in terms of weighted average per student using full-time equivalent enrollments as the weights. We used the CPI-U to correct for inflation and express all dollar amounts in 2010 dollars. Because the IPEDS financial aid data are reported as per aid recipient, we converted the financial aid data amounts to per student figures.





It should be noted that the IPEDS financial aid data are for “Full-Time First-Time Degree/Certificate-Seeking Undergraduates.”<sup>3</sup> We assume that the financial aid these students receive is representative of all undergraduates (this assumption is broadly accurate, for reasons laid out more fully in Appendix D). Furthermore, for public institutions, we used only in-state tuition and ignored out-of-state students in order to simplify the calculations. Indeed, for the non-profit two and four year colleges, this report provides net-tuition figures that are applicable only to in-state students.

We used aggregate tax benefits data from the Internal Revenue Service (IRS)<sup>4</sup> and mean tax benefits for 2007-2008 from the DAS<sup>5</sup> to estimate annual tax benefits for each type of institution. There are two key assumptions underlying our use of these data in our calculations. First, we assumed that the tuition and fees deduction would have been taxed at 25%.<sup>6</sup> Second, we assumed that per student tax benefits grew or shrank proportionally to the per student aggregate total tax credit reported by the IRS.<sup>7</sup>

The values we report here are enrollment weighted averages (using FTE enrollment as the respective weight).<sup>8</sup> These are calculated separately for each year (the only exception is 1999-2000, where the weights for 2000-2001 are used due to a lack of an FTE enrollment IPEDS variable for 1999-2000).

### Sources of Potential Deviations

The data we employ for computing our cost estimates is not perfect, giving us reasons to believe that the true values of the various cost measures could differ from what we report.

There are two reasons why the actual values for both Net Student Tuition and Net Student Price could be higher than reported here:

- For public institutions, we use in-state tuition; however, some students attend public institutions outside of the state in which they have legal residency and therefore pay higher, out-of-state tuition charges. To the extent that we do not account for out-of-state students, our estimates of Net Student Tuition and Net Student Price are not so much precisely accurate estimates of true cost but are rather useful tools for illustrating the growth in college costs over time that students bear.
- Some aid that students receive is used to pay for room and board, but when calculating Net Student Tuition, we assume that all aid is used only for tuition.

<sup>3</sup> For the IPEDS definition of “Full-time student,” see <http://nces.ed.gov/ipeds/glossary/index.asp?id=259> and for the IPEDS definition of “First-time student (undergraduate),” see <http://nces.ed.gov/ipeds/glossary/index.asp?id=241>.

<sup>4</sup> IRS, Statistics of Income, Table A. Selected Income and Tax Items for Tax Years, 1990-2009.

<sup>5</sup> DAS defines this variable as “Estimated amount of federal education tax credits and tax deduction benefits for the 2007-08 academic year. Equal to the estimated reduction in 2007 federal taxes provided by the federal education tax credits (Hope and Lifetime Learning) or the federal tuition and fees tax deduction.”

<sup>6</sup> We arbitrarily chose a high tax rate of 25% here because we want to err on the side of overestimating tax benefits (which of course means that true Net Student Tuition and Net Student Price are higher than what we report here). To the extent that this 25% tax rate is incorrect, error is introduced into our estimates.

<sup>7</sup> For instance, if students at four-year institutions received tax benefits of \$100 in 2007-2008 and per student aggregate tax benefits doubled in 2008-2009, then we assumed that students at four-year institutions received tax benefits of \$200 in 2008-2009.

<sup>8</sup> For instance, if school A has 1 student and published tuition of \$5, and school B has 2 students and published tuition of \$10, the enrollment weighted average published tuition is  $(1 \times 5 + 2 \times 10) / 3 = 8.33$ .



One possible reason why the actual values for Net Student Tuition and Net Student Price could be lower than reported here:

- Scholarship and grant aid that does not appear in the IPEDS database (such as small private scholarships), so our estimates do not account at all for these sources of aid.

There are two reasons to suspect that the actual values for both Net Student Tuition and Net Student Price are different from the our estimates, though whether these potential discrepancies cause our estimates to be too high or too low is unclear:

- Financial aid data from IPEDS is available only for “Full-Time First-Time Degree/Certificate-Seeking Undergraduates,” (that is, roughly what is popularly considered to be a “traditional” freshman undergraduate student) so we assume that financial aid received is roughly independent of student class level. As Appendix D shows, this assumption is roughly accurate (average aid received by freshman does not differ dramatically from that received by seniors), but at some colleges grant aid is higher for non-first year students, while at other colleges grant aid is lower for these students.
- The assumption that a 25% tax rate would apply for the tuition and fees deduction may be above or below the true value (which may vary by institution type). To the extent that 25% is not the applicable tax rate, our estimates would be incorrect, but we are not aware of any published data against which we can test this assumption.
- Because all of the data we use to compute our estimates applies to students with full-time enrollment status, our estimates do not take part-time students into account and therefore do not reflect actual costs borne by students enrolled only part-time. We cannot say how taking part-time students into account would affect our results, as part-time students face different tuition charges but also have different patterns of financial aid.

### Changes from Previous CCAP Report

There are four main changes from the previous CCAP net tuition report, published in 2008.<sup>9</sup> First, we have renamed the “net school tuition” variable “College Net Tuition Revenue.” Second, we have added the variable “Net Student Price.” Third, we calculate the full-time equivalent enrollment weights for each year separately (previously, we used the most recent year’s weights for all years). Fourth, we now account for tax benefits.

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<sup>9</sup> Andrew Gillen, James Coleman and Hans Zhong, “Net Tuition Trends in the United States,” Washington DC: Center for College Affordability and Productivity, October 2008. Available at: [http://www.centerforcollegeaffordability.org/uploads/Microsoft%20Word%20-%20Net\\_tuition\\_\\_010309.pdf](http://www.centerforcollegeaffordability.org/uploads/Microsoft%20Word%20-%20Net_tuition__010309.pdf).



### Conclusion

This report is aimed to help document the recent trends in the key drivers of college costs, at least as far as students and their families are directly concerned. The data we report confirms the continued upward Published Tuition at four-year colleges over recent years. In contrast to the fairly rapid increase in Published Tuition at four-year institutions, the increases in Published Tuition at two-year colleges have been modest.

At four-year institutions, Net Student Tuition was, on average, slightly lower in 2008-2009 than in the previous academic year, but this decline was not enough to erase the substantial increases in Net Student Tuition from 1999-2000 to 2006-07. At two-year colleges, according to our data, Net Student Tuition has fallen dramatically in the past three years, and is now generally negative, meaning that, on average, financial aid not only covers all tuition at these schools but may be able to provide students with refunds.

Net Student Price, however, has increased significantly at both four-year and two-year institutions. This is particularly telling as it shows that increases in other expenses are offsetting successful efforts in taming Net Student Tuition.

Finally, College Net Tuition Revenue which is the sum of student payments and financial aid (not including institutional grants), has increased at all but public two-year colleges over the period covered by our analysis. In fact, College Net Tuition Revenue, according to our data, has never been higher than it was in 2008-09 at public four-year institutions.



## Appendix A: Alternative Methods of Calculating Net Tuition

Various other organizations have published their own estimates of net tuition, using methodologies different from the one we use. What follows is a brief discussion of each.

### College Board

Every year the College Board releases *Trends in College Pricing*, a report that details changes in average tuition costs as well as changes in grants and tax exemptions. The data is primarily drawn from the “Annual Survey of Colleges,” a survey which is distributed by the College Board to almost 4,000 institutions nationwide, of which the study uses 3,068 schools in its sample.

The measure reported by the College Board is most similar to what we call “Net Student Tuition” because the College Board estimate essentially subtracts institutional, federal, state and local grant aid and tax benefits from average published tuition prices. The calculations are “based on the aggregate amounts of each type of aid reported in ‘Trends in Student Aid 2011’ and on the allocation of each type of aid across institution types and between part-time and full-time students.”<sup>10</sup>

There is some evidence suggesting that the survey data the College Board employs in constructing its estimates of net tuition leads to inaccurate results.<sup>11</sup>

### Data Analysis System (DAS)

The National Center for Education Statistic’s Data Analysis System (DAS) offers the most authoritative estimate of net tuition and price. The primary source for this information within DAS is the National Postsecondary Student Aid Study (NPSAS). The NPSAS compiles data from institutional records, government databases, and student interviews, and “detailed data on participation in student financial aid programs are extracted from institutional records.”

There are three main drawbacks to the net tuition reported in DAS. First, and most importantly, the NPSAS survey is only conducted every four years. Second, it is only available with a significant delay (several years), and third, the names and definitions of some variables have changed over the years.

The closest analog for our “Net Student Tuition” estimate is what DAS reports as “Tuition and fees minus all grants, veteran, and tax benefits.”<sup>12</sup> The Net Student Price estimate we report is most similar to what DAS

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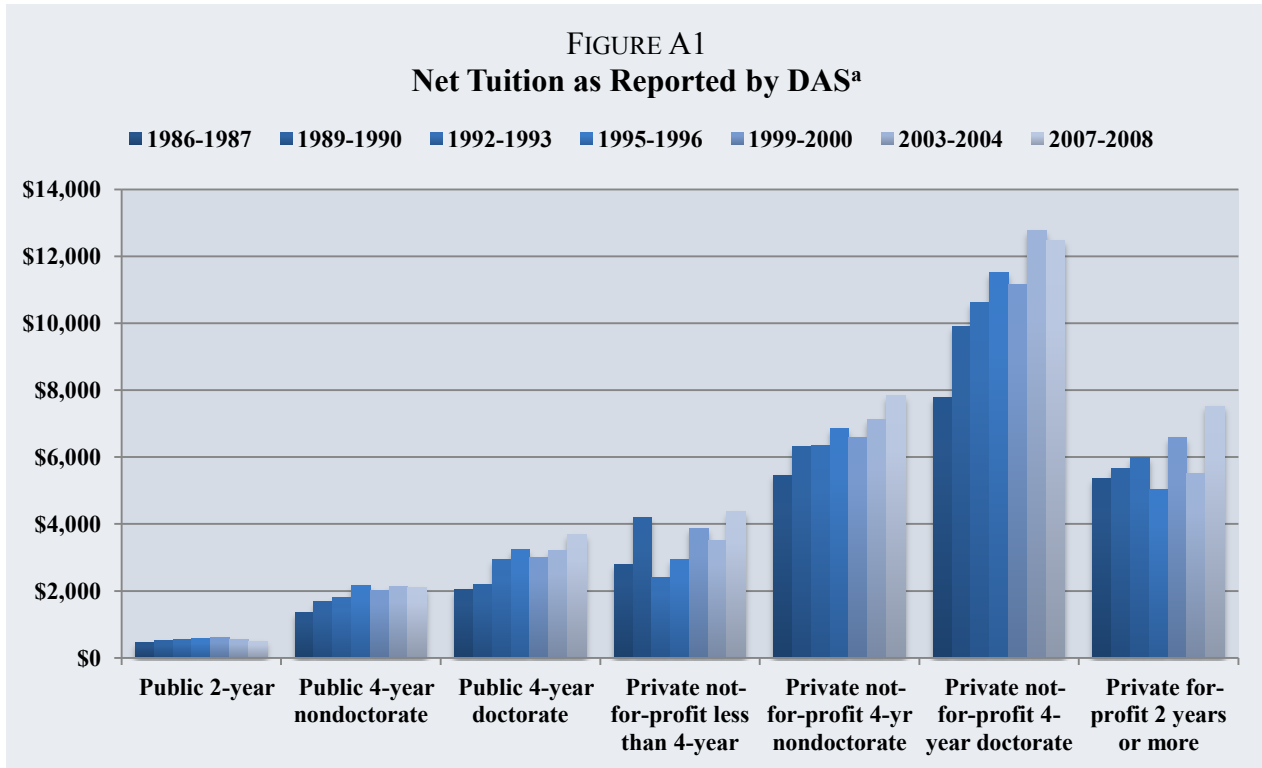
<sup>10</sup> Sandy Baum and Jennifer Ma, “Trends in College Pricing 2011,” *Trends in Higher Education Series*, Washington DC: College Board Advocacy and Policy Center, October 2011, pg. 30. Available at: [http://trends.collegeboard.org/college\\_pricing/](http://trends.collegeboard.org/college_pricing/), accessed October 28, 2011.

<sup>11</sup> See Andrew Gillen and Robert Martin, “College Is Cheaper Than in the Mid-1990s? No Way,” *Minding the Campus*, November 19, 2010.

<sup>12</sup> Defined as “Tuition and fees (TUITION2) minus all grants, veteran's benefits and Department of Defense aid, and federal education tax benefits (TOTGRT3) for the 2007-2008 academic year.”



reports as “Student budget minus all grants, veteran, and tax benefits.”<sup>13</sup> Figure A1 shows the net tuition figures as reported by DAS.



Notes: a=Constant 2010 Dollars

Source: U.S. Department of Education’s Data Analysis System<sup>14</sup>

### Delta Cost Project

Since 2009, the Delta Cost Project has annually published *Trends in College Spending*. The most recent installment of this series covers the period 1999 to 2009 and includes “net tuition revenue” aggregated at the state level, as well as at the national level.<sup>15</sup> The Delta Cost Project “net tuition revenue” variable is computed as “total revenue from tuition and fees (including grant and loan aid used by students to pay tuition)” less institutional aid provided to students that is applied to tuition and fees.<sup>16</sup> While the Delta Cost Project sometimes labels its figure as “net tuition,” it is important to understand that it is not net tuition from the perspective of the student but rather from the point of view of the institution. Thus, the Delta Cost Project measure is closest to our “College Net Tuition Revenue” measure.

<sup>13</sup> Defined as “Student budget (BUDGETAJ) minus all grants, veteran's benefits and Department of Defense aid, and federal education tax benefits (TOTGRT3) received for the 2007-2008 academic year.”

<sup>14</sup> This chart is taken from Andrew Gillen and Robert Martin, “College Is Cheaper Than in the Mid-1990s? No Way,” *Minding the Campus*, November 19, 2010.

<sup>15</sup> See Figure 5 in Donna M. Desrochers and Jane V. Wellman, “Trends in College Spending 1999-2009,” Washington, DC: Delta Cost Project, 2011, p. 13.

<sup>16</sup> Donna M. Desrochers and Jane V. Wellman, “Trends in College Spending 1999-2009,” Washington, DC: Delta Cost Project, 2011.



### State Higher Education Executive Officers

The State Higher Education Executive Officers (SHEEO) annually publishes *State Higher Education Finance*, a report “designed to make basic data about higher education finance as comparable as possible across states and over time.”<sup>17</sup> These reports include figures for “Net Tuition Revenue;” that is, “the gross amount of tuition and fees, less state and institutional financial aid, tuition waivers or discounts, and medical student tuition and fees.”<sup>18</sup> This measure is not one of “net price” (that is, the cost borne directly by students and their families) but rather of “the revenues institutions received from tuition” whether those revenues ultimately come directly from students or from federal grant programs, such as Pell Grant awards. Thus, the SHEEO metric is closest to our “College Net Tuition Revenue” estimate.

The figures in the SHEEO report are adjusted for cost of living differences, enrollment and inflation. The first two adjustments are justifiable because the purpose of the SHEEO report is to compare public universities’ finances across states. While it is also appropriate to adjust for inflation, it is inappropriate to use the Higher Education Cost Adjustment (HECA) price index, as the SHEEO report does.<sup>19</sup> Rather, the appropriate price index to use for inflation adjustments in this case is the Consumer Price Index-Urban (CPI-U), the index which both the College Board and CCAP use to construct estimates of net tuition.

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<sup>17</sup> State Higher Education Executive Officers, “State Higher Education Finances: FY 2010,” Boulder, CO: 2011, p. 14.

<sup>18</sup> *Ibid.*, p. 13.

<sup>19</sup> Andrew Gillen and Jonathan Robe, “Stop Misusing Higher Education-Specific Price Indices,” Washington DC: Center for College Affordability and Productivity, March 2011. Available at: <http://centerforcollegeaffordability.org/research/studies/higher-ed-price-indices>, accessed October 28, 2011.



## Appendix B: Carnegie Classification Categories

We combined the IPEDS reported Carnegie Classifications as follows:

### Public Associate's

Associate's--Public Rural-serving Small  
Associate's--Public Rural-serving Medium  
Associate's--Public Rural-serving Large4Associate's--Public Suburban-serving Single Campus  
Associate's--Public Suburban-serving Multicampus  
Associate's--Public Urban-serving Single Campus  
Associate's--Public Urban-serving Multicampus  
Associate's--Public Special Use  
Associate's--Public 4-year Primarily Associate's  
Associate's--Public 2-year colleges under 4-year universities

### Private Non-Profit Associate's

Associate's--Private Not-for-profit  
Associate's--Private Not-for-profit 4-year Primarily Associate's

### Private For Profit Associate's

Associate's--Private For-profit  
Associate's--Private For-profit 4-year Primarily Associate's

The remaining three groupings were broken down by public, private not-for-profit and private for-profit when possible.

### Research

Research Universities (very high research activity)  
Research Universities (high research activity)  
Doctoral/Research Universities

### Master's

Master's Colleges and Universities (larger programs)  
Master's Colleges and Universities (medium programs)  
Master's Colleges and Universities (smaller programs)

### Bachelor's

Baccalaureate Colleges--Arts & Sciences  
Baccalaureate Colleges--Diverse Fields  
Baccalaureate/Associate's Colleges



## Appendix C: Tax Benefits and Carnegie Classifications

The tax data from the U.S. Department of Education’s Data Analysis System is categorized by the 2000 Carnegie Classifications but our results use the 2010 Carnegie Classifications. We matched classifications as summarized in Table C1.

TABLE C1  
**Carnegie Classification Matching for Tax Benefit Calculations**

<b>CCAP Study Categories</b>	<b>Carnegie 2000 Classification</b>
Four-Year	Four-Year
Two-Year	Two-Year
Private Not-for-profit Four-Year	Private Not-for-profit Four-Year
Public Four-Year	Public Four-Year
Private For-Profit Four-Year	Private For-profit Four-Year
Public Two-Year	Public Two-Year
Public Associate's	Public Two-Year
Private Not-for-Profit Research	Private Not-for-profit Four-Year I (doctoral/research, liberal arts)
Public Research	Public Four-Year I (doctoral/research extensive)
Private Not-for-Profit Master's	Private Not-for-profit Four-Year II (all other four-year)
Public Master's	Public Four-Year II (all other Four-Year)
Private For-Profit Bachelor's	Private For-profit
Private Not-for-Profit Bachelor's	Private Not-for-profit Four-Year II (all other four-year institutions)
Public Bachelor's	Public Four-Year II (all other four-year institutions)





## Appendix D: Aid by Student Class Level

One of the key assumptions underpinning our methodology is that the financial aid for “Full-Time First-Time Degree/Certificate-Seeking Undergraduates” (the only figures available through IPEDS) is representative of the entire undergraduate population. Table D1 shows DAS reported total grants (including veteran’s benefits) by student class level as a percent of aid received by first year students (which is the category closest to the IPEDS “Full-Time First-Time Degree/Certificate-Seeking Undergraduates”). The numbers are generally close to 100%, indicating that total aid does not vary dramatically by level of student, and deviations are not systematic.

TABLE D1  
Per Student Grant and Veteran’s Benefits, by Class Level and as Percentage of 1<sup>st</sup> Year Level

Level	Student Class Level				
	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	5 <sup>th</sup> Year
Four-Year	100.0%	107.6%	107.2%	92.1%	70.2%
Two-Year	100.0%	115.7%	118.1%	25.7%	N/A
<b>Sector</b>					
Public Four-Year	100.0%	97.4%	98.9%	88.6%	75.8%
Private Not-for-Profit Four-Year	100.0%	104.1%	98.3%	84.5%	57.8%
Public Two-Year	100.0%	120.5%	125.7%	21.9%	N/A
Private For-Profit	100.0%	124.3%	125.7%	137.0%	124.2%
<b>Carnegie Classification (2000)</b>					
Public Two-Year	100.0%	119.6%	134.9%	109.2%	169.9%
Public Four-Year I (doctoral/research extensive)	100.0%	91.4%	82.4%	78.2%	61.2%
Public Four-Year II (all other four-year institutions)	100.0%	94.1%	94.5%	80.3%	71.3%
Private Not-for-Profit Four-Year I (doctoral/research, liberal arts)	100.0%	98.8%	98.5%	87.4%	64.7%
Private Not-for-Profit Four-Year II (all other four-year institutions)	100.0%	104.3%	96.5%	79.9%	55.7%
Private For-Profit	100.0%	124.3%	125.7%	137.0%	124.2%

