Most undergraduate borrowers obtain their loans through the federal Stafford loan program, which provides subsidized loans to students with financial need and unsubsidized loans regardless of need. Some students, however, obtain private loans from banks and other lending institutions instead of, or in addition to, federal loans. Some financial aid advisers and journalists who have written about private education loans have expressed concern that such loans may not always be students’ best options, asserting that private (or “alternative”) loans can be relatively expensive, as they generally have higher fees and interest rates than federal student loans and often offer fewer protections to students who have difficulty with repayment (Block 2006; Burd 2009; Kantrowitz 2006; Lederman 2006; Lieber 2011; Pappano 2007; Schemo 2007; Student Lending Analytics 2009c; Winkler 2010).

Among other reasons, students may use private loans when federal loan limits do not allow them to borrow enough to meet their education financing needs (McSwain, Price, and Cunningham 2006). They may also use private loans because they are unaware of federal loan programs or are confused or daunted by the federal loan application process or because private lenders have been recommended by higher education institutions’ financial aid officers.

Statistics in Brief publications present descriptive data in tabular formats to provide useful information to a broad audience, including members of the general public. They address simple and topical issues and questions. They do not investigate more complex hypotheses, account for inter-relationships among variables, or support causal inferences. We encourage readers who are interested in more complex questions and in-depth analysis to explore other NCES resources, including publications, online data tools, and public- and restricted-use datasets. See nces.ed.gov and references noted in the body of this document for more information.
offices (McSwain, Price, and Cunningham 2006; Cuomo 2007). Government agencies, higher education student groups, consumer advocates, and others have advised students to take full advantage of federal loan programs rather than turning to usually more costly private loans for these reasons (e.g., Federal Trade Commission 2008; Glater 2007, 2011; Kassa 2011; King 2007; National Consumer Law Center 2008; Project on Student Debt 2011; United States Student Association 2009, 2011). For example, according to the U.S. Department of Education (2008), “private loans and credit cards are consumer loans and are very expensive ways of financing your education.”

Private education loans are estimated to have reached a peak of about $22 billion in 2007–08 (College Board 2009). That same year, many lenders increased their direct marketing to students, highlighting a quick and easy application and approval process for private loans; some of these lenders were accused of deceptive marketing practices (U.S. Senate Committee 2007). Since 2007–08, however, the volume of private loans for postsecondary education is thought to have declined substantially due to a shortage of capital and higher underwriting standards by lenders (Student Lending Analytics 2009a, 2009b). Recent data released by the College Board (2009) are consistent with this explanation.

Drawing upon data from two administrations of the National Postsecondary Student Aid Study (NPSAS), a nationally representative sample of undergraduates enrolled in U.S. postsecondary institutions, this Statistics in Brief examines the use of private loans by undergraduates in 2003–04 and 2007–08. These two administrations of NPSAS provide the only national source for individual-level data on private loans in higher education. Additional information on these data is available in the technical notes below.

This Statistics in Brief examines private loans by institution sector, tuition amount, student characteristics, and level. It does so because previous analyses of private student borrowing have found that its prevalence varies by these factors (King 2007; McSwain, Price, and Cunningham 2006). To put the frequency and amount of private borrowing in context, data on federal borrowing and total borrowing are also provided.

All comparisons of estimates were tested for statistical significance using the Student’s t-statistic, and all differences cited are statistically significant at the p < .05 level. ¹

¹ No adjustments for multiple comparisons were made. The standard errors for the estimates can be found at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2012184.
KEY FINDINGS

• The percentage of undergraduates obtaining private loans from 2003–04 to 2007–08 rose from 5 percent to 14 percent. During this period, Stafford loan borrowing among undergraduates increased from 32 percent to 35 percent, and borrowing from all sources, including Parent PLUS loans, rose from 34 percent to 39 percent.

• Among full-time\(^2\) dependent undergraduates, higher percentages of students from lower middle-income (21 percent) and upper middle-income (20 percent) families than students from low-income (15 percent) or high-income (16 percent) families borrowed private loans in 2007–08.

• The largest proportion of borrowers who took out private loans either exclusively or in combination with public loans (42 percent) was found among those enrolled at for-profit institutions in 2007–08. Among private loan borrowers at private nonprofit 4-year institutions, for example, 25 percent took out private loans in 2007–08.

• Fifty-three percent of dependent undergraduates who obtained a private loan had borrowed the maximum federal (Stafford) loan amount in 2007–08.

• From 2003–04 to 2007–08, the percentage of graduate students who took out private loans rose 4 percentage points, from 7 percent to 11 percent, compared with an increase of 9 percentage points among undergraduates, from 5 percent to 14 percent.

\(^2\) Full-time students were enrolled full time in one postsecondary institution for 9 months or more.
Major Types of Higher Education Loans

**Private loans.** Private loans are education loans not guaranteed by the federal government, from commercial lenders, credit unions, or nonprofit entities. Their terms are determined by the lender. Private loans carry a market interest rate, which is usually variable and based on credit history, and they generally have higher fees and interest rates than federal student loans. (See question under Variables Used in the Technical Notes.)

**Stafford loans.** These student loans have fixed interest rates and various repayment options, and are guaranteed by the federal government. Stafford loans have eligibility requirements and limits on loan amounts based on dependency status, class level, total amount borrowed, and other factors. There are two types of federal Stafford Loans: subsidized and unsubsidized. Subsidized Stafford loans are awarded based on financial need, and the federal government pays interest on the loan until the student begins repayment and during authorized periods of deferment thereafter. Unsubsidized Stafford loans are not need based; students are charged interest for the duration of the loan, although the interest can be capitalized (converted into a lump sum and added to the principal). Subsidized and unsubsidized Stafford loans can carry different interest rates.

**Parent PLUS loans.** These federally guaranteed loans are available only to the parents of dependent students. The interest rate in 2007–08 was fixed at either 7.9 percent or 8.5 percent. Borrowers cannot have an adverse credit history, and the amount is limited to the cost of attendance minus other financial aid. The loans carry the benefits and protections of all federal loans.

**Graduate PLUS loans.** These federally guaranteed loans for graduate and first-professional students first became available in 2006. As with the Parent PLUS loans, the interest rates are fixed, the amount is limited to the cost of attendance minus other financial aid, and the benefits and protections of all federal loans apply.
The rate of undergraduate private loan borrowing (i.e., the percentage of undergraduates who borrowed) increased from 5 percent to 14 percent from 2003–04 to 2007–08 (figure 1). But the average amount borrowed after adjusting for inflation was $6,600 in 2003–04 and $6,500 in 2007–08.3

Stafford loan borrowing among undergraduates also increased from 32 percent to 35 percent, and the average Stafford loan amount was $4,900 in 2003–04 and $5,000 in 2007–08.

The rate of any undergraduate borrowing rose from 34 percent in 2003–04 to 39 percent in 2007–08.4 The average loan amount from all sources, including Parent PLUS loans, increased from $6,900 to $8,100.

3 All dollar amounts for 2003–04 have been adjusted for inflation to 2007 dollars using the Consumer Price Index for urban households (CPI-U). This index tracks household purchases and is appropriate for comparing loan amounts across time because students use loans to purchase goods (e.g., education, food, and housing) in a consumer market. The Higher Education Price Index (HEPI) tracks purchases made by educational institutions (e.g., faculty salaries and library acquisitions) and is not appropriate for comparing student loan amounts (Commonfund Institute 2011; Halstead 1975).

4 Includes Parent PLUS loans as well as Stafford, Perkins, and private loans.
In 2007–08, private loan borrowing among undergraduates varied by type of institution (figure 2), tuition level (figure 3), student dependency status, and family income (figure 4). The rate of private borrowing was highest at for-profit institutions; 42 percent of students took out private loans in 2007–08, and this rate was more than triple the private borrowing rate of 13 percent in 2003–04 (figure 2). Private borrowing at private nonprofit 4-year institutions was the second highest and more than doubled over the study period, from 11 percent to 25 percent.

**FIGURE 2.**

UNDERGRADUATE PRIVATE BORROWING
Percentage of undergraduates who borrowed, by type of institution: 2003–04 and 2007–08

NOTE: Private loans are education loans from commercial lenders; they are not guaranteed by the federal government and do carry market interest rates. This figure excludes the 8 percent of undergraduates who attended more than one institution (Staklis 2010). Students who attended more than one institution were not included because they have more than one tuition estimate. Students who attended any type of institution not listed in the figure were not included due to the small number of cases. For-profit includes less-than-2-year, less-than-4-year, and 4-year institutions. Estimates include students enrolled in Title IV eligible postsecondary institutions in the 50 states, the District of Columbia, and Puerto Rico. Standard error tables are available at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2012184.

The higher rate of borrowing among students at private institutions reflects, to some extent, the higher tuition at these institutions. Average tuition at public 4-year institutions was $5,500 in 2007–08; at private nonprofit 4-year institutions, it was $17,800; and at for-profit institutions of all levels, it was $10,200 (Wei 2011).

In general, the higher the tuition, the higher the rate of private borrowing. For example, the highest rates of private borrowing (30–32 percent) occurred among students whose tuition was more than $10,000 per year (figure 3). In comparison, 22 percent of students paying $5,000 to $9,999 in tuition took out private loans, as did 14 percent of those paying $3,000 to $4,999, 9 percent of those paying $1,500 to $2,999 and 4 percent of those paying under $1,500 in tuition.

**FIGURE 3.**

UNDERGRADUATE PRIVATE BORROWING
Percentage of undergraduates who borrowed, by tuition amount: 2007–08

<table>
<thead>
<tr>
<th>Tuition amount</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15,000 or more</td>
<td>32</td>
</tr>
<tr>
<td>$10,000–14,999</td>
<td>30</td>
</tr>
<tr>
<td>$5,000–9,999</td>
<td>22</td>
</tr>
<tr>
<td>$3,000–4,999</td>
<td>14</td>
</tr>
<tr>
<td>$1,500–2,999</td>
<td>9</td>
</tr>
<tr>
<td>$1,499 or less</td>
<td>4</td>
</tr>
</tbody>
</table>

NOTE: Private loans are education loans from commercial lenders; they are not guaranteed by the federal government and do carry market interest rates. This is the percentage of all undergraduates facing tuitions within each of these ranges who took out private loans. This figure excludes the 8 percent of undergraduates who attended more than one institution (Staklis 2010). Students who attended more than one institution were not included because they have more than one tuition estimate. Estimates include students enrolled in Title IV eligible postsecondary institutions in the 50 states, the District of Columbia, and Puerto Rico. Standard error tables are available at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2012184.

For dependent undergraduates, borrowing from private sources was more common among middle-income than among low-income students: one-fifth (21 percent and 20 percent) of full-time dependent undergraduates in each of the two middle-income groups took out private loans, compared with 15 percent of their low-income counterparts (figure 4). Full-time dependent undergraduates in the two middle-income groups also borrowed from private sources relatively more often than did their high-income peers (21 and 20 percent vs. 16 percent).

Among independent full-time undergraduates, 27 percent of upper middle-income students took out private loans compared with 20 percent of their low-income counterparts. High-income full-time independent students also took out private loans more often than did their low-income counterparts (28 percent vs. 20 percent).

When considering full-time dependent students’ borrowing from all sources, high-income students borrowed at the lowest rate (40 percent vs. 52–56 percent). For both dependent and independent full-time students, high-income students borrowed at a lower rate than upper middle-income students (40 vs. 52 percent and 60 vs. 69 percent).

**FIGURE 4.**

**FULL-TIME UNDERGRADUATES’ PRIVATE BORROWING AND ALL BORROWING**

Percentage of undergraduates who borrowed, by dependency status and family income level: 2007–08

<table>
<thead>
<tr>
<th>Dependency status and family income</th>
<th>Private loans</th>
<th>All loans including Parent PLUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-income</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Lower middle-income</td>
<td>21</td>
<td>20</td>
</tr>
<tr>
<td>Upper middle-income</td>
<td>20</td>
<td>16</td>
</tr>
<tr>
<td>High-income</td>
<td>16</td>
<td>40</td>
</tr>
<tr>
<td>Low-income</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>Lower middle-income</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Upper middle-income</td>
<td>27</td>
<td>69</td>
</tr>
<tr>
<td>High-income</td>
<td>28</td>
<td>60</td>
</tr>
</tbody>
</table>

NOTE: Family income categories were based upon the annual income distribution for 2006, from the lowest to the highest quartile ranges. Among dependent students, low-income was less than $36,100; lower middle-income was $36,101–$66,600; upper middle-income was $66,601–$104,600; and high-income was $104,601 or more. Among independent students, low-income was less than $11,000; lower middle-income was $11,001–$26,000; upper middle-income was $26,001–$48,400; and high-income was $48,401 or more. Private loans are education loans from commercial lenders; they are not guaranteed by the federal government and do carry market interest rates. Estimates include students enrolled in Title IV eligible postsecondary institutions in the 50 states, the District of Columbia, and Puerto Rico. Standard error tables are available at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2012184.

2 To what extent did undergraduates combine private and public loans?

Most undergraduates who borrowed did so through a federally guaranteed loan program. Some 63 percent of undergraduates who borrowed obtained loans from public, mostly federal, sources exclusively, and another 27 percent borrowed from both public and private sources (figure 5). The remaining 9 percent borrowed only from private sources. Students borrowed from public and private sources at different rates, however, depending on the types of institutions attended.

Public 2-year students have lower rates of borrowing than students in other sectors; however, they do take out exclusively private loans at higher rates. In 2007–08, some 13 percent of all students at public 2-year institutions borrowed from any source, representing the lowest rate among students in all types of institutions (Wei et al. 2009, table 1). In other types of public sector institutions, between 18 and 48 percent of students took out any loans. Of the public 2-year students who did borrow, 21 percent took out only private loans, compared with 9 percent among students in all institutions (figure 5). Students who took out a private loan only—or a private loan and another loan—comprised 4 percent of all public 2-year students (figure 2).

In 2007–08, the largest proportion of borrowers who took out private loans either exclusively or in combination with public loans (42 percent) (figure 2) was found among those enrolled at for-profit institutions, and those enrolled at for-profit institutions with programs of 2 or more years had the highest percentage who took out both private and public loans (45 percent) (figure 5). The overall percentage of undergraduates who took out both types of loans at all institutions was 27 percent.

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**FIGURE 5.**

UNDERGRADUATE BORROWERS’ LOAN COMBINATIONS
Percentage distribution of loan combinations, by type of institution: 2007–08

<table>
<thead>
<tr>
<th>Type of institution</th>
<th>Total</th>
<th>Public 2-year</th>
<th>Public 4-year</th>
<th>Private nonprofit 4-year</th>
<th>For-profit less-than-2-year</th>
<th>For-profit 2 years or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusively private loans</td>
<td>100</td>
<td>9</td>
<td>21</td>
<td>67</td>
<td>59</td>
<td>35</td>
</tr>
<tr>
<td>Both public and private loans</td>
<td>63</td>
<td>21</td>
<td>70</td>
<td>35</td>
<td>31</td>
<td>45</td>
</tr>
<tr>
<td>Exclusively public loans</td>
<td>27</td>
<td>12</td>
<td>20</td>
<td>35</td>
<td>31</td>
<td>45</td>
</tr>
</tbody>
</table>

**NOTE:** Public loans include Stafford loans, other federal loans (e.g., Perkins and PLUS), state, and institutional loans. Private loans are education loans from commercial lenders; they are not guaranteed by the federal government and do carry market interest rates. Total estimates also include those attending public less-than-2-year institutions, those attending private nonprofit less-than-4-year institutions, and those attending more than one institution but these are not shown separately. This is the percent distribution of all undergraduate borrowers by loan combination. Detail may not sum to totals because of rounding. Estimates include students enrolled in Title IV eligible postsecondary institutions in the 50 states, the District of Columbia, and Puerto Rico. Standard error tables are available at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2012184.


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5 “Public loans” includes Stafford loans, other federal loans (e.g., Perkins and PLUS), state, and institutional loans.
In 2007–08, 46 percent of all undergraduate private loan borrowers exhausted their annual eligibility for Stafford loans and also took out private loans (figure 6). Dependent private loan borrowers exhausted Stafford eligibility at a higher rate (53 percent) than did independent private loan borrowers (36 percent).

Some education administrators have expressed concern that some students seek private loans because they are unaware of the advantages of federal loan programs (McSwain, Price, and Cunningham 2006). Others are concerned that some students may not borrow the maximum Stafford loan amount before turning to private loans (McSwain, Price, and Cunningham 2006). The U.S. Federal Trade Commission and U.S. Department of Education jointly published a pamphlet for students that recommends students exhaust federal borrowing opportunities before turning to private loans (Federal Trade Commission 2008). Applying for federal aid is necessary to obtain federal loans. Consequently, it is useful to examine whether students did apply for federal aid when comparing public and private borrowing.6

Among undergraduates who took out private loans, 12 percent did not apply for federal financial aid. Another 11 percent applied for federal aid, but did not obtain a Stafford loan.7 Another 31 percent took out Stafford loans, but borrowed less than the maximum amount. The remaining 46 percent had taken out the maximum amount allowed under the Stafford loan program. By receiving a private loan, these students secured more money than would have been available from federal programs alone to pay for their education expenses.

Undergraduate students have different annual Stafford loan limits based upon both dependency status and class level, among other factors, as noted in

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6 Foreign students were excluded from this part of the analysis because they are ineligible for federal loans.

7 Some may have taken out other loans, such as Perkins, state, or institutional loans, but those are comparatively rare. Overall, 2.8 percent of all undergraduates took out Perkins loans, 0.4 percent took out state loans, and 0.5 took out institutional loans.
For example, for first-year undergraduates, the limits were $3,500 for dependent students and $7,500 for independent students. In 2007–08, about 36 percent of independent undergraduates who took out private loans also borrowed the maximum Stafford loan amount, compared with 53 percent of dependent undergraduates who took out the maximum Stafford loan amount (figure 6).

### EXHIBIT 1. ANNUAL UNDERGRADUATE STAFFORD LOAN LIMITS (for loans taken out between July 1, 2007 and June 30, 2008)

<table>
<thead>
<tr>
<th>Academic year</th>
<th>Dependent student</th>
<th>Independent student</th>
</tr>
</thead>
<tbody>
<tr>
<td>First year</td>
<td>$3,500</td>
<td>$7,500</td>
</tr>
<tr>
<td>Second year</td>
<td>4,500</td>
<td>8,500</td>
</tr>
<tr>
<td>Third and remaining years</td>
<td>5,500</td>
<td>10,500</td>
</tr>
</tbody>
</table>

NOTE: Aside from dependency status and year in school, the amount a student can borrow under the Stafford loan program can be further reduced depending on the cost of attendance, the student’s expected family contribution, attendance status, whether the program is less than a year long, and how much other financial aid is received.

In 2006, as part of the Higher Education Reconciliation Act, the federal PLUS loan program was expanded to include graduate students. This gave graduate students another source of loans from a government-guaranteed program with competitive, fixed-interest rates, which was intended to eliminate some of the need for private loans. From 2003–04 to 2007–08, the rate at which graduate students took out private loans rose 4 percentage points from 7 percent to 11 percent (Woo and Skomsvold 2011, table 2.3), compared with an increase of 9 percentage points among undergraduates, from 5 percent to 14 percent (figure 1).

Graduate students differed in borrowing rate changes depending on the degree program in which they were enrolled (figure 7). Master’s degree students’ rate of total borrowing increased from 38 percent to 44 percent over this period. The rate of private borrowing among master’s degree students doubled from 2003–04 to 2007–08 (from 6 percent to 12 percent), while their rate of Stafford borrowing increased from 36 percent to 39 percent.

Among doctoral students, however, differences over time in private, Stafford, and total borrowing were not detected. For example, between 5 percent and 7 percent of doctoral students took out private loans in both 2003–04 and 2007–08. About 30 percent of doctoral students borrowed from any source in both years (28 percent in 2003–04 and 32 percent in 2007–08).

The percentage of students in first-professional programs with private loans declined from 23 percent in 2003–04 to 16 percent in 2007–08, while borrowing from federal sources increased. The proportion of Stafford borrowers went from 69 percent to 76 percent, and 25 percent of students in 2007–08 borrowed the new Graduate PLUS loans, which did not exist in 2003–04. In both years, students in first-professional programs borrowed from all sources at higher rates than students in other degree programs (75 percent in 2003–04 and 79 percent in 2007–08). In 2003–04, about one-fourth (23 percent) of students in first-professional programs took out private loans, compared with 5 percent to 6 percent of doctoral and master’s students.

After adjusting for inflation, overall average loan amounts for all graduate and first-professional students increased from $17,700 in 2003–04 to $18,500 in 2007–08, largely due to the newly established Graduate PLUS loans. The average private loan amount for graduate students decreased from $10,500 to $8,400, and the average Stafford loan amount decreased from $16,100 to $15,600. In 2007–08, the average Graduate PLUS loan amount was $15,500.

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8 First-professional programs include dentistry, medicine, optometry, osteopathic medicine, pharmacy, pediatric medicine, veterinary medicine, chiropractic, law, and theology.
GRADUATE BORROWING
Percentage of graduate students who borrowed, by type of loan and degree program and average amount borrowed by loan program: 2003–04 and 2007–08

1 Graduate PLUS loans were not available in 2003–04.
2 First-professional programs include dentistry, medicine, optometry, osteopathic medicine, pharmacy, podiatric medicine, veterinary medicine, chiropractic, law, and theology.

NOTE: Private loans are education loans from commercial lenders; they are not guaranteed by the federal government and do carry market interest rates. Estimates include students enrolled in Title IV eligible postsecondary institutions in the 50 states, the District of Columbia, and Puerto Rico. Standard error tables are available at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2012184.

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More detailed information on 2007–08 undergraduates and graduate students enrolled in U.S. postsecondary institutions can be found in Web Tables produced by the National Center for Education Statistics (NCES) using the 2007–08 National Postsecondary Student Aid Study (NPSAS:08) data. These Web Tables are a comprehensive source of information on students during the 2007–08 academic year. Included are estimates of demographics, enrollment, and employment characteristics. Web Tables documenting how students pay for their undergraduate education are also available.

Web Tables—Profile of Undergraduate Students: 2007–08 (NCES 2010-205).


Web Tables—Profile of Students in Graduate and First-Professional Education: 2007–08 (NCES 2010-177).

Readers may also be interested in the following NCES products related to the topic of this Statistics in Brief:


TECHNICAL NOTES
Survey Methodology

The estimates provided in this Statistics in Brief are based on data collected through the 2003–04 and 2007–08 National Postsecondary Student Aid Studies (NPSAS:04 and NPSAS:08). NPSAS covers broad topics concerning student enrollment in postsecondary education and how students and their families finance their education. Students provided data through instruments administered over the Internet or by telephone. In addition to student responses, data were collected from the institutions that sampled students attended and from other relevant databases, including U.S. Department of Education records on student loan and grant programs and student financial aid applications.

NPSAS has been conducted every 3 to 4 years since 1986–87. Its target population includes students enrolled in postsecondary institutions in the United States and Puerto Rico at any time between July 1st and June 30th of the survey year.9 In NPSAS:04 and NPSAS:08 the population was also limited to students enrolled in Title IV institutions.10 Table A-1 provides the sizes of the undergraduate and graduate components of the target population.

Table A-1 also lists the institution sampling frames for NPSAS:04 and NPSAS:08, which were constructed from contemporary Institutional Characteristics, Fall Enrollment, and Completions files of the Integrated Postsecondary Education Data System (IPEDS). The sampling design consisted of first selecting eligible institutions, then selecting students from these institutions. Institutions were selected with probabilities proportional to a composite measure of size based on expected enrollment during the survey year. Table A-1 includes the approximate number of institutions participating in each of the survey years. In NPSAS:08, eligible sampled students were defined as study respondents if at least 11 key data elements were available from any data source. Similar definitions of study respondents were developed for each of the earlier NPSAS administrations. See the methodology reports at the end of this section for detailed descriptions of these definitions. The approximate number of undergraduates and graduate students who were study respondents in each survey year is also reported in table A-1.

Table A-2 provides a summary of weighted response rates across NPSAS administrations. There are several types of participation/coverage rates in NPSAS. For the student record abstraction phase of the study (referred to as computer-assisted data entry or CADE), institution completion rates vary across different types of institutions and depend on the method of data submission (field-CADE, self-CADE, and data-CADE). Overall student-level CADE completion rates (i.e., the percentage of NPSAS-eligible sample members for whom a completed CADE record was obtained) are reported in table A-2 as “Student survey (analysis file).” This table also contains weighted response rates to the student interview, which includes respondents who completed either a full or partial interview “Student survey (student interview).” Estimates were weighted to adjust for the unequal probability of selection into the sample and for nonresponse.

Two broad categories of error occur in estimates generated from surveys: sampling and nonsampling errors. Sampling errors occur when observations are based on samples rather than on entire populations. The standard error of a sample statistic is a measure of the variation due to sampling and indicates the precision of the statistic. The complex sampling design used in NPSAS must be taken into account when calculating variance estimates such as standard errors. NCES’s online PowerStats, which generated the estimates in this report, use the balanced repeated replication (BRR) and Jackknife II (JK2) methods to adjust variance estimation for the complex sample design.

Nonsampling errors can be attributed to several sources: incomplete infor-
For more information on NPSAS:04 and NPSAS:08 methodology, see the following reports:


TABLE A-1. Target populations, number of participating institutions, and unweighted number of study members: NPSAS:04 and NPSAS:08

<table>
<thead>
<tr>
<th>NPSAS year</th>
<th>Sampling frame</th>
<th>Target undergraduate population (in millions)</th>
<th>Target graduate student population (in millions)</th>
<th>Participating Institutions</th>
<th>Number of undergraduate study members</th>
<th>Number of graduate study members</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPSAS:04</td>
<td>2000–01 IPEDS</td>
<td>19.1</td>
<td>2.8</td>
<td>1,400</td>
<td>79,900</td>
<td>10,900</td>
</tr>
<tr>
<td>NPSAS:08</td>
<td>2004–05 IPEDS</td>
<td>20.9</td>
<td>3.5</td>
<td>1,700</td>
<td>113,500</td>
<td>14,200</td>
</tr>
</tbody>
</table>


TABLE A-2. Weighted response rates for NPSAS surveys: NPSAS:04 and NPSAS:08

<table>
<thead>
<tr>
<th>Component</th>
<th>Institution list participation rate</th>
<th>Student response rate</th>
<th>Overall¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPSAS:04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student survey (analysis file²)</td>
<td>80</td>
<td>91</td>
<td>72</td>
</tr>
<tr>
<td>Student survey (student interview)</td>
<td>80</td>
<td>71</td>
<td>56</td>
</tr>
<tr>
<td>NPSAS:08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student survey (analysis file²)</td>
<td>90</td>
<td>96</td>
<td>86</td>
</tr>
<tr>
<td>Student survey (student interview)</td>
<td>90</td>
<td>71</td>
<td>64</td>
</tr>
</tbody>
</table>

¹ Institution list participation rate times student response rate.
² NPSAS analysis file contains analytic variables derived from all NPSAS data sources (including institutional records and external data sources) as well as selected direct student interview variables.

NOTE: The response rates for student interviews in NPSAS:04 and NPSAS:08 include all interview modes (self-administered web-based, telephone, and in-person interviews).

**Variable Used**

All estimates presented in this Statistics in Brief were produced using PowerStats, a web-based software application that allows users to generate tables for many of the postsecondary surveys conducted by NCES. See “Run Your Own Analysis With DataLab” below for more information on PowerStats. The variables used in this Brief are listed below. Visit the NCES DataLab website (http://nces.ed.gov/datalab) to view detailed information on how these variables were constructed and their sources. Under Detailed Information About PowerStats Variables, find the appropriate survey sample and then search for the variables of interest by subject or variable name. The program files that generated the statistics presented in this Brief can be found at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2012184. The variables used in these analyses include the following:

*Private (alternative) loans (PRIVLOAN):* Indicates the amount of private or alternative loans received by students for the 2003–04 and 2007–08 academic years. These are education loans from commercial lenders that are not guaranteed by the federal government; private loans, however, can be offered by the same lenders or by states or other nonprofit institutions. Institutions do not always have information on students’ private or alternative loans, so this information came primarily from student interviews, in which students were asked the following:

“During the 2007–2008 school year, did you take out any private or alternative loans from a financial institution? Some examples of commonly used private loans include:

- Sallie Mae Signature Student Loan
- CitiAssist Undergraduate and Graduate Loan
- Chase Education One Private Student Loan
- Nellie Mae EXCEL Loan
- Access Group Loans

(Keep in mind that many lenders that offer private loans might also offer federal Stafford, Graduate PLUS loans, and Parent PLUS loans. For this question we want to know about private or alternative loans only.)"

*Package of private and public loans (PRIVPACK):* Among students who borrowed, indicates the type of loan package: only private, only public, or both, during the 2007–08 academic year.

*Stafford total maximum (STAFCT3):* Classifies the total Stafford loan amount received in 2007–08 (STAFFAMT) into categories based on the maximum loan limits for subsidized and unsubsidized Stafford loans combined and includes a category for those who did not apply for federal aid. The normal maximum loan amounts in 2007–08 for

### ADDITIONAL VARIABLES USED

Additional variables used in these analyses include the following:

<table>
<thead>
<tr>
<th>Label</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied for federal aid</td>
<td>FEDAPP</td>
</tr>
<tr>
<td>Attendance pattern</td>
<td>ATTNSTAT</td>
</tr>
<tr>
<td>Citizenship status</td>
<td>CITIZEN2</td>
</tr>
<tr>
<td>Dependency status</td>
<td>DEPEND</td>
</tr>
<tr>
<td>Federal subsidized loans (except PLUS)</td>
<td>SUBLOAN</td>
</tr>
<tr>
<td>Graduate degree program</td>
<td>GRADDEG</td>
</tr>
<tr>
<td>Graduate PLUS loan total</td>
<td>GPLUSAMT</td>
</tr>
<tr>
<td>Independent student’s income</td>
<td>INDEPINC</td>
</tr>
<tr>
<td>Institution sector</td>
<td>SECTOR4</td>
</tr>
<tr>
<td>Institution tuition and fees</td>
<td>TUITION2</td>
</tr>
<tr>
<td>NPSAS institution control</td>
<td>CONTROL</td>
</tr>
<tr>
<td>Parents’ income</td>
<td>DEPINC</td>
</tr>
<tr>
<td>Total federal Parent PLUS loans</td>
<td>PLUSAMT</td>
</tr>
<tr>
<td>Total student loans from all sources</td>
<td>TOTLOAN2</td>
</tr>
<tr>
<td>Type of institution</td>
<td>AIDSECT</td>
</tr>
</tbody>
</table>
undergraduates were determined by the student’s undergraduate class level and dependency status. This variable does not take into account further borrowing limits that might be imposed (e.g., Stafford loan amounts cannot exceed a borrower’s price of attendance, and subsidized Stafford loans cannot exceed a borrower’s need amount).

**Item Response Rates**

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” (U.S. Department of Education 2002). This means that nonresponse bias analysis could be required at any of three levels: (1) institutions, (2) study respondents, or (3) items.

For information on response rates and nonresponse bias analysis for selected variables from NPSAS:04, please see the relevant NPSAS methodology report, listed on page 16. For NPSAS:08, the institution and student response rates were 90 percent and 96 percent, respectively, and thus nonresponse bias analysis was not required at those levels (table B, analysis file). The student interview response rate, however, was 71 percent, and therefore nonresponse bias analysis was required for those variables based in whole or in part on student interviews. The NPSAS:08 variables used in this report that required nonresponse bias analysis and their response rates are as follows: PRIVLOAN (67 percent), PRIVPACK (67 percent), INDEPINC (26 percent), DEPINC (55 percent), and TOTLOAN2 (67 percent). For each of these variables, nonresponse bias analyses were conducted to determine whether respondents and nonrespondents differed on the following characteristics: institution sector, region, and total enrollment; student type, gender, and age group; whether the student had Free Application for Federal Student Aid (FAFSA) data, was a federal aid recipient, or borrowed a Stafford Loan; and the amount, if any, of a student’s Pell Grant or Stafford Loan. Differences between respondents and nonrespondents on these variables were tested for statistical significance at the 5 percent level.

Nonresponse bias analyses of these variables indicated that respondents differed from nonrespondents on 80 percent to 84 percent of the characteristics analyzed, indicating that there may be bias in these estimates. Any bias due to nonresponse, however, is based upon responses prior to stochastic imputation. The potential for bias in these estimates may have been reduced due to imputation. Because imputation procedures are designed specifically to identify donors with similar characteristics to those with missing data, the imputation is assumed to reduce bias. While item-level bias before imputation is measurable, such bias after imputation is not, so whether the imputation affected the bias cannot be directly evaluated.

Therefore, the item estimates before and after imputation were compared to determine whether the imputation changed the biased estimate, thus suggesting a reduction in bias.

For continuous variables, the difference between the mean before imputation and the mean after imputation was estimated. For categorical variables, the estimated difference was computed for each of the categories as the percentage of students in that category before imputation minus the percentage of students in that category after imputation. These estimated differences were tested for statistical significance at the 5 percent level. A significant difference in the item means after imputation implies a reduction in bias due to imputation. A nonsignificant difference suggests that imputation may not have reduced bias, that the sample size was too small to detect a significant difference, or that there was little bias to be reduced. Statistical tests of the differences between the means before and after imputation for these five variables were significant, indicating that the nonresponse bias was reduced through imputation.

For more detailed information on nonresponse bias analysis and an overview of the survey methodology, see 2007–08 National Postsecondary Student Aid Study (NPSAS:08) Full-scale Methodology Report (http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2011188).
**Statistical Procedures**

Comparisons of means and proportions were tested using Student’s \( t \) statistic. Differences between estimates were tested against the probability of a Type I error\(^{11} \) or significance level. The statistical significance of each comparison was determined by calculating the Student’s \( t \) value for the difference between each pair of means or proportions and comparing the \( t \) value with published tables of significance levels for two-tailed hypothesis testing. Student’s \( t \) values were computed to test differences between independent estimates using the following formula:

\[
t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2}}
\]

where \( E_1 \) and \( E_2 \) are the estimates to be compared and \( se_1 \) and \( se_2 \) are their corresponding standard errors.

There are hazards in reporting statistical tests for each comparison. First, comparisons based on large \( t \) statistics may appear to merit special attention. This can be misleading since the magnitude of the \( t \) statistic is related not only to the observed differences in means or percentages but also to the number of respondents in the specific categories used for comparison. Hence, a small difference compared across a large number of respondents would produce a large (and thus possibly statistically significant) \( t \) statistic.

A second hazard in reporting statistical tests is the possibility that one can report a “false positive” or Type I error. Statistical tests are designed to limit the risk of this type of error using a value denoted by alpha. The alpha level of .05 was selected for findings in this report and ensures that a difference of a certain magnitude or larger would be produced when there was no actual difference between the quantities in the underlying population no more than 1 time out of 20.\(^{12} \) When analysts test hypotheses that show alpha values at the .05 level or smaller, they reject the null hypothesis that there is no difference between the two quantities. Failing to reject a null hypothesis, i.e., detect a difference, however, does not imply the values are the same or equivalent.

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\(^{11} \) A Type I error occurs when one concludes that a difference observed in a sample reflects a true difference in the population from which the sample was drawn, when no such difference is present.

\(^{12} \) No adjustments were made for multiple comparisons.
REFERENCES


RUN YOUR OWN ANALYSIS WITH DATALAB

You can replicate or expand upon the figures and tables in this report, or even create your own. DataLab has several different tools that allow you to customize and generate output from a variety of different survey datasets. Visit DataLab at:

http://nces.ed.gov/datalab/