

2011–12 National Postsecondary Student Aid Study (NPSAS:12)

Price Estimates for Attending Postsecondary Education Institutions

First Look

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Introduction

This report presents selected findings about the price of attending a college or university for undergraduate students during the 2011–12 academic year. These findings come from the 2011–12 National Postsecondary Student Aid Study (NPSAS:12), a nationally representative sample survey of undergraduate and graduate students enrolled any time between July 1, 2011, and June 30, 2012, in institutions eligible to participate in federal financial aid programs. The primary purpose of NPSAS:12 is to measure how students and their families pay for postsecondary education, with particular emphasis on federal student aid provided through Title IV of the Higher Education Act of 1965 and subsequent amendments.

The NPSAS:12 sample consists of about 95,000 undergraduate and 16,000 graduate students attending approximately 1,500 Title IV eligible postsecondary institutions in the 50 states and the District of Columbia.¹ The sample represents approximately 23 million² undergraduate and 4 million graduate students enrolled in postsecondary education at any time between July 1, 2011, and June 30, 2012. Additional details about the sample are provided in appendix B.

This report presents estimates of three distinct measures of the price of college. The first measure used in this report is total price of attendance, which is also referred to as “sticker price” or “student budget.” It includes anticipated outlays for tuition and fees, books and materials, housing, food, transportation, and personal expenses, and is used by institutions to develop a student’s financial aid package (financial aid includes grants, loans, and work-study). Because average tuition and fees vary among institutions of different types (Knapp, Kelly-Reid, and Ginder 2011), estimates in this report are disaggregated by selected sectors.

The second measure of cost is net price, which is the cost that the students and their families are responsible for both immediately and long term (through the use of student loans). Net price is the price of attendance minus grant aid (aid that does not need to be paid back).

The final measure is the out-of-pocket net price, which reflects the immediate amount that students and their families need to pay to attend college. It is the difference between the price of attendance and a student’s total financial aid package including grants, loans, and work-study. This measure may not reflect the actual cost to the student over the long-term. However, students who

¹ Prior cycles of NPSAS included sampled institutions from Puerto Rico.

² These numbers reflect unduplicated enrollment counts of students enrolled in postsecondary education. Students may enroll in multiple institutions during the academic year. Hence, NPSAS:12 uses a multiplicity adjustment to estimate the unduplicated counts of undergraduate and graduate students.

finance their education using loans must repay not only the principal balance but also any accrued interest. Exhibit 1 summarizes the three price measures used in this report.

Exhibit 1. Summary of price measures

Measure	Calculation	When does the student need to pay?
Price of attendance or “sticker price”	None	The price that students pay during the academic year if they receive no financial aid (includes tuition and fees, books and materials, housing, food, transportation, and personal expenses).
Net price	$\begin{array}{l} \text{Price of attendance} \\ - \text{All grant aid} \\ \hline = \text{Net price} \end{array}$	This is the price that students are responsible for either immediately or that needs to be paid back over time.
Net “out-of-pocket” price	$\begin{array}{l} \text{Price of attendance} \\ - \text{All grant aid} \\ - \text{All other aid (e.g., loans, work study, etc.)} \\ \hline = \text{Net “out-of-pocket” price} \end{array}$	This is the “out-of-pocket” amount that students are responsible to pay from family income or assets during the academic year. This price does not account for the total cost of debt (i.e., principal plus interest) students incur to pay for college.

For more information about the sources and types of financial aid funding used to develop these measures, see *2011–12 National Postsecondary Student Aid Study (NPSAS:12): Student Financial Aid Estimates for 2011–12*.³ This report includes estimates from the 2007–08 National Postsecondary Student Aid Study (NPSAS:08) to evaluate changes in net price since the 2007–08 academic year.⁴

This report is descriptive in nature and is intended to introduce new National Center for Education Statistics (NCES) NPSAS survey data through the presentation of selected descriptive information. Readers are cautioned not to draw causal inferences based on the presented NPSAS:08 and NPSAS:12 cross-sectional bivariate results. It is important to note that many of the variables examined in this report may be related to one another, and complex interactions and relationships among the variables have not been explored. The variables examined here are also just a small number of those that can be examined in these data; they were selected to demonstrate the range of

³ See Radwin, D., Wine, J., Siegel, P., and Bryan, M. (2013). *2011–12 National Postsecondary Student Aid Study (NPSAS:12): Student Financial Aid Estimates for 2011–12* (NCES 2013-165). Institute of Education Sciences, U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2013165>.

⁴ For more information about NPSAS:08, see Cominole, M., Riccobono, J., Siegel, P., and Caves, L. (2010). *2007–08 National Postsecondary Student Aid Study (NPSAS:08) Full-scale Methodology Report* (NCES 2011-188). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2011188>.

information available from the study. These findings are examples of estimates that can be obtained from the data and are not designed to emphasize any particular issue. The release of this report is intended to encourage more in-depth analysis of the data using more sophisticated statistical methods.

Comparisons made in the text were tested for statistical significance to ensure that the differences were larger than might be expected as a result of sampling variation. All differences reported are significant at the $p < .05$ level. Dollar estimates for NPSAS:08 were adjusted for inflation, but there were no adjustments for multiple comparisons. Given the short format of this release report, information highlighted in the bullets does not report all statistically significant findings from the tables.

Appendix A provides a glossary of variables and their definitions used in this publication. Additional details about Title IV programs are available in the 2011–12 *Federal Student Aid Handbook*, available at <http://ifap.ed.gov/ifap/index.jsp>.

Appendix B provides details about the methods and procedures used for NPSAS:12. It contains information on the data sources, sample design, imputation, weighting, and the quality of estimates.

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Selected Findings

Average price of attendance (includes tuition, fees, books, housing, food, transportation, and personal expenses) in 2011–12 (table 1):

- Among all undergraduates in the 2011–12 academic year, the average price of attending a 4-year institution was \$17,900 for public institutions and \$34,400 for private nonprofit institutions. At private for-profit 4-year institutions, the average price of attendance was \$19,400. The price of attendance was \$1,700 higher at public 4-year institutions and \$3,900 higher at private nonprofit 4-year institutions compared with 2007–08, after controlling for inflation.^{5, 6}
- The average price of attendance for undergraduate students in 2011–12 was \$8,700 for public 2-year institutions and \$21,100 for private for-profit 2-year institutions.
- Among full-time, full-year undergraduates, the average price of attending 4-year institutions in the 2011–12 academic year was \$23,200 for public institutions and \$43,500 for private nonprofit institutions.

Average net price (price of attendance minus all grant aid) in 2011–12 (table 2):

- The average net price for undergraduates during the 2011–12 academic year to attend a 4-year institution was \$14,300 for a public institution and \$23,000 for a private nonprofit institution. At private for-profit 4-year institutions, the average net price was \$16,600. Public 4-year institutions had a net price that was \$1,100 higher in 2011–12 than in 2007–08, after controlling for inflation.
- The average net price for undergraduate students in 2011–12 was \$7,100 for public 2-year institutions and \$18,600 for for-profit 2-year institutions. The net price at public 2-year institutions was \$700 higher in 2011–12 than in the 2007–08 academic year, after controlling for inflation.
- Among full-time, full-year undergraduate students in the 2011–12 academic year, the average net price was \$18,000 at public 4-year institutions and \$27,900 at private nonprofit 4-year institutions.

Average out-of-pocket net price (price of attendance minus all financial aid) in 2011–12 (table 3):

- The average out-of-pocket net price that undergraduates needed to pay in the 2011–12 academic year (i.e., the amount that students had to pay after all financial aid was applied) to attend a 4-year institution was \$9,600 for public institutions and \$15,000 for private nonprofit institutions. At private for-profit 4-year institutions, the average price of attendance was \$9,000. The price of attendance was \$800 higher at both public 4-year and private nonprofit 4-year institutions compared with 2007–08, after controlling for inflation.
- Among all undergraduates in 2011–12, the average out-of-pocket net price was \$6,000 for public 2-year institutions and \$12,400 for private for-profit 2-year institutions. The out-of-pocket net price at public 2-year institutions was \$400 higher than in 2007–08, controlling for inflation.
- For full-time, full-year undergraduate students in the 2011–12 academic year, the average out-of-pocket net price was \$11,800 at public 4-year institutions and \$18,100 at private nonprofit 4-year institutions.

⁵ The inflation adjustment uses the percentage increase in the average monthly Consumer Price Index for All Urban Consumers (CPI-U) from July 2007 through June 2008 compared with the average monthly price index from July 2011 through June 2012. All differences were calculated using unrounded figures.

⁶ NPSAS:12 estimates from private for-profit 4-year and private for-profit 2-year institutions could not each be compared with estimates from NPSAS:08 because a different stratification was used in the NPSAS:12 sampling design.

Table 1.
Average price of attendance in constant 2011–12 dollars for undergraduate students, by type of institution and selected student characteristics: 2007–08 and 2011–12

Student characteristics	2011–12				2007–08 (constant 2011–12 dollars)					
	Public		Private nonprofit		Public		Private nonprofit			
	2-year	4-year	2-year	4-year	2-year	4-year	2-year	4-year		
Total	\$8,700	\$17,900	\$34,400	\$21,100	\$19,400	\$19,900	\$7,300	\$16,200	\$30,400	\$22,400
All undergraduates										
Attendance pattern										
Full-time/full-year ¹	15,000	23,200	43,500	29,700	29,000	29,200	13,600	20,400	38,800	32,900
Part-time or part-year	7,100	11,900	18,900	16,800	14,900	15,400	6,100	10,900	17,400	17,000
Dependency ² and income ³										
Dependent students										
Lowest 25 percent	9,200	18,500	37,000	21,200	22,400	21,900	7,700	17,000	34,500	21,700
Lower middle 25 percent	9,300	19,400	38,600	21,800	24,800	23,400	7,700	17,100	34,700	23,200
Upper middle 25 percent	9,100	20,000	39,700	23,200	24,600	23,900	8,200	18,000	36,700	22,800
Highest 25 percent	8,900	21,800	44,700	23,900	28,900	26,200	8,400	19,200	38,400	28,000
Independent students										
Lowest 25 percent	9,200	16,000	28,500	19,500	18,100	18,500	7,800	14,300	24,500	20,600
Lower middle 25 percent	9,100	15,100	22,400	21,200	19,500	19,900	7,200	12,800	19,500	21,700
Upper middle 25 percent	8,200	13,500	19,800	21,800	19,100	19,600	6,700	11,500	17,900	22,000
Highest 25 percent	7,300	11,400	17,800	20,300	17,900	18,300	6,000	10,600	15,500	26,600

See notes at end of table.

Table 1.
Average price of attendance in constant 2011–12 dollars for undergraduate students, by type of institution and selected student characteristics: 2007–08 and 2011–12—continued

Student characteristics	2011–12				2007–08 (constant 2011–12 dollars)						
	Public		Private nonprofit		Public		Private nonprofit				
	2-year	4-year	2-year	4-year	2-year	4-year	2-year	4-year			
									Total (2-year or more)		
Full-time/full-year undergraduates¹											
Dependency ² and income ³											
Dependent students											
Lowest 25 percent	13,900	21,900	42,700	29,800	32,100	12,400	19,300	37,700	31,100	12,400	19,300
Lower middle 25 percent	14,300	22,700	43,300	30,400	32,700	12,600	19,800	38,200	31,900	12,600	19,800
Upper middle 25 percent	14,300	23,300	44,000	34,000	34,500	13,300	20,400	39,700	34,200	13,300	20,400
Highest 25 percent	14,800	25,200	47,600	33,500	38,000	13,300	21,800	42,100	35,700	13,300	21,800
Independent students											
Lowest 25 percent	16,100	22,400	39,700	28,500	29,500	14,900	20,200	34,400	29,200	14,900	20,200
Lower middle 25 percent	16,500	22,200	35,200	28,600	28,600	15,400	20,100	31,600	28,600	15,400	20,100
Upper middle 25 percent	15,900	22,200	33,100	29,800	27,900	15,500	20,100	31,200	28,300	15,500	20,100
Highest 25 percent	15,700	22,600	33,200	28,900	26,800	16,300	21,900	32,400	27,100	16,300	21,900

¹ Full-time/full-year students were enrolled full time 9 months or more during the academic year (July 1 to June 30).

² Dependent students are undergraduates under age 24 who are not married, have no dependents, are not veterans or on active military duty, are not orphans or wards of the court, were not homeless or at risk of becoming homeless, and were not determined to be independent by a financial aid officer using professional judgment. Other undergraduates are considered to be independent.

³ Consists of parents' 2010 income in NPSAS:12 or 2006 income in NPSAS:08 for dependent students. Independent student income includes the student's income (and the income of a spouse if the student is married) in 2010 for NPSAS:12 or 2006 for NPSAS:08.

⁴ The sampling design for NPSAS:08 combined private for-profit 2-year with private for-profit 4-year institutions, whereas NPSAS:12 explicitly sampled private for-profit 4-year and private for-profit 2-year institutions separately. NPSAS:12 for-profit institution estimates were aggregated under the total to allow for comparisons with NPSAS:08.

NOTE: This table excludes students attending less-than-2-year institutions, private nonprofit 2-year institutions, or more than one institution. Estimates include students enrolled in Title IV eligible postsecondary institutions in the 50 states and the District of Columbia. For comparability with NPSAS:12, these estimates exclude students enrolled in Puerto Rican institutions by filtering on COMPTO87. Unlike prior cycles of NPSAS, NPSAS:12 does not include institutions sampled from Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2007–08 and 2011–12 National Postsecondary Student Aid Study (NPSAS:08 and NPSAS:12).

Table 2.
Average net price (price of attendance minus all grants) in constant 2011–12 dollars among undergraduates, by type of institution and selected student characteristics: 2007–08 and 2011–12

Student characteristics	2011–12						2007–08 (constant 2011–12 dollars)			
	Public 2-year	Public 4-year	Private nonprofit 4-year	Private for-profit ⁴		Total (2-year or more)	Public 2-year	Public 4-year	Private nonprofit 4-year	Private for-profit 2-year or more
				2-year	4-year					
Total	\$7,100	\$14,300	\$23,000	\$18,600	\$16,600	\$17,100	\$6,400	\$13,200	\$22,300	\$20,300
All undergraduates										
Attendance pattern										
Full-time/full-year ¹	11,700	18,000	27,900	26,400	24,600	25,100	11,200	16,300	27,700	30,000
Part-time or part-year	5,900	10,100	14,800	14,800	12,800	13,300	5,500	9,400	13,800	15,200
Dependency ² and income ³										
Dependent students										
Lowest 25 percent	5,800	10,800	18,000	17,700	17,300	17,500	5,700	10,300	19,100	18,500
Lower middle 25 percent	7,600	14,300	21,300	19,400	21,300	20,400	7,100	13,600	22,600	21,800
Upper middle 25 percent	8,500	17,700	26,500	22,600	23,900	23,300	7,800	15,900	26,500	22,600
Highest 25 percent	8,500	19,700	33,600	23,600	26,400	24,900	8,100	17,500	31,400	27,800
Independent students										
Lowest 25 percent	6,800	11,600	19,400	16,500	14,900	15,400	6,200	10,700	17,400	17,900
Lower middle 25 percent	7,000	11,500	16,000	18,400	16,200	16,700	6,100	10,600	15,300	19,300
Upper middle 25 percent	6,800	11,600	16,100	19,300	16,500	17,000	6,000	10,000	14,700	20,000
Highest 25 percent	6,700	10,400	15,500	19,000	16,300	16,700	5,600	9,500	13,000	24,900

See notes at end of table.

Table 2.

Average net price (price of attendance minus all grants) in constant 2011–12 dollars among undergraduates, by type of institution and selected student characteristics: 2007–08 and 2011–12—continued

Student characteristics	2011–12				2007–08 (constant 2011–12 dollars)			
	Public		Private for-profit ⁴		Public		Private for-profit	
	2-year	4-year	2-year	4-year	2-year	4-year	2-year or more	4-year or more
Full-time/full-year undergraduates¹								
Dependency ² and income ³								
Dependent students								
Lowest 25 percent	8,300	12,300	19,700	25,200	24,300	24,700	20,200	27,500
Lower middle 25 percent	11,300	16,200	23,300	27,300	28,200	27,900	24,400	30,800
Upper middle 25 percent	13,300	20,400	28,800	33,400	33,200	33,300	28,400	31,900
Highest 25 percent	14,000	22,800	35,500	33,100	34,800	33,900	34,200	36,900
Independent students								
Lowest 25 percent	11,400	15,300	24,600	24,100	24,000	24,000	23,400	28,400
Lower middle 25 percent	12,100	16,100	23,400	24,900	23,600	23,900	23,600	29,000
Upper middle 25 percent	12,400	18,300	25,700	26,400	23,900	24,400	25,900	30,300
Highest 25 percent	14,100	20,100	27,600	27,600	24,600	25,000	28,300	32,400

¹ Full-time/full-year students were enrolled full time 9 months or more during the academic year (July 1 to June 30).

² Dependent students are undergraduates under age 24 who are not married, have no dependents, are not veterans or on active military duty, are not orphans or wards of the court, were not homeless or at risk of becoming homeless, and were not determined to be independent by a financial aid officer using professional judgment. Other undergraduates are considered to be independent.

³ Consists of parents' 2010 income in NPSAS:12 or 2006 income in NPSAS:08 for dependent students. Independent student income includes the student's income (and the income of a spouse if the student is married) in 2010 for NPSAS:12 or 2006 for NPSAS:08.

⁴ The sampling design for NPSAS:08 combined private for-profit 2-year with private for-profit 4-year institutions, whereas NPSAS:12 explicitly sampled private for-profit 4-year and private for-profit 2-year institutions separately. NPSAS:12 for-profit institution estimates were aggregated under the total to allow for comparisons with NPSAS:08.

NOTE: This table excludes students attending less-than-2-year institutions, private nonprofit 2-year institutions, or more than one institution. Estimates include students enrolled in Title IV eligible postsecondary institutions in the 50 states and the District of Columbia. For comparability with NPSAS:12, these estimates exclude students enrolled in Puerto Rican institutions by filtering on COMPTO87. Unlike prior cycles of NPSAS, NPSAS:12 does not include institutions sampled from Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2007–08 and 2011–12 National Postsecondary Student Aid Study (NPSAS:08 and NPSAS:12).

Table 3.
Average out-of-pocket net price (price of attendance minus total aid) in constant 2011–12 dollars of postsecondary education among undergraduates, by type of institution and selected student characteristics: 2007–08 and 2011–12

Student characteristics	2011–12				2007–08 (constant 2011–12 dollars)					
	Public 2-year	Public 4-year	Private nonprofit 4-year	Total (2-year or more)	Private for-profit ⁴					
					2-year	4-year	Public 2-year	Public 4-year	Private nonprofit 4-year	Private for-profit 2-year or more
Total	\$6,000	\$9,600	\$15,000	\$9,900	\$12,400	\$9,000	\$5,600	\$8,800	\$14,200	\$11,500
All undergraduates										
Attendance pattern										
Full-time/full-year ¹	9,900	11,800	18,100	14,500	17,800	13,200	9,600	10,800	17,600	19,800
Part-time or part-year	5,000	7,100	9,700	7,700	9,700	7,000	4,800	6,400	8,900	7,200
Dependency ² and income ³										
Dependent students										
Lowest 25 percent	5,200	6,500	10,200	10,600	12,200	9,100	5,100	5,900	10,100	9,100
Lower middle 25 percent	6,800	9,000	12,000	10,400	11,000	9,900	6,300	8,500	11,900	10,100
Upper middle 25 percent	7,700	12,400	16,900	13,500	13,700	13,300	7,000	11,000	16,300	10,300
Highest 25 percent	8,000	14,800	25,400	16,500	17,700	15,100	7,500	13,600	23,500	13,300
Independent students										
Lowest 25 percent	5,400	6,800	11,300	9,200	11,600	8,300	5,200	5,900	9,600	10,400
Lower middle 25 percent	5,500	6,500	9,600	9,500	12,800	8,300	5,000	6,100	8,400	11,000
Upper middle 25 percent	5,400	7,300	9,200	9,400	11,800	8,900	5,200	6,300	8,700	12,000
Highest 25 percent	5,700	7,500	10,300	9,900	12,200	9,500	5,100	7,100	9,000	16,000

See notes at end of table.

Table 3.
Average out-of-pocket net price (price of attendance minus total aid) in constant 2011–12 dollars of postsecondary education among undergraduates, by type of institution and selected student characteristics: 2007–08 and 2011–12—continued

Student characteristics	2011–12				2007–08 (constant 2011–12 dollars)			
	Public		Private nonprofit		Private for-profit ⁴		Total (2-year or more)	
	2-year	4-year	2-year	4-year	2-year	4-year	2-year	4-year
Full-time/full-year undergraduates¹								
Dependency ² and income ³								
Dependent students								
Lowest 25 percent	7,500	7,100	11,000	12,400	18,000	12,400	15,000	14,900
Lower middle 25 percent	10,200	9,900	12,900	13,500	15,300	13,500	14,200	16,600
Upper middle 25 percent	11,900	13,900	18,200	17,800	18,500	17,800	18,200	17,100
Highest 25 percent	13,100	16,800	26,600	20,500	24,900	20,500	22,700	18,000
Independent students								
Lowest 25 percent	8,800	8,600	13,900	13,100	17,200	13,100	14,300	19,600
Lower middle 25 percent	9,000	8,400	13,900	12,600	17,600	12,600	13,900	19,200
Upper middle 25 percent	9,500	10,300	15,000	12,900	17,000	12,900	13,700	20,600
Highest 25 percent	11,500	13,600	17,300	13,600	18,800	13,600	14,400	23,700

¹ Full-time/full-year students were enrolled full time 9 months or more during the academic year (July 1 to June 30).

² Dependent students are undergraduates under age 24 who are not married, have no dependents, are not veterans or on active military duty, are not orphans or wards of the court, were not homeless or at risk of becoming homeless, and were not determined to be independent by a financial aid officer using professional judgment. Other undergraduates are considered to be independent.

³ Consists of parents' 2010 income in NPSAS:12 or 2006 income in NPSAS:08 for dependent students. Independent student income includes the student's income (and the income of a spouse if the student is married) in 2010 for NPSAS:12 or 2006 for NPSAS:08.

⁴ The sampling design for NPSAS:08 combined private for-profit 2-year with private for-profit 4-year institutions, whereas NPSAS:12 explicitly sampled private for-profit 4-year and private for-profit 2-year institutions separately. NPSAS:12 for-profit institution estimates were aggregated under the total to allow for comparisons with NPSAS:08.

NOTE: Total aid includes all types of financial aid from any source except parents, friends, or relatives. Total aid includes Direct PLUS loans to parents of undergraduate students, known in 2007–08 as Parent Loans to Undergraduate Students (PLUS). This table excludes students attending less-than-2-year institutions, private nonprofit 2-year institutions, or more than one institution. Estimates include students enrolled in Title IV eligible postsecondary institutions in the 50 states and the District of Columbia. For comparability with NPSAS:12, these estimates exclude students enrolled in Puerto Rican institutions by filtering on COMPT087. Unlike prior cycles of NPSAS, NPSAS:12 does not include institutions sampled from Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2007–08 and 2011–12 National Postsecondary Student Aid Study (NPSAS:08 and NPSAS:12).

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Appendix A—Glossary

This glossary includes descriptions of the variables used in the tables of this report, all of which are found in the 2011–12 and 2007–08 National Postsecondary Student Aid Study (NPSAS:12 and NPSAS:08) databases and are generated by PowerStats, a web-based software application available to the public online at <http://nces.ed.gov/datalab>. Variables are listed in the glossary index below by general topic area and then in the order in which they appear in the tables. The glossary that follows is organized alphabetically by variable label.

Glossary Index

Institution and Student Characteristics

Type of institution (includes students attending multiple institutions)	SECTOR1
Attendance pattern.....	ATINSTAT
Dependent student income.....	PCTDEP
Independent student income.....	PCTINDEP
Number of institutions attended.....	STUDMULT

Institution price

Price of attendance (student budget [attendance adjusted])	BUDGETAJ
Net out-of-pocket price of attendance (student budget minus all aid)	NETCST1
Net price of attendance (student budget minus all grants)	NETCST3

Survey sample

Comparable to 1987 (and 2012) NPSAS	COMPTO87
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VARIABLE

Attendance pattern**ATTNSTAT**

Number of months enrolled full time or part time at all institutions attended during the academic year. Full-year was defined as enrollment for 9 or more months during the NPSAS year. Months did not have to be contiguous or at the same institution, and students did not have to be enrolled for a full month in order to be considered enrolled for that month. Full-time status for the purposes of financial aid eligibility was based on 12 or more credit hours, unless the awarding institution employed a different standard. The categories were as follows:

Full-time/full-year	Enrolled full time for 9 or more months.
Full-time/part-year	Enrolled full time, but for less than 9 months.
Part-time/full-year	Enrolled for 9 or more months, but less than 9 months were full time.
Part-time/part-year	Enrolled for less than 9 months, and these months were not all full time.

Comparable to 1987 (and 2012) NPSAS**COMPTO87**

All cycles of NPSAS, except NPSAS:87 and NPSAS:12, sampled institutions in Puerto Rico. To compare other NPSAS cycles to NPSAS:87 and NPSAS:12, analysts must exclude Puerto Rico. The estimates from NPSAS:08 in this report were filtered using COMPTO87.

Dependent student income**PCTDEP**

For dependent undergraduates, this variable represents the total income of the student's parents in the year prior to the academic year for all dependent undergraduates in the United States. Prior calendar year income is reported in the financial aid application and used in determining the expected family contribution (EFC) in need analysis. For example, 2010 income was used to determine financial aid eligibility for the 2011–12 academic year. Values are based on the financial aid application or the student interview. This variable represents the percentile rank of family income for all dependent students. The “Lowest 25 percent” includes those with incomes in the 0 to 24 percent range; the “Lower middle 25 percent” includes those with incomes in the 25 to 49 percent range; the “Upper middle 25 percent” includes those with incomes in the 50 to 74 percent range; and those in the “Highest 25 percent” have incomes in the 75 percent range or higher.

Independent student income**PCTINDEP**

For independent students, this variable represents the total income of the student (and spouse, if married) in the year prior to the academic year. Prior calendar year income is reported in the financial aid application and used in determining the expected family contribution (EFC) in need analysis. For example, 2010 income was used to determine financial aid eligibility for the 2011–12 academic year. Values are based on the financial aid application or the student interview. This variable represents the percentile rank of income for all independent students. The “Lowest 25 percent” includes those with incomes in the 0 to 24 percent range; the “Lower middle 25 percent” includes those with incomes in the 25 to 49 percent range; the “Upper middle 25 percent” includes those with incomes in the 50 to 74 percent range; and those in the “Highest 25 percent” have incomes in the 75 percent range or higher.

Number of institutions attended**STUDMULT**

The number of institutions attended during the academic year. Students who attended more than one institution were removed using STUDMULT because nontuition expenses at an institution other than the sampled NPSAS institution are not known. As an alternative, analysts can use AIDSECT (which combines STUDMULT and institution type) to accurately generate estimates by removing students who attend multiple institutions.

VARIABLE

Price of attendance (i.e., sticker price)**BUDGETAJ**

The price of attendance is the attendance-adjusted student budget at the NPSAS sample institution for students who attended only one institution during the academic year. It includes tuition and fees, books and supplies, room and board, transportation, and personal and any other expenses allowed for federal cost of attendance budgets. The price is based on institution-reported student budgets for students who applied for financial aid. Budgets for students who did not apply for financial aid were imputed by calculating the average nontuition budget amounts for aided students at the institution by dependency status and then adding the tuition and fees paid. Nontuition expenses for part-time or part-year students were adjusted to reflect the number of months enrolled and the attendance intensity.

Price of attendance minus all aid (i.e., net out-of-pocket price)**NETCST1**

The price of attendance minus all aid represents the estimated out-of-pocket expense to students (or net price) remaining after all financial aid, including loans, is received. It is equal to the attendance-adjusted student budget (BUDGETAJ) minus total aid (TOTAID)⁷. For students who did not receive any financial aid, this amount is the same as the price of attendance. NETCST1 reflects the immediate costs that students and their families need to pay to attend college. It does not reflect the cost the student is responsible for over the long-term. Students may incur debt through student loans which include interest to finance their education. NETCST1 is calculated only for students who attended one institution during the respective academic year.

Price of attendance minus all grants (i.e., net price)**NETCST3**

NETCST3 is the net total price of attendance after all grants. It is equal to the attendance-adjusted student budget (BUDGETAJ) minus all grants and scholarships from all sources (TOTGRT). Grants include tuition waivers and employer tuition reimbursements. NETCST3 does not include federal Veterans' benefits, work-study, or education tax benefits. For students who did not receive any grants, this amount is the same as the price of attendance. NETCST3 reflects the immediate and/or long-term costs that students and their families pay to attend college. The principal of the student loans incurred during the academic year is reflected in the price. NETCST3 is only calculated for students who attended one institution during the respective academic year.

Type of institution (includes students attending multiple institutions)**SECTOR1**

Control and level of the NPSAS sample institution attended by the student during the 2011–12 (or 2007–08) academic year, based on the classification in the Integrated Postsecondary Education Data System (IPEDS) Institutional Characteristics file, respectively. Control concerns the source of revenue and control of operations (public, private nonprofit, private for-profit), and level concerns the highest degree or award offered by the institution in any program. Four-year institutions awarded at least a bachelor's degree; 2-year institutions awarded an associate's degree but not a bachelor's degree or higher; less-than-2-year institutions awarded certificates or other credentials in vocational programs but not an associate's degree or higher.

⁷ TOTAID included any grants, student loans, work-study, Direct PLUS Loans to parents of dependent undergraduates (known as Parent Loans for Undergraduate Students in 2007–08), job training funds, Veterans' benefits and Department of Defense programs, and assistantships. It did not include federal tax benefits or financial assistance from parents, relatives, or friends.

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Appendix B— NPSAS:12 Technical Notes and Methodology

Overview

The fundamental purpose of the 2011–12 National Postsecondary Student Aid Study (NPSAS:12) is to serve as a comprehensive nationwide study to describe how students and their families pay for postsecondary education. NPSAS:12 features a nationally representative sample of both aided and nonaided students in postsecondary education institutions in the United States. The sample is made up of undergraduate and graduate students. These students attended all types and levels of postsecondary institutions that were eligible to distribute student aid authorized under Title IV of the Higher Education Act, including public and private institutions, for-profit and nonprofit institutions, less-than-2-year institutions, 2-year institutions, and 4-year colleges and universities.

The U.S. Department of Education’s (ED’s) National Center for Education Statistics (NCES) first implemented NPSAS during the 1986–87 academic year to meet the need for national-level data about financial aid issues. Since then, NCES has conducted NPSAS every 3 to 4 years, with the most recent implementation during the 2011–12 academic year. NPSAS also serves as the base-year data collection for two longitudinal studies—the Beginning Postsecondary Students Longitudinal Study (BPS) and the Baccalaureate and Beyond Longitudinal Study (B&B)—in alternating cycles. NPSAS:12 is the base year for BPS:12/17, which plans to follow a cohort of 2011–12 first-time beginning postsecondary students (FTBs) in 2014 and then again in 2017. A section of the NPSAS student interview focuses on describing the experiences of these students in their first year of postsecondary education.

Data Sources for NPSAS:12

The data collected for NPSAS:12 were obtained from multiple sources, including, but not limited to, the following:

- **Student records:** Institutions were asked to provide information from student financial aid records and other institutional sources;
- **Student interviews:** Data were collected from students using a multimodal web-based survey either self-administered via the Web or through a computer-assisted telephone interview;

- **ED’s Central Processing System (CPS):** An ED database containing data from the Free Application for Federal Student Aid (FAFSA) forms;
- **ED’s National Student Loan Data System (NSLDS):** An ED database of Title IV federal grant and loan funding; and
- **ED’s Integrated Postsecondary Education Data System (IPEDS):** NCES’s database of descriptive information about individual postsecondary institutions.

Sample Design

NPSAS:12 used a two-stage sampling design. The first stage involved the selection of institutions. In the second stage, students were selected from within sampled institutions.

Selected institutions had to meet the following requirements:

- offered an educational program designed for persons who have completed secondary education;
- offered at least one academic, occupational, or vocational program of study lasting at least 3 months or 300 clock hours;
- offered courses that were open to more than the employees or members of the company or group (e.g., union) that administers the institution;
- were located in the 50 states or the District of Columbia;
- were not a U.S. Service academy institution; and
- had signed the Title IV participation agreement with ED.⁸

Institutions that provided only avocational, recreational, or remedial courses, or only in-house courses for their own employees or members, were excluded. All five of the U.S. Service academies were excluded because of their unique funding/tuition base: U.S. Military Academy, U.S. Naval Academy, U.S. Coast Guard Academy, U.S. Merchant Marine Academy, and U.S. Air Force Academy.

⁸ A Title IV eligible institution has a written program participation agreement with the U.S. Secretary of Education that allows the institution to participate in any of the Title IV federal student financial assistance programs other than the State Student Incentive Grant (SSIG) and the National Early Intervention Scholarship and Partnership (NEISP) programs.

The above institution eligibility conditions were consistent with all previous NPSAS administrations with three exceptions: Title IV participation, inclusion of correspondence schools, and exclusion of Puerto Rico. The requirement that an institution be eligible to distribute federal Title IV aid was implemented beginning with NPSAS:2000. Institutions that offered only correspondence courses, provided these same institutions were also eligible to distribute federal Title IV student aid, were first included in NPSAS:04. Institutions in Puerto Rico were not originally included in NPSAS in 1987 but were subsequently added to administrations of NPSAS between 1993 and 2008. Although Puerto Rican institutions enroll only about 1 percent each of undergraduate and graduate students nationally, unique aid, enrollment, and demographic patterns distinguish it from institutions in the 50 states and the District of Columbia. As a result, students enrolled at these institutions tend to skew national estimates for Hispanic students not enrolled in institutions located in Puerto Rico. Because of this concern, and because estimates have never been representative for Puerto Rico, these institutions were not included in the 2012 administration of NPSAS.

The NPSAS:12 target population consisted of all eligible students enrolled at any time between July 1, 2011, and June 30, 2012, in eligible postsecondary institutions in the United States who were

- enrolled in
 - an academic program;
 - at least one course for credit that could be applied toward fulfilling the requirements for an academic degree;
 - exclusively noncredit remedial coursework but determined by the institution to be in a program of study eligible for Title IV aid; or
 - an occupational or vocational program that required at least 3 months or 300 clock hours of instruction to receive a degree, certificate, or other formal award;
- not currently enrolled in high school; and
- not solely enrolled in a General Educational Development (GED) or another high school completion program.

The above student eligibility criteria were consistent with all previous NPSAS administrations except, in 2012, NCES clarified that students enrolled exclusively in noncredit remedial coursework were eligible to participate in NPSAS so long as the institution had determined they were in a program of study eligible for Title IV aid.

The NPSAS:12 full-scale institution sampling frame was constructed prior to the study's field test (conducted during the 2010–11 financial aid year) from the IPEDS:2008–09 Institutional Characteristics (IC), 12-Month and Fall Enrollment, and Completions files. For the small number of institutions on the frame that had missing enrollment information, the data were imputed using the latest IPEDS imputation procedures to guarantee complete data for the frame.

Because the original sample of 1,670 institutions was drawn from the IPEDS:2008–09 IC file, the institution sample was freshened in order to add newly eligible institutions to the sample and produce a sample that was representative of institutions eligible in the 2011–12 academic year. To do this, the IPEDS:2009–10 IC, 12-Month and Fall Enrollment, and Completions files were used to create an updated sampling frame of current NPSAS-eligible institutions. This frame was then compared with the original frame, and 387 new or newly eligible institutions were identified. These 387 institutions were included in the freshening sampling frame. Twenty institutions were selected and added to the sample during the freshening process, resulting in a total of 1,690 sampled institutions. Four of these 1,690 institutions had become ineligible and were identified while contacting institutions rather than through the freshening process. Table B-1 shows the number of institutions that were sampled, the number of eligible institutions, the number of eligible institutions providing enrollment lists, the unweighted percentage of eligible institutions providing enrollment lists, and the weighted percentage of eligible institutions providing enrollment lists, by institution characteristic.

Table B-1.
Numbers of sampled, eligible, and participating institutions and enrollment list participation rates, by institution characteristic:
2012

Institution characteristic ¹	Sampled institutions	Eligible institutions	Eligible institutions providing lists		
			Number	Unweighted percent	Weighted percent ²
All institutions	1,690	1,690	1,480	87.8	87.0
Institution level					
Less-than-2-year	80	80	70	79.5	79.8
2-year	510	510	430	83.9	83.6
4-year non-doctorate-granting	630	630	570	90.5	90.5
4-year doctorate-granting	470	470	420	89.9	89.2
Institution control					
Public	760	760	670	88.5	87.3
Private nonprofit	500	500	440	88.4	86.7
Private for-profit	430	430	370	85.9	85.6
Institution type					
Public					
Less-than-2-year	20	20	20	77.3	78.8
2-year	380	380	320	85.3	84.1
4-year non-doctorate-granting	130	130	120	93.8	92.3
4-year doctorate-granting	230	230	210	91.7	90.5
Private nonprofit					
Less-than-4-year	20	20	20	75.0	77.7
4-year non-doctorate-granting	260	260	230	88.8	87.6
4-year doctorate-granting	220	220	200	89.1	86.4
Private for-profit					
Less-than-2-year	60	50	40	81.5	80.3
2-year	120	120	90	80.0	77.5
4-year	260	260	230	89.5	89.5

¹ Institution characteristics are based on data from the sampling frame formed from IPEDS:2008–09 and freshened from IPEDS:2009–10.

² The weight applied in this column is a base weight.

NOTE: Detail may not sum to totals because of rounding. IPEDS = Integrated Postsecondary Education Data System.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011–12 National Postsecondary Student Aid Study (NPSAS:12).

Each sampled institution verified as NPSAS-eligible was asked to provide a list of all students who satisfied all eligibility conditions. The NPSAS:12 student sample of 128,120 (as shown in table B-2) included two subgroups who were intentionally sampled at rates higher than their natural occurrence within the population to improve data quality. One subgroup included undergraduates enrolled in all types of for-profit institutions. In 2009–10, students in for-profit institutions received about 24 percent⁹

⁹ U.S. Department of Education, Federal Student Aid, Title IV Program Volume Reports: <http://studentaid.ed.gov/about/data-center/student/title-iv>.

of disbursed federal aid while constituting about 11 percent¹⁰ of the student population. For this subgroup, students in for-profit institutions and in the three undergraduate student strata listed below were oversampled. The other subgroup included FTB undergraduates enrolled in certificate programs at all types of institutions, who have important early labor market experiences that can only be explored in BPS with a sufficiently large starting sample. The first stratum below was added for this second subgroup, but the sampling rates for this stratum accounted for oversampling of these two subgroups.

Eleven student sampling strata were identified for NPSAS:12. Unlike prior NPSAS administrations, NPSAS:12 included additional stratification at the graduate student level to improve the quality of estimates for students in Science, Technology, Engineering, and Mathematics (STEM) programs. The resulting strata were

- FTB undergraduate students enrolled in certificate programs;
- other FTB undergraduate students;
- other undergraduate students;¹¹
- master's degree students in STEM programs;
- master's degree students in education and business programs;
- master's degree students in other programs;
- doctor's degree – research/scholarship and doctor's degree – other students in STEM programs;
- doctor's degree – research/scholarship and doctor's degree – other students in education and business programs;
- doctor's degree – research/scholarship and doctor's degree – other students in other programs;
- doctor's degree – professional practice students;¹² and
- other graduate students.¹³

As student lists were received from institutions, students were sampled by means of stratified systematic sampling with predetermined sampling rates that varied by student stratum. Table B-2 shows the number of students who were sampled, the number of eligible students, and the unweighted and weighted percentages of study members, by institution characteristics.

¹⁰ U.S. Department of Education, National Center for Education Statistics, IPEDS: http://nces.ed.gov/programs/digest/d11/tables/dt11_231.asp.

¹¹ “Other undergraduate students” are defined as any undergraduate student not classified as an FTB student.

¹² Previous administrations of NPSAS have included samples of first-professional students. However, IPEDS has replaced the term “first-professional” with “doctor's degree – professional practice.”

¹³ “Other graduate students” are those who are not enrolled in a degree program, such as students taking just graduate courses.

Table B-2.
Numbers of sampled and eligible students and rates of study membership, by institution characteristic: 2012

Institution characteristic ²	Sampled students	Eligible students ³	Study members ¹	
			Unweighted percent	Weighted percent ⁴
All institutions	128,120	123,600	89.9	91.0
Institutional level				
Less-than-2-year	6,380	5,910	93.0	84.7
2-year	48,040	45,680	86.5	86.6
4-year non-doctorate-granting	37,530	36,370	88.6	93.2
4-year doctorate-granting	36,170	35,650	94.9	94.3
Institutional control				
Public	66,500	64,080	89.5	90.0
Private nonprofit	19,680	19,240	92.9	94.7
Private for-profit	41,940	40,280	88.9	91.4
Institution type				
Public				
Less-than-2-year	790	730	81.5	88.3
2-year	37,000	35,140	86.1	86.3
4-year non-doctorate-granting	8,180	7,930	91.8	91.9
4-year doctorate-granting	20,530	20,280	94.8	94.3
Private nonprofit				
Less-than-4-year	1,090	1,010	91.9	94.7
4-year non-doctorate-granting	8,520	8,300	92.4	95.9
4-year doctorate-granting	10,070	9,920	93.5	93.8
Private for-profit				
Less-than-2-year	5,270	4,900	94.8	84.1
2-year	10,280	9,800	87.5	90.0
4-year	26,390	25,580	88.3	93.7

¹ A study member is defined as an eligible sample member for whom sufficient key data were obtained from one or more sources.

² Institution characteristics are based on data from the sampling frame formed from IPEDS:2008–09 and freshened from IPEDS:2009–10.

³ Sample member eligibility was determined during the student interview or from institutional records in the absence of a student interview.

⁴ The weight applied in this column is a base weight.

NOTE: Detail may not sum to totals because of rounding. IPEDS = Integrated Postsecondary Education Data System.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011–12 National Postsecondary Student Aid Study (NPSAS:12).

Study Members

Study members, the unit of analysis in NPSAS:12, includes sample members for whom data were available for a subset of key variables. The data required for study member designation were collected from student records, student interviews, and administrative federal and private databases including the CPS and NSLDS.

Specifically, a study member was any sampled student who was determined to be study eligible and had, at a minimum, valid data from any source¹⁴ for the following:

- student type (undergraduate or graduate);
- date of birth or age;
- sex; and
- at least 8 of the following 15 variables:
 - dependency status;
 - marital status;
 - any dependents;
 - income;
 - expected family contribution (EFC);
 - degree program;
 - class level;
 - FTB status;
 - months enrolled;
 - tuition;
 - received federal aid;
 - received nonfederal aid;
 - student budget;
 - race; and
 - parent education.

¹⁴ Sample members also must have had valid data for at least one key variable from at least one other data source other than CPS.

Perturbation

To protect the confidentiality of information about specific individuals, NPSAS:12 data were subject to perturbation procedures to minimize disclosure risk. Perturbation procedures, which have been approved by the NCES Disclosure Review Board, preserve central tendency estimates but may result in slight increases in nonsampling errors.

Imputation

All variables with missing data used in this report, as well as those included in the related PowerStats release, have been imputed. The imputation procedures involved a four-step process. In the first step, missing variables were logically imputed. In the second step, the criteria used to match variables into imputation classes to stratify the dataset were identified so that all imputations could be processed independently within each class. In the third step, an initial weighted sequential hot deck process was implemented (Cox 1980),¹⁵ whereby missing data were replaced with valid data from donor records that match the recipients with respect to the matching criteria. In the fourth step, a cyclic n -partition hot deck process (Marker, Judkins, and Winglee 2002) was implemented to iteratively cycle through n -partition hot decks.

Weighting

All estimates in this report were weighted to represent the target population described in the Sample Design section. The weights compensate for the unequal probability of selection of institutions and students in the NPSAS:12 sample. The weights also adjust for multiplicity at the institutional and student levels, unknown student eligibility, nonresponse, and poststratification. A summary of all the weight components, including the probabilities of selection and adjustments, is presented in table B-3. The student analysis weight, WTA000, is the product of the weight components in table B-3.

¹⁵ The term *hot deck* refers to the fact that the set of potential donors changes for each recipient. In contrast, *cold deck* imputation defines one static set of donors for all recipients. In all such imputation schemes, the selection of the donor from the entire deck is a random process.

Table B-3.
Summary of components of the student analysis weight: 2012

Weight component	Purpose
Institution sampling and subsampling weights	To account for the institution's probability of selection
Institution multiplicity adjustment	To adjust the weights for institutions that had multiple chances of selection
Institution nonresponse adjustment	To adjust the institution weights to compensate for nonresponding institutions
Institution poststratification adjustment	To adjust the institution weights to match population enrollment totals to ensure population coverage
Student sampling weight	To account for the student's probability of selection
Student multiplicity adjustment	To adjust the weights for students who attended more than one institution
Student unknown eligibility adjustment	To adjust the weights of nonresponding students with unknown eligibility
Student nonresponse adjustment	To adjust the weights to compensate for nonresponding students
Student poststratification adjustment	To adjust the student weights to match known population enrollment and aid totals to ensure population coverage

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011–12 National Postsecondary Student Aid Study (NPSAS:12).

In contrast to NPSAS:08, student poststratification adjustment procedures were revised in NPSAS:12 to use current year (i.e., 2011–12 for NPSAS:12), rather than prior-year, 12-month enrollment totals. In August 2013, NCES revised the weights accompanying NPSAS:08 to use 2007–08, rather than 2006–07, 12-month enrollment totals. These revised weights provide better estimates in sectors where significant enrollment shifts occurred between 2006–07 and 2007–08. This improvement has the greatest effect on estimates for students enrolled in the private for-profit sector, where these enrollment shifts resulted in inflated estimates of the incidence of certain types of financial aid. Information about the changes to NPSAS:08 weighting can be found in appendix C of *2011–12 National Postsecondary Student Aid Study (NPSAS:12): Student Financial Aid Estimates for 2011–12*.¹⁶

¹⁶ See Radwin, D., Wine, J., Siegel, P., and Bryan, M. (2013). *2011–12 National Postsecondary Student Aid Study (NPSAS:12): Student Financial Aid Estimates for 2011–12* (NCES 2013-165). Institute of Education Sciences, U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2013165>.

Quality of Estimates

Bias Analysis: General Description

NCES Statistical Standard 4-4-1 states that “Any survey stage of data collection with a unit or item response rate less than 85 percent must be evaluated for the potential magnitude of nonresponse bias before the data or any analysis using the data may be released. Estimates of survey characteristics for nonrespondents and respondents are required to assess the potential nonresponse bias” (U.S. Department of Education 2003).

Bias Analysis: Institution Level

An institution respondent is defined as any sampled institution for which a student enrollment list was received that was sufficient for selecting a sample.

As shown in table B-1, about 1,480 of the 1,690 eligible sample institutions were respondents (88 percent unweighted and 87 percent weighted). The institution weighted response rate is below 85 percent for 5 of the 10 types of institutions:

- public less-than-2-year;
- public 2-year;
- private nonprofit less-than-4-year;
- private for-profit less-than-2-year; and
- private for-profit 2-year.

The weighted response rates, by type of institution, range from 78 percent for private nonprofit less-than-4-year institutions and private for-profit 2-year institutions to 92 percent for public 4-year non-doctorate-granting institutions.

A nonresponse bias analysis was conducted overall and for each institutional sector, regardless of response rate, because all sectors are included in the nonresponse weight adjustments. The nonresponse bias was estimated for variables known for most respondents and nonrespondents, and some variables were added that were not included in the nonresponse weight adjustment. There are extensive data available for all institutions from IPEDS, and the following variables were used for the nonresponse bias analysis:¹⁷

- 2005 Carnegie classification;
- degree of urbanization;
- Office of Business Economics (OBE) region;
- Historically Black College or University (HBCU) indicator;

¹⁷ For the continuous variables, categories were formed based on quartiles.

- Hispanic Serving Institution (HSI) indicator;
- percentage of students receiving federal grant aid;
- percentage of students receiving state/local grant aid;
- percentage of students receiving institutional grant aid;
- percentage of students receiving student loan aid;
- average net price among students receiving grant or scholarship aid;
- percentage of students enrolled: Hispanic;
- percentage of students enrolled: Asian or Pacific Islander;
- percentage of students enrolled: Black, non-Hispanic;
- total undergraduate enrollment;
- male undergraduate enrollment;
- female undergraduate enrollment;
- total graduate enrollment;
- male graduate enrollment;
- female graduate enrollment;
- percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid;
- graduation rate of full-time, first-time degree/certificate-seeking undergraduates within 150 percent of normal time to completion;
- public institution tuition and fees as percentage of core revenues;
- private institution tuition and fees as percentage of core revenues;
- public institution instructional expenses per Full-time equivalent (FTE) enrollment; and
- private institution instructional expenses per FTE enrollment.

First, for the institution-level variables listed above, the nonresponse bias was estimated by comparing base weighted respondents to both nonrespondents and the full sample and tested to determine if it significantly differed from zero at the 5 percent level. The two comparisons yield identical bias estimates but not always the same significance testing results. Second, nonresponse adjustments were computed to significantly reduce or eliminate nonresponse bias for key variables included in the models. Third, using base weights adjusted for nonresponse, bias was re-estimated and statistical tests were performed to check for any remaining significant nonresponse bias. Finally, to better understand the effect of poststratification on efforts to reduce nonresponse bias, two additional sets of estimates were created. The first, the difference in respondent means before and after poststratification, represents the effect of poststratification on nonresponse adjustments. The second, the difference in base weighted full sample means and the poststratified respondent means, represents the cumulative effect of all weighting and adjustment steps.

As shown in table B-4, the institution nonresponse weighting adjustment eliminated some, but not all, significant bias on the observable characteristics (estimates for sectors with fewer than 30 institutions excluded). Before weighting, the percentage of variable categories that were significantly

biased ranged from 0 percent for four institutional sectors to 14.6 percent for public 4-year doctorate-granting institutions. After the nonresponse weight adjustment, the percentage of variable categories that remained significantly biased ranged from 0 percent overall and for three institutional sectors to 15.6 percent for private for-profit 4-year institutions. In four of the five sectors with remaining significant bias (ranging from -10.6 to 5.1), the bias remained in one or two categories of the variables' percentage of students receiving state/local grant aid, percentage of students receiving institutional grant aid, or percentage of Hispanic students enrolled. In the private for-profit 4-year sector, the bias (ranging from -2.5 to 5.1) remained in one or two categories of the variables' percentage of students receiving student loan aid, total and female undergraduate enrollment, graduation rate, and tuition and fees.

As shown in table B-5, the mean and median absolute differences between means for respondents before and after poststratification adjustment ranged from zero for private for-profit less-than-2-year institutions to 1.9 and 1.8, respectively, for private for-profit 2-year institutions (estimates for sectors with fewer than 30 institutions excluded). The mean and median absolute differences between means for the full sample and respondents after poststratification adjustment ranged from 0.5 and 0.4, respectively, for public 4-year non-doctorate-granting institutions to 6.5 to 4.7, respectively, for private for-profit less-than-2-year institutions.

Table B-4.
Summary of institution-level nonresponse bias analysis, by type of institution: 2011–12

Nonresponse bias statistics ¹	Public		Public		Private		Private		Private		
	less-than- 2-year	Public 2-year	4-year non- doctorate- granting	Public 4-year doctorate- granting	Private nonprofit less-than- 4-year	Private nonprofit doctorate- granting	Private nonprofit 4-year non- doctorate- granting	Private for-profit less-than- 2-year	Private for-profit 2-year	Private for-profit 4-year	
Overall	6.06	†	6.59	0.95	3.04	†	4.28	8.69	17.01	8.01	12.63
Before weight adjustments	5.00	†	4.60	0.61	1.94	†	3.37	5.99	11.96	5.80	2.58
Mean percent relative bias across characteristics	10.74	†	10.91	#	14.63	†	1.96	#	#	#	6.67
Median percent relative bias across characteristics	5.07	†	4.67	1.05	1.74	†	4.42	10.44	15.46	12.93	13.13
Percentage of characteristics with significant bias	3.47	†	2.97	0.58	1.16	†	3.04	8.76	12.89	11.19	3.19
After weight adjustments	#	†	1.82	#	2.44	†	3.92	#	7.14	#	15.56

Rounds to zero.

† Reporting standards not met. (Too few cases for a reliable estimate.)

¹ Relative bias and significance calculated on respondents vs. full sample. Relative bias is defined as the ratio of estimated bias to the weighted mean of the respondent cases. NOTE: Variable categories with fewer than five nonrespondents were suppressed for calculations in this table.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011–12 National Postsecondary Student Aid Study (NPSAS:12).

Table B-5.
Summary of institution-level differences between means, by type of institution: 2011–12

Summary statistics	Overall	Public		Public 4-year		Public 4-year non-doctorate-granting		Public 4-year non-doctorate-granting		Private nonprofit 4-year		Private nonprofit 4-year doctorate-granting		Private for-profit 2-year		Private for-profit 4-year	
		less-than-2-year	2-year	Public 2-year	Public 4-year non-doctorate-granting	Public 4-year non-doctorate-granting	Public 4-year non-doctorate-granting	Private nonprofit 4-year	Private nonprofit 4-year doctorate-granting	Private nonprofit 4-year	Private nonprofit 4-year doctorate-granting	Private for-profit 2-year	Private for-profit 4-year	Private for-profit 2-year	Private for-profit 4-year	Private for-profit 2-year	Private for-profit 4-year
Difference between means for respondents before and after poststratification adjustment¹																	
Mean absolute difference across characteristics	0.68	‡	0.48	0.08	0.79	‡	1.02	0.37	#	1.91	0.03						
Median absolute difference across characteristics	0.44	‡	0.38	0.08	0.43	‡	0.68	0.30	#	1.80	0.02						
Difference between means for full sample and respondents after poststratification adjustment²																	
Mean absolute difference across characteristics	1.10	‡	1.18	0.53	0.95	‡	1.16	2.37	6.46	2.44	1.42						
Median absolute difference across characteristics	0.74	‡	0.93	0.40	0.67	‡	0.88	1.71	4.71	1.80	1.23						

Rounds to zero.

‡ Reporting standards not met. (Too few cases for a reliable estimate.)

¹ Respondents before poststratification adjustment are weighted using the base weight, adjusted for multiplicity and nonresponse. Respondents after poststratification adjustment are weighted using the base weight, adjusted for multiplicity, nonresponse, and poststratification.

² Full sample is weighted using the base weight, adjusted for multiplicity. Respondents after poststratification adjustment are weighted using the base weight, adjusted for multiplicity, nonresponse, and poststratification.

NOTE: Variable categories with fewer than five nonrespondents were suppressed for calculations in this table.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011–12 National Postsecondary Student Aid Study (NPSAS:12).

Bias Analyses: Study Member Level and Student Interview Level

A study member was defined as any student sample member who was determined to be eligible for the study and had valid data from any source for a selected set of key analytical variables. While these were the minimal data requirements, the vast majority of study members had considerably more complete data.

As shown in table B-2, of the 123,600 eligible students, the weighted and unweighted rates of study membership were 91 and 90 percent, respectively. The rate of study membership was below 85 percent for 1 of the 10 types of institutions: private for-profit less-than-2-year. The weighted study membership rates, by type of institution, ranged from 84 percent for students in private for-profit less-than-2-year institutions to 96 percent for students in private nonprofit 4-year non-doctorate-granting institutions.

Using the procedure described above, a nonresponse bias analysis was conducted overall and within each institutional sector. Again, each sector was included regardless of response rate because all sectors were included in the nonresponse weight adjustments. The nonresponse bias was estimated for variables known for most respondents and nonrespondents, and some variables were added that were not included in the nonresponse weight adjustment. Bias estimates and differences were suppressed for variable categories with fewer than 30 student-level nonrespondents. The following variables were used for the nonresponse bias analysis:¹⁸

- institution type;
- region;
- institution enrollment from IPEDS;
- student type (sampled);
- student type (after data collection);
- FTB status (sampled);
- age group;
- CPS record indicator (yes/no);
- Pell Grant receipt (yes/no);
- Pell Grant amount;
- Direct Loan receipt (yes/no);
- Direct Loan amount;
- Direct PLUS Loans to parents amount;
- federal aid receipt (yes/no);
- institution aid receipt (yes/no);

¹⁸ For the continuous variables, categories were formed based on quartiles.

- state aid receipt (yes/no);
- any aid receipt (yes/no);
- major (2-digit CIP);
- degree program;
- class level of undergraduates;
- percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid;
- graduation rate of full-time, first-time degree/certificate-seeking undergraduates within 150 percent of normal time to completion;
- public institution tuition and fees as percentage of core revenues;
- private institution tuition and fees as percentage of core revenues;
- public institution instructional expenses per FTE enrollment; and
- private institution instructional expenses per FTE enrollment.

As shown in table B-6, the student nonresponse weighting adjustment eliminated some, but not all, study member significant bias on the observable characteristics. Before weighting, the percentage of variable categories that were significantly biased ranged from 0 percent for students in private nonprofit less-than-4-year institutions to 68.8 percent for students in private for-profit less-than-2-year institutions. The percentage of variable categories that remained significantly biased after the nonresponse weight adjustment ranged from 5.2 percent for students in private for-profit 2-year institutions to 28.1 percent for students in private for-profit less-than-2-year institutions. Overall, significant bias remained in one category of the variable tuition and fees; two categories of federal aid status, major, and degree program; and three categories of class level. Significant bias was -5.1 and 5.1 for the federal aid status categories and ranged from -0.6 to 0.5 for the other variables. For each sector, all variables had remaining significant bias for at least one category, except for CPS record available and instructional expense. Bias for federal aid status was significant for one or two categories in 9 of the 10 sectors and ranged from -8.6 to 8.7. Major had one to five categories with significant bias in five sectors, and degree program and class level had one or two categories with significant bias in six and five sectors, respectively. The remaining variables had one to four categories with significant bias in one or two sectors. Significant remaining bias for variables other than federal aid status ranged from -3.3 to 1.3, with the majority between -1.0 and 1.0.

Table B-6.
Summary of student-level nonresponse bias analysis, by type of institution: 2011–12

Nonresponse bias statistics ¹	Overall	Public		Public		Private		Private		Private		
		less-than-2-year	Public 2-year	4-year non-doctorate-granting	Public 4-year doctorate-granting	Private non-profit less-than-4-year	Private non-profit 4-year doctorate-granting	Private non-profit less-than-2-year	Private non-profit 2-year	Private non-profit 4-year	Private for-profit 4-year	
Before weight adjustments - study member												
Mean percent relative bias across characteristics	5.29	46.21	8.73	8.16	4.43	8.69	5.01	4.07	13.35	8.30	6.86	
Median percent relative bias across characteristics	2.91	9.68	4.02	1.67	0.91	3.34	1.45	1.59	10.68	3.37	3.38	
Percentage of characteristics with significant bias	64.10	40.00	53.75	36.21	32.84	#	43.33	38.18	68.75	34.48	57.14	
Before weight adjustments - interview												
Mean percent relative bias across characteristics	8.45	23.77	7.88	8.01	5.08	16.95	7.44	4.85	7.68	8.37	9.97	
Median percent relative bias across characteristics	6.54	12.44	4.31	4.07	2.00	8.09	3.60	2.86	6.17	4.58	4.87	
Percentage of characteristics with significant bias	76.42	30.56	50.00	50.62	41.76	14.55	50.65	34.62	21.05	33.33	47.56	
After nonresponse weight adjustments												
Mean percent relative bias across characteristics	1.49	10.64	3.10	4.34	2.72	6.43	2.77	1.59	2.86	1.89	2.19	
Median percent relative bias across characteristics	0.20	3.67	1.06	1.06	0.42	2.68	0.92	0.82	1.66	1.35	0.99	
Percentage of characteristics with significant bias	8.55	10.00	13.75	13.79	10.45	5.56	11.67	9.09	28.13	5.17	12.86	

Rounds to zero.

¹ Relative bias and significance calculated on respondents vs. full sample. Relative bias is defined as the ratio of estimated bias to the weighted mean of the respondent cases.

NOTE: Variable categories with fewer than 30 nonrespondents were suppressed for calculations in this table.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011–12 National Postsecondary Student Aid Study (NPSAS:12).

As shown in table B-7, the mean and median absolute differences between means for respondents before and after poststratification adjustment ranged from 0.5 and 0.3, respectively, for students in public 4-year doctorate-granting institutions to 8.2 and 4.6, respectively, for students in private for-profit less-than-2-year institutions. The mean and median absolute differences between means for the full sample and respondents after poststratification adjustment ranged from 0.6 and 0.3, respectively, for students in public 4-year doctorate-granting institutions to 7.9 and 3.4, respectively, for students in private for-profit less-than-2-year institutions.

Finally, an additional nonresponse bias analysis was conducted in which interview respondents and interview nonrespondents were compared, following the same procedures outlined above. As shown in table B-6, the nonresponse weighting adjustment eliminated some, but not all, student interview significant bias. Before weighting, the percentage of variable categories that were significantly biased on the basis of *t*-tests ranged from 14.5 percent for students in private nonprofit less-than-4-year institutions to 76.4 percent overall. Because study members, not interview respondents, are the unit of analysis in NPSAS:12, only a study member weight was created. As a result, nonresponse bias analyses after weight adjustments could not be computed. More information about remaining nonresponse bias after the nonresponse weight adjustment and the poststratification adjustment is available in tables B-6 and B-7, respectively.

Table B-7.
Summary of student-level differences between means, by type of institution: 2011–12

Summary statistics	Public		Public 4-year non-doctorate-granting		Public 4-year non-doctorate-granting		Private non-profit 4-year non-doctorate-granting		Private non-profit 4-year non-doctorate-granting		Private for-profit 2-year		Private for-profit 4-year	
	less-than-2-year	Public 2-year	Public 4-year non-doctorate-granting	Public 4-year non-doctorate-granting	Public 4-year non-doctorate-granting	Private non-profit 4-year non-doctorate-granting	Private non-profit 4-year non-doctorate-granting	Private non-profit 4-year non-doctorate-granting	Private non-profit 4-year non-doctorate-granting	Private for-profit 2-year	Private for-profit 2-year	Private for-profit 4-year	Private for-profit 4-year	
Difference between means for respondents before and after poststratification adjustment¹														
Mean absolute difference across characteristics	6.64	1.44	1.31	0.54	3.95	1.45	0.81	8.23	3.07	1.15				
Median absolute difference across characteristics	2.54	0.41	0.80	0.35	1.69	0.73	0.63	4.60	1.31	0.68				
Difference between means for full sample and respondents after poststratification adjustment²														
Mean absolute difference across characteristics	6.50	1.51	1.39	0.62	4.66	1.44	0.86	7.94	3.08	1.18				
Median absolute difference across characteristics	3.34	0.42	0.69	0.29	2.64	0.69	0.70	3.45	1.27	0.70				

¹ Respondents before poststratification adjustment are weighted using the base weight, adjusted for multiplicity, unknown eligibility, and nonresponse. Respondents after poststratification adjustment are weighted using the base weight, adjusted for multiplicity, unknown eligibility, nonresponse, and poststratification.

² Full sample is weighted using the base weight, adjusted for multiplicity and unknown eligibility. Respondents after poststratification adjustment are weighted using the base weight, adjusted for multiplicity, unknown eligibility, nonresponse, and poststratification.

NOTE: Variable categories with fewer than 30 nonrespondents were suppressed for calculations in this table.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011–12 National Postsecondary Student Aid Study (NPSAS:12).

Bias Analysis: Item-Level

NCES Statistical Standard 4-4-3A states: “For an item with a low total response rate, respondents and nonrespondents can be compared on sampling frame and/or questionnaire variables for which data on respondents and nonrespondents are available. Base weights must be used in such analysis. Comparison items should have very high response rates. This approach may be limited to the extent that items available for respondents and nonrespondents may not be related to the low response rate item being analyzed” (U.S. Department of Education 2003).

Moreover, NCES Statistical Standard 1-3-5 states: “Item response rates (RRI) are calculated as the ratio of the number of respondents for whom an in-scope response was obtained (I^x for item x) to the number of respondents who are asked to answer that item. The number asked to answer an item is the number of unit level respondents (I) minus the number of respondents with a valid skip item for item x (V^x). When an abbreviated questionnaire is used to convert refusals, the eliminated questions are treated as item nonresponse. . . . In the case of constructed variables, the numerator includes cases that have available data for the full set of items required to construct the variable, and the denominator includes all respondents eligible to respond to all items in the constructed variable” (U.S. Department of Education 2003). The item response rate is calculated as:

$$RRF^x = I^x / (I - V^x)$$

A student was defined to be an item respondent for an analytic variable if that student had data for that variable from any source, including logical imputation. Item nonrespondents for analytic variables were study members who did not have data for that variable from any source. As shown in table B-8, the weighted item response rates for items used in this First Look Report for all students ranged from 29 percent to 100 percent. The weighted item response rates by type of institution ranged from 16 percent to 100 percent.

Table B-8.
Weighted item response rates for all students and by type of institution: 2011–12

Variable	Variable label	All students	Public		Private		Private		Private		Private	
			less-than-2-year	Public 4-year non-doctorate	Public 4-year non-doctorate	less-than-4-year doctorate	not-for-profit 4-year non-doctorate	not-for-profit 4-year doctorate	for-profit less-than-2-year	for-profit 2-year	for-profit 4-year	
ATTNSTAT	Attendance pattern	97.7	99.2	96.7	98.3	98.5	98.3	98.4	98.7	98.4	97.0	97.7
BUDGETAJ	Price of attendance (student budget [attendance adjusted])	40.4	55.9	34.6	44.8	48.3	71.1	49.4	39.9	43.5	31.4	33.2
NETCST1	Net out-of-pocket price of attendance (student budget minus all aid)	28.9	35.7	23.5	33.0	37.0	41.8	39.2	32.0	21.9	16.0	19.8
NETCST3	Net price of attendance (student budget minus all grants)	29.8	35.8	23.9	34.1	38.2	43.2	40.4	33.3	23.3	17.3	21.0
PCTDEP	Income percentiles for dependent students	68.4	67.6	60.8	68.5	70.3	75.6	78.4	72.4	81.9	81.3	89.6
PCTINDEP	Income percentiles for independent students	60.3	69.4	56.8	56.3	52.9	65.2	61.8	50.3	84.0	83.3	79.8
SECTOR1	Type of institution	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
STUDMULT	Number of institutions attended	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

NOTE: Weighted item response rates are calculated per NCES Statistical Standard 1-3-5 as the ratio of the number of respondents for whom an in-scope response was obtained to the number of respondents who are asked to answer that item.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011–12 National Postsecondary Student Aid Study (NPSAS:12).

Per NCES Standard 1-3-5, response rates for composite variables must account for missing inputs prior to imputation. Therefore, while most of the components of key constructed variables had response rates greater than 95 percent, many are reported as having low response rates.

Five of the items had a weighted response rate below 85 percent. As shown in table B-8, the response rates for these items (BUDGETAJ, NETCST1, NETCST3, PCTDEP, and PCTINDEP) were below 85 percent for all students and for all of the applicable institution types. (See appendix A for descriptions of these items.) A nonresponse bias analysis was conducted for these five items. The nonresponse bias was estimated for variables known for study members and nonstudy members. The procedures used for the item-level nonresponse bias analysis are the same as those used for the student-level nonresponse bias analysis presented above, and a subset of the variables used for the student-level analysis were used for the item-level analysis.¹⁹ Bias estimates were suppressed for variable categories with fewer than 30 item-level nonrespondents.

The percentage of variable categories for which the five items have statistically significant bias prior to imputation ranged from 70 to 75 percent for all students and from 16 to 83 percent by institution sector. The median percent relative absolute bias ranged from 8 to 22 percent for all students and from 2 to 29 percent by institution sector. The survey statisticians measured the differences between means before and after imputation and tested for statistical differences. Statistical tests of these differences were significant for four of the five items for all students and for all five items for at least four institution sectors, indicating that some nonresponse bias may have been reduced through imputation. For more information about the item-level nonresponse bias analysis, see *2011–12 National Postsecondary Student Aid Study (NPSAS:12): Data File Documentation*.²⁰

Response rates for BUDGETAJ, NETCST1, and NETCST2, which are below 41 percent, warrant additional discussion regarding the validity of the estimates to the population. These variables are based on data reported by institutions. Not all institutions are able to provide all the necessary data components needed to create the full budget (and therefore a calculated net price), so IPEDS is used (adjusted for attendance status) to impute the data within institution/student classes.

Standard Errors

To facilitate computation of standard errors for both linear and nonlinear statistics, a vector of bootstrap sample weights was added to the analysis file. These weights are zero for units not selected

¹⁹ Variables that were added to the student-level nonresponse bias analysis and not included in the nonresponse weight adjustment were not included in the item-level nonresponse bias analysis.

²⁰ See Wine, J., Bryan, M., and Siegel, P. (2013). *2011–12 National Postsecondary Student Aid Study (NPSAS:12): Data File Documentation* (NCES 2014-182). Institute of Education Sciences, U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2014182>.

in a particular bootstrap sample; weights for other units are inflated for the bootstrap subsampling. The initial analytic weights for the complete sample were also included to compute the desired estimates. The vector of replicate weights allows for computing additional estimates for the sole purpose of estimating a variance. Assuming B sets of replicate weights, the variance of any estimate can be estimated by replicating the estimation procedure for each replicate and computing a simple variance of the replicate estimates; that is,

$$\text{Var}(\hat{\theta}) = \frac{\sum_{b=1}^B (\hat{\theta}_b^* - \hat{\theta})^2}{B}$$

where $\hat{\theta}_b^*$ is the estimate based on the b th replicate weight (where $b = 1$ to the number of replicates) and B is the total number of sets of replicate weights ($B = 200$ for NPSAS:12). Once the replicate weights are provided, this estimate can be produced by most survey software packages (e.g., *SUDAAN* [RTI International 2012]).

The replicate weights were produced using a methodology combining approaches developed by Flyer (1987) and Kott (1988). The NPSAS application of the method incorporated the finite population correction factor at the first stage only, following the methodology proposed by Chromy (1979).

Cautions for Analysts

This section outlines key issues for analysts to consider when using NPSAS data, particularly when comparing different NPSAS administrations over time.

Comparison With Prior NPSAS Administrations

There have been eight NPSAS administrations covering the academic years ending in 1987, 1990, 1993, 1996, 2000, 2004, 2008, and 2012 (NPSAS:87, NPSAS:90, NPSAS:93, NPSAS:96, NPSAS:2000, NPSAS:04, NPSAS:08, and NPSAS:12). For the most part, the results are comparable, but there are several important differences across studies that limit comparisons over time.

Puerto Rico. All administrations except NPSAS:87 and NPSAS:12 sampled institutions in Puerto Rico. There are approximately 80 institutions in Puerto Rico enrolling about 1 percent each of undergraduate and graduate students nationally. In NPSAS:08, students attending institutions in Puerto Rico made up about 10 percent of Hispanic students nationally. Analysts wishing to compare other NPSAS administrations with NPSAS:87 and NPSAS:12 or who are interested in national estimates for Hispanic students may filter on COMPTO87 to exclude Puerto Rico.

Graduate programs. NPSAS:12 reflects changes to the classification of graduate degree programs. In NPSAS:08 and earlier surveys, graduate programs were classified as “master’s degree,” “doctor’s degree,” and “first-professional degree.” Some graduate students were also enrolled in a post-baccalaureate or post-master’s certificate program or were not enrolled in any degree program. In NPSAS:12, the “doctor’s degree” category was replaced with “doctor’s degree – research/scholarship,” “doctor’s degree – professional practice,” and “doctor’s degree – other,” and the “first-professional degree” category was eliminated. Most of the graduate degrees formerly classified as “first-professional degree” were reclassified as “doctor’s degree – professional practice,” but graduate degrees in Theology such as M.Div. and M.H.L./Rav were reclassified as “master’s degrees.”

Title IV eligibility. Starting with NPSAS:2000, samples were limited to institutions participating in federal Title IV student aid programs. In the earlier surveys (NPSAS:87, NPSAS:90, NPSAS:93, and NPSAS:96), about 1 percent of undergraduate students, mainly concentrated in private for-profit less-than-2-year institutions, attended institutions that were not eligible for Title IV aid. Analysts wishing to exclude students from institutions that were not eligible for Title IV may filter on T4ELIG in these earlier administrations.

Community colleges. Over the past two decades, community colleges in many states began conferring a limited number of bachelor’s degrees in selected fields. These institutions were reclassified from public 2-year institutions to public 4-year institutions in the IPEDS data used to determine institution types in NPSAS, even if most of the institutions’ programs were below the bachelor’s degree level. Analysts seeking an alternative classification of institutions that takes into consideration the proportion of bachelor’s degrees awarded and is consistent across NPSAS:04, NPSAS:08, and NPSAS:12 should consider using the 2000 Carnegie Classification (CC2000).

Estimates from imputed versus unimputed data. Starting with NPSAS:04, missing values were imputed for all, rather than a selected subset, of variables. Analysts should use caution when comparing estimates based on imputed data with estimates based on unimputed data. Distributions of imputed and unimputed variables are not directly comparable because imputed variables have no missing values, and imputation may appreciably change the distribution of valid values for variables with a substantial proportion of missing data.

For-profit institutions. In NPSAS:12, the sampling design included nationally representative samples from 4-year, 2-year, and less-than-2-year for-profit institutions. Prior to NPSAS:12, the sampling design did not disaggregate for-profit 2-year institutions from for-profit 4-year institutions. Analysts should use caution when comparing estimates that disaggregate for-profit 2-year and 4-year institutions, especially for earlier NPSAS studies with smaller sample sizes in the for-profit sector. Because there are a number of large, multisystem for-profit institutions, one system can have a great

impact on the estimates when sample sizes are small. As a result, this report aggregated for-profit 4-year and 2-year institutions so comparisons can be made to NPSAS:08.

Fall enrollment. Starting with NPSAS:90, all NPSAS samples have been based on 12-month enrollment, which is higher than fall enrollment commonly reported by IPEDS because those who enroll only in spring, summer, or winter terms are included in the 12-month total. This is particularly true at less-than-4-year and private for-profit institutions, where a substantial proportion of students may enroll throughout the year, and not necessarily during the fall. The NPSAS:87 sample was based on fall 1986 enrollment. Analysts wishing to compare NPSAS:87 results with those from subsequent administrations can filter on COMPTO87 in the later NPSAS administrations.

Students Attending Multiple Institutions

About 4 percent of undergraduate students and 4 percent of graduate students attended more than one institution during the 2011–12 academic year, concurrently or sequentially. These students may have attended institutions of differing types (public 4-year non-doctorate-granting, public 4-year doctorate-granting, and so forth) and may have had varying attendance patterns (full-time/full-year or other) at different institutions. These students are excluded from the results in this report.

Sampling Error

Because NPSAS:12 consists of a representative sample of postsecondary students rather than the entire population, the estimates in this report are subject to sampling error. A different sample of the same population, even one using identical methods, would yield different results. Similarly, estimates of aid will vary from population values reported by agency offices.

The sampling error of an estimate is measured by its standard error. The standard errors for the estimates in this report were calculated with bootstrap replication procedures using PowerStats software and are available at <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2014663>. Standard errors for table 2 in the report are presented in table B-9.

Nonsampling Error

The estimates presented in this report are also subject to various types of nonsampling error. Potential sources of nonsampling error include misreporting by survey respondents, incomplete administrative records, coding and data entry errors, misspecification of derived variables, nonresponse, and other factors. Data swapping and other forms of perturbation used to limit disclosure of information about individual study members may also lead to nonsampling errors.

Table B-9.
Standard errors for table 1: Average price of attendance in constant 2011–12 dollars for undergraduate students, by type of institution and selected student characteristics: 2007–08 and 2011–12

Student characteristics	2011–12				2007–08 (Constant 2011–12 dollars)			
	Public 2-year	Public 4-year	Private nonprofit 4-year	Private for-profit 2-year	Public 2-year	Public 4-year	Private nonprofit 4-year	Private for-profit 2-year or more
Total	\$80	\$160	\$390	\$490	\$50	\$70	\$250	\$580
All undergraduates								
Attendance pattern								
Full-time/full-year	120	170	350	770	120	80	270	350
Part-time or part-year	80	140	580	440	40	70	560	640
Dependency and income								
Dependent students								
Lowest 25 percent	150	260	880	790	110	150	460	1,180
Lower middle 25 percent	140	230	680	930	100	150	450	1,390
Upper middle 25 percent	200	240	720	1,530	140	130	470	1,320
Highest 25 percent	270	270	650	2,900	190	140	430	2,080
Independent students								
Lowest 25 percent	150	260	1,400	670	100	160	610	930
Lower middle 25 percent	140	220	1,220	670	100	200	490	790
Upper middle 25 percent	140	270	910	690	80	210	640	650
Highest 25 percent	180	280	690	970	90	260	510	800
Full-time/full-year undergraduates								
Dependency and income								
Dependent students								
Lowest 25 percent	170	230	690	1,110	130	130	310	1,040
Lower middle 25 percent	170	210	460	1,310	150	140	420	1,350
Upper middle 25 percent	200	230	520	1,780	170	120	400	1,250
Highest 25 percent	280	240	650	2,920	220	130	320	1,350
Independent students								
Lowest 25 percent	190	250	1,450	660	220	170	720	430
Lower middle 25 percent	260	290	1,090	800	230	290	530	600
Upper middle 25 percent	240	380	1,590	1,010	320	310	630	310
Highest 25 percent	330	520	1,250	1,830	420	410	820	350

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2007–08 and 2011–12 National Postsecondary Student Aid Study (NPSAS:08 and NPSAS:12).

Table B-10.
Standard errors for table 2: Average net price (price of attendance minus all grants) in constant 2011–12 dollars among undergraduates, by type of institution and selected student characteristics: 2007–08 and 2011–12

Student characteristics	2007–08 (Constant 2011–12 dollars)									
	2011–12					Private for-profit				
	Public 2-year	Public 4-year	Private nonprofit 4-year	2-year	4-year	Total (2-year or more)	Public 2-year	Public 4-year	Private nonprofit 4-year	Private for-profit 2-year or more
Total	\$80	\$140	\$320	\$490	\$470	\$370	\$50	\$60	\$210	\$560
All undergraduates										
Attendance pattern										
Full-time/full-year	140	170	350	790	390	350	120	90	280	380
Part-time or part-year	70	120	430	420	450	360	40	70	420	630
Dependency and income										
Dependent students										
Lowest 25 percent	140	170	680	740	540	480	90	130	460	1,100
Lower middle 25 percent	120	190	500	900	670	560	100	130	450	1,370
Upper middle 25 percent	180	220	590	1,550	780	870	130	130	460	1,300
Highest 25 percent	260	250	660	2,890	1,620	1,760	190	150	430	2,080
Independent students										
Lowest 25 percent	120	210	1,030	630	470	390	90	130	560	900
Lower middle 25 percent	120	190	920	650	410	330	90	180	420	810
Upper middle 25 percent	130	260	720	750	690	590	80	180	570	640
Highest 25 percent	170	270	600	1,010	900	800	90	240	480	810
Full-time/full-year undergraduates										
Dependency and income										
Dependent students										
Lowest 25 percent	240	210	810	1,140	480	580	140	160	480	1,100
Lower middle 25 percent	200	210	480	1,400	630	640	180	150	550	1,400
Upper middle 25 percent	200	230	560	1,780	1,300	1,080	200	130	480	1,240
Highest 25 percent	280	240	680	3,020	1,210	1,630	220	150	430	1,390
Independent students										
Lowest 25 percent	240	320	1,540	760	450	370	240	180	740	570
Lower middle 25 percent	290	320	1,280	860	340	330	260	320	710	690
Upper middle 25 percent	260	440	1,550	1,130	440	410	330	350	680	400
Highest 25 percent	340	600	1,390	1,860	970	880	460	390	860	470

SOURCE: U. S. Department of Education, National Center for Education Statistics, 2007–08 and 2011–12 National Postsecondary Student Aid Study (NPSAS:08 and NPSAS:12).

Table B-11.

Standard errors for table 3: Average out-of-pocket net price (price of attendance minus total aid) in constant 2011–12 dollars of postsecondary education among undergraduates, by type of institution and selected student characteristics: 2007–08 and 2011–12

Student characteristics	2011–12										2007–08 (Constant 2011–12 dollars)				
	Public		Private nonprofit		Private for-profit				Public		Private nonprofit	Private for-profit	Public	Private nonprofit	Private for-profit
	2-year	4-year	2-year	4-year	2-year	4-year	2-year	4-year	2-year	4-year	2-year	4-year	2-year	4-year	2-year or more
Total	\$70	\$110	\$310	\$440	\$380	\$290	\$50	\$60	\$200	\$560					
All undergraduates															
Attendance pattern															
Full-time/full-year	170	160	400	590	400	330	130	80	280	490					
Part-time or part-year	60	90	340	420	360	280	40	80	340	610					
Dependency and income															
Dependent students															
Lowest 25 percent	130	160	680	760	290	420	90	120	470	810					
Lower middle 25 percent	120	170	480	750	420	440	100	130	390	1,160					
Upper middle 25 percent	160	220	630	1,140	790	680	120	130	570	1,690					
Highest 25 percent	240	230	730	2,150	1,130	1,240	170	160	510	1,420					
Independent students															
Lowest 25 percent	120	210	1,050	600	410	350	80	130	520	780					
Lower middle 25 percent	120	190	760	630	400	280	80	140	350	800					
Upper middle 25 percent	100	240	620	690	510	440	80	150	500	610					
Highest 25 percent	130	210	580	910	630	560	80	210	430	890					
Full-time/full-year undergraduates															
Dependency and income															
Dependent students															
Lowest 25 percent	250	220	840	1,230	490	690	180	150	520	1,100					
Lower middle 25 percent	230	230	550	1,360	710	690	200	180	470	1,670					
Upper middle 25 percent	220	260	710	1,750	1,430	1,200	210	140	660	1,690					
Highest 25 percent	290	270	790	2,420	1,830	1,540	230	170	560	2,410					
Independent students															
Lowest 25 percent	290	430	1,650	900	470	440	280	220	790	880					
Lower middle 25 percent	320	370	1,400	930	480	430	310	370	740	800					
Upper middle 25 percent	320	560	1,470	970	430	370	420	450	920	640					
Highest 25 percent	340	810	1,150	1,760	750	710	580	590	780	760					

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2007–08 and 2011–12 National Postsecondary Student Aid Study (NPSAS:08 and NPSAS:12).

PowerStats

The estimates presented in this report were produced using PowerStats, a web-based software application that enables users to generate tables for most of the postsecondary surveys conducted by NCES. PowerStats produces the design-adjusted standard errors²¹ necessary for testing the statistical significance of differences in the estimates. PowerStats also contains a detailed description of how each variable was created and includes question wording for items coming directly from an interview.

With PowerStats, users can replicate or expand upon the tables presented in this report. The output from PowerStats includes the table estimates (e.g., percentages or means), the proper standard errors, and weighted sample sizes for the estimates. If the number of valid cases is too small to produce a reliable estimate (fewer than 30 cases), PowerStats prints the double dagger symbol (‡) instead of the estimate.

In addition to generating tables, PowerStats users may conduct linear or logistic regressions. Many options are available for output with the regression results. For a description of all the options available, users should access the PowerStats website at <http://nces.ed.gov/datalab/index.aspx>. For more information, contact NCES.info@ed.gov.

²¹ NPSAS samples are not simple random samples; therefore, simple random sample techniques for estimating sampling errors cannot be applied to these data. PowerStats takes into account the complexity of the sampling procedures and calculates standard errors appropriate for such samples. The method for computing sampling errors used by PowerStats involves approximating the estimator by replication of the sampled population. The procedure used is a bootstrap technique.