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U.S. Department of Education  
NCES 2006-156

# Dealing With Debt

## 1992-93 Bachelor's Degree Recipients 10 Years Later

### Postsecondary Education Descriptive Analysis Report



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## 1992-93 Bachelor's Degree Recipients 10 Years Later

### Postsecondary Education Descriptive Analysis Report

**June 2006**

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## Executive Summary

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Student loans have become an increasingly important source of financial aid for college students. Between 1992–93 and 2003–04, the proportion of all undergraduates borrowing in a given year to help pay for their education increased from 20 to 35 percent at the undergraduate level (Tuma and Geis 1995; Berkner 2005), and from 19 to 42 percent at the graduate level (Choy and Premo 1995; Choy and Cataldi 2006). As borrowing has increased, long-standing concerns about students' ability to repay their loans and the effect of the debt on their lives after college have intensified.

The first part of this report describes the undergraduate borrowing patterns of 1992–93 bachelor's degree recipients and their graduate enrollment and additional borrowing through 2003. These graduates would have completed their undergraduate borrowing prior to the changes introduced by the 1992 reauthorization of the Higher Education Act. At that time, only students with financial need could have participated in federal loan programs as undergraduates.

The second part examines the repayment of undergraduate loans for bachelor's degree recipients who had no additional degree enrollment, providing details on how many had finished repaying their loans by 2003, who were still repaying and how much, what their debt burden was, and how they had managed their Stafford loan repayment over the 10-year period.

The report uses data from the 1992–93 Baccalaureate and Beyond Longitudinal Study

(B&B:93/03), a longitudinal study of students who earned a bachelor's degree during the 1992–93 academic year. Base-year information on this cohort was collected as part of the 1992–93 National Postsecondary Student Aid Study (NPSAS:93). Graduates were interviewed again in 1994, 1997, and 2003. These data were supplemented with data from the National Student Loan Data System (NSLDS), which contains detailed records on the repayment history and 2003 status of Stafford loans taken out by the 1992–93 graduates.<sup>1</sup> All comparisons made in the text were tested using Student's *t* statistic. All differences cited were statistically significant at the .05 level.

### Borrowers Compared With Nonborrowers

Because only students with established financial need could borrow through federal student loan programs when the 1992–93 bachelor's degree recipients were undergraduates, borrowers were more likely than nonborrowers to have characteristics typically associated with financial need—that is, characteristics related to low income or a high price of attending, such as financial independence, low family income if dependent, parents with less than a bachelor's degree, and graduating from a private not-for-profit institution (table 1).

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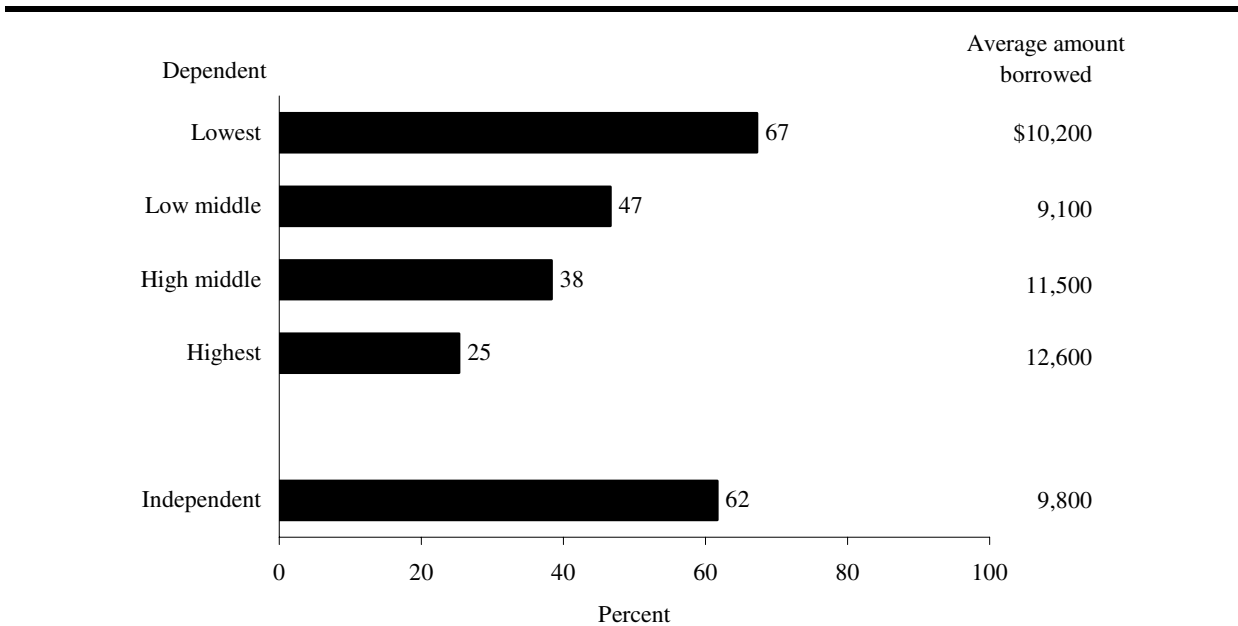
<sup>1</sup> The NSLDS data have been incorporated into the B&B:93/03 Data Analysis System.

Ten years later, however, there were no meaningful differences between borrowers and nonborrowers in educational, employment, and family formation outcomes such as the percentage who had enrolled in an additional degree program, average salary, or the percentage who were married or cohabiting. Borrowers were slightly more likely than nonborrowers to have children under 18 in their household, which may be related to the fact that borrowers tended to be older.

## Borrowing for Undergraduate and Graduate Education

About half of all 1992–93 bachelor’s degree recipients (51 percent) borrowed at some point to help pay for their undergraduate education, borrowing an average of \$10,200 (table 2). This includes borrowing from all sources, not just through student loan programs. Among financially dependent students in the lowest quarter of the family income distribution, 67 percent borrowed (figure A).<sup>2</sup>

**Figure A. Percentage of 1992–93 bachelor’s degree recipients who borrowed for undergraduate education from any source and, among borrowers, average amount borrowed, by dependency status and family income**



NOTE: Estimates include students from the 50 states, DC, and Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

<sup>2</sup> Dependent students were divided into four equal-sized categories based on family income. The upper bound was \$37,517 for the lowest income group, \$55,000 for the lower middle group, and \$74,036 for the upper middle group.

About 41 percent of the graduates had enrolled in a graduate or first-professional degree program by 2003, and of those who enrolled, 45 percent borrowed to help pay for that education (tables 3 and 4). Those with loans only at the graduate or first-professional level had borrowed an average of \$36,900 by 2003, while those with loans at both the undergraduate and graduate levels had borrowed an average of \$41,700 (table 5). Among the subgroup of graduates with no further degree enrollment, 51 percent had borrowed, with loans averaging \$10,000 (table 2).

## **Repayment of Undergraduate Loans**

Bachelor's degree recipients who do not immediately enter graduate school typically must begin making monthly payments on their loans 6 months after they finish college. The standard repayment period is 10 years, with a minimum monthly payment of \$50, but alternative repayment plans exist to help borrowers who have difficulty meeting their repayment obligations.

Among bachelor's degree recipients who did not enroll in a graduate or first-professional degree program, most appeared able to handle their debt: 74 percent had repaid all their undergraduate student loans by the time they were interviewed in 2003 (table 6). This group includes borrowers who had completed repayment in less than the standard 10 years because they had borrowed relatively small amounts and were required to repay a minimum of \$50 per month, borrowers who graduated early in the 1992–93 academic year and had used up their time to repay, and borrowers who, for reasons of their own, decided to pay their loans off early. While 26 percent still owed, it is important to note that June graduates who were on the standard 10-year

repayment plan for federal loans and had borrowed more than about \$4,000 would not be expected to finish repaying their loans until December 2003 (i.e., after they were interviewed).

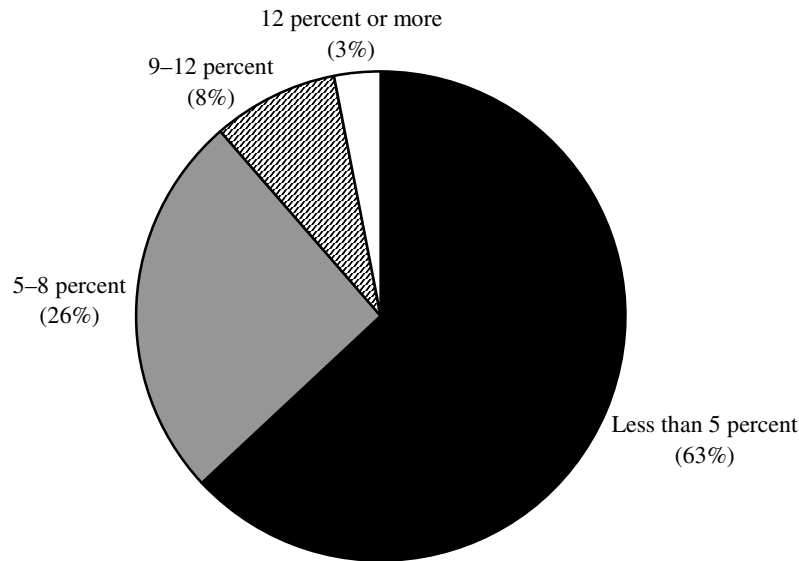
The percentage who still owed ranged from 5 percent among those who had borrowed less than \$5,000 to about 42 percent among those who had borrowed \$10,000 or more. The percentage who still owed also varied with income. For example, 33 percent of those with salaries in the lowest income group in 2003 still owed, compared with 19 percent of those with salaries in the highest income group. The average monthly payment was \$150, but 11 percent were paying \$250 or more (table 9).

## **Debt Burden**

Among those who had not enrolled in graduate or first-professional degree programs and were still repaying their undergraduate loans, the median debt burden (defined as monthly loan payment as a percentage of monthly income) was 3.3 percent (table 12). Because monthly payments were fixed throughout the repayment period but income generally rose over time, debt burden declined over time. Earlier studies of 1992–93 bachelor's degree recipients found a median debt burden of 6.7 percent in 1994 and 4.8 percent in 1997 (Choy 2000; Choy and Li 2005). For those who had borrowed the largest amounts (more than \$15,000), the median debt burden was 4.5 percent in 2003, and for those in the lowest income group (bottom quarter), it was 6.0 percent. By 2003, about 90 percent of borrowers were within the 8 percent generally considered reasonable, but 3 percent had debt burden of 12 percent or more (figure B).

**Figure B. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment and were repaying undergraduate loans, percentage distribution by debt burden: 2003**

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NOTE: Debt burden is the monthly loan payment as a percentage of monthly income. Estimates include students from the 50 states, DC, and Puerto Rico. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

## Debt Management (Stafford Loans)

Among bachelor’s degree recipients with no further degree enrollment, 39 percent had taken out Stafford loans as undergraduates (table 14). Among this group, 12 percent had consolidated some or all of their loans (table 15). They may have chosen to take this step for convenience, to obtain a fixed interest rate, or to extend the payment period.<sup>3</sup> Five percent of borrowers with no additional degree enrollment had ever taken a deferment because of a disability, volunteer service, or other approved reason (table 16);<sup>4</sup> and

12 percent had ever been in forbearance due to financial hardship (table 17).

Ten percent of bachelor’s degree recipients with no further degree enrollment who took out Stafford loans as undergraduates had defaulted at least once—that is, did not make any payments for 9 months and had not been granted a deferment or forbearance (table 18). However, 45 percent of those who had defaulted later re-entered repayment. Graduates who defaulted had borrowed more, on average, than those who did not default (\$10,000 vs. \$7,600).

Large loans were associated with default: 20 percent of borrowers with \$15,000 or more in Stafford loans defaulted at some point, compared

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<sup>3</sup> Extending the payment period reduces monthly payments but increases total interest charges.

<sup>4</sup> The most common reason for a deferment is enrollment in graduate school, but this analysis group is limited to those who did not go on to graduate school.

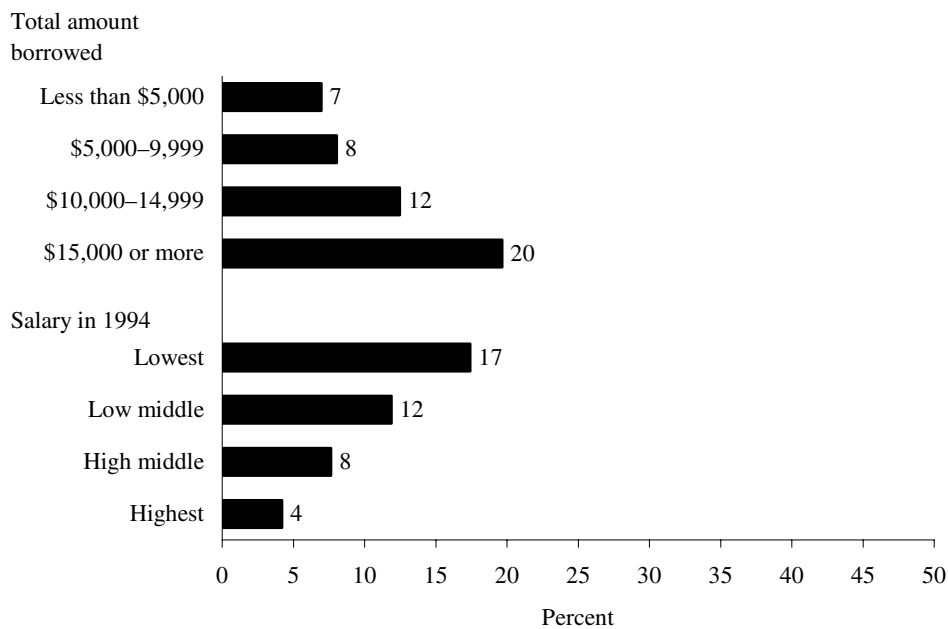


with 7–8 percent of those who borrowed less than \$10,000 (figure C). Those who started off with the highest salaries in 1994 were less likely than those with lower salary levels to have defaulted.

The percentage who defaulted was also related to deferment and forbearance: 21 percent of those who had ever deferred and 20 percent of those who had ever been in forbearance defaulted, compared with 9 percent of those who had not deferred and 8 percent who had not been in forbearance. Nevertheless, about 80 percent of those with deferments or periods of forbearance did not default.

Note that the federal government calculates cohort default rates based on the percentage of borrowers who enter repayment on a federal student loan during a particular federal fiscal year and default by the end of the next fiscal year. For fiscal year (FY) 2002, the cohort default rates were 4.0 percent for students who attended public 4-year institutions and 3.1 percent for students who attended private not-for-profit 4-year institutions (U.S. Department of Education 2004a). One would expect the rate shown in this analysis (10 percent) to be higher because it covers a much longer time period.

**Figure C. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment and took out Stafford loans, percentage who defaulted, by total amount borrowed and 1994 salary: 2003**



NOTE: Estimates include students from the 50 states, DC, and Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

On average, students did not have difficulty dealing with their debt right away. The average length of time between graduation and the first deferment, forbearance, or default was 4–5 years (tables 16–18).

### **Implications of the Findings for Current Borrowers**

The implications of these findings for current borrowers are difficult to assess. Undergraduates are borrowing more, which would suggest more repayment problems, but the characteristics of borrowers have changed. Now that borrowing is no longer restricted to students with financial need, more middle- and high-income students are borrowing.

It is clear from this analysis, however, that the financial circumstances of bachelor's degree recipients 10 years after graduation are not easy to predict. While loan payments remain constant, income, which is key to the ability to repay, does not. General economic conditions affect income over time, and career trajectories vary. The data show that students with high incomes soon after graduation are not necessarily those with the highest incomes 10 years later. On average, students did not have difficulty repaying their loans right away; problems came a number of years into repayment. For many, the problems were temporary, with about half of defaulters able to enter repayment again at a later date. In addition, most borrowers who deferred or had periods of forbearance were able to recover financially and did not default. This highlights the fact that when students and their families must make the decision to borrow, it is difficult for them to predict the actual burden of that debt.

## Foreword

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This report uses data from the Baccalaureate and Beyond Longitudinal Study (B&B) to examine the borrowing patterns of 1992–93 bachelor’s degree recipients and the repayment of their student loans over the next 10 years. B&B includes students who were identified in the 1992–93 National Postsecondary Student Aid Study (NPSAS:93) as having earned a bachelor’s degree during the 1992–93 academic year. NPSAS is based on a nationally representative sample of students enrolled in postsecondary education and provides detailed information on how students and their families pay for college, including the types and amounts of financial aid received. In the B&B Study, the 1992–93 bachelor’s degree recipients were interviewed in 1994 (B&B:93/94), 1997 (B&B:93/97), and 2003 (B&B:93/03) to learn about their education and employment experiences after graduation. To capture graduates’ loan repayment history and loan status in 2003, data from the National Student Loan Data System (NSLDS) on federally sponsored Stafford loans were added to the B&B:93/03 file.

The estimates presented in this report were produced using the B&B:93/03 Data Analysis System (DAS). The DAS is a computer application that allows users to specify and generate their own tables and produces the design-adjusted standard errors necessary for testing the statistical significance of differences between numbers shown in the tables. It is available for public use on the NCES website at <http://nces.ed.gov/das>. Appendix B of this report contains additional information on the DAS.

## Acknowledgments

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## Introduction

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Student loans have become an increasingly important source of financial aid for college students. Between 1992–93 and 2003–04, the proportion of students borrowing in a given year to help pay for their education increased from 20 to 35 percent at the undergraduate level (Tuma and Geis 1995; Berkner 2005), and from 19 to 42 percent at the graduate level (Choy and Premo 1995; Choy and Cataldi 2006). These increases reflect both an increased need to borrow—tuition increases outpaced inflation (The College Board 2005a)—and increased access to federal loan programs resulting from provisions in the 1992 reauthorization of the Higher Education Act (HEA) that expanded eligibility, increased loan limits, and introduced unsubsidized Stafford loans. This last provision opened up participation in the Stafford loan program to all students, regardless of income. Previously, only students with demonstrated financial need could take out Stafford loans.

As borrowing has increased, long-standing concerns about students’ ability to repay their loans and the effect of the debt on their lives after college have intensified. Important ongoing policy questions related to keeping student debt manageable include how much student aid the federal government should provide in the form of loans versus grants, how much students should be allowed to borrow, who should qualify for subsidized loans, and what the repayment terms should be.

This report examines the experiences of students who earned a bachelor’s degree during the 1992–93 academic year. Earlier studies have examined their borrowing, repayment, and debt burden patterns in 1994 and 1997 (approximately 1 and 4 years after graduation) (Choy and Geis 1997; Choy 2000). This analysis builds on these studies using more recent data to examine borrowing for graduate school and repayment of undergraduate debt over a 10-year period. While the 1992–93 bachelor’s degree recipients would have done all their undergraduate borrowing before the 1992 reauthorization, their borrowing for graduate education would have been under the new rules.

## Student Loan Programs

Federal student loan programs were originally designed to help students with financial need attend college. As the price of attendance increased during the 1970s and 1980s, Congress

responded by raising both loan limits and income ceilings. Since 1992, all postsecondary students, regardless of income or financial need, have been permitted to take out federally guaranteed student loans.<sup>1</sup>

The Stafford loan program is the major federal loan program for undergraduates. For students who qualify for need-based financial aid, the federal government pays the interest until the student begins repayment (usually 6 months after graduating or leaving school). Students who do not qualify for need-based aid may take out unsubsidized Stafford loans. In 2003–04, undergraduates borrowed a total of \$17.6 billion in subsidized loans and another \$13.4 billion in unsubsidized loans (The College Board 2005b).

The maximum amount that students can take out in Stafford loans varies with their dependency status. In 1992–93, dependent students could borrow a maximum of \$17,250 for undergraduate education, and independent students could borrow up to \$37,250. The 1992 reauthorization of the HEA raised the limits on the total amount that could be borrowed (subsidized plus unsubsidized) to \$23,000 for dependent students and \$46,000 for independent students (no more than \$23,000 of which may be subsidized). These limits were still in effect in 2003–04.

The Perkins loan program, originated as the National Defense Student Loan (NDSL) program in 1958, is another federal loan program available to undergraduates. It is a much smaller program, providing loans only to students with exceptional need. Funds are limited, and financial aid administrators at the institutional level have considerable discretion in determining who receives them. In 2003–04, students (both undergraduate and graduate) borrowed \$1.6 billion in Perkins loans.<sup>2</sup> That year, student loans from nonfederal sources totaled \$10.4 billion. While students took out some of these loans through state loan programs, most of the loans came from banks and other private lenders (sometimes referred to as “alternative loans”).

Parents of dependent undergraduates may borrow through the federally sponsored Parent Loans for Undergraduate Students (PLUS) program. The limit used to be \$20,000, but since the 1992 HEA reauthorization, parents have been permitted to borrow enough to cover the difference between the full price of attending and the amount of other aid received. In 2003–04, parents borrowed \$7.1 billion through this program.

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<sup>1</sup> The U.S. Department of Education website provides detailed information on each federal loan program, including loan limits, repayment options, interest rates, and eligibility requirements. This information is available at <http://www.studentaid.ed.gov>.

<sup>2</sup> Separate estimates for undergraduates are not available for Perkins loans.

## **Loans and Access**

Loans increase student access to college by reducing the immediate financial outlay needed to enroll. However, loans (unlike grants) must be repaid, typically over a 10-year period after the student graduates or leaves school.<sup>3</sup> In other words, loans do not reduce the price of attending college; they simply postpone paying the bill. While loans solve the immediate need for cash, they also entail risk. Families must make borrowing decisions without knowing what the interest rates will be during the repayment period and whether the students will graduate, get jobs, and earn enough to meet their repayment obligations. For students who do not perform well academically and are at risk of not completing college, borrowing is especially risky, but even students who are strong academically may have to drop out or stop out of college for any number of unforeseen personal or financial reasons. Borrowing is also especially risky for students whose families lack the financial resources to help them repay the loans if the students cannot do so by themselves. Because this analysis covers only students who completed bachelor's degrees, it cannot address difficulties that borrowing may cause for students who drop out before finishing their education or who earn associate's degrees or certificates rather than bachelor's degrees. Among students who began their postsecondary education in 1995–96, some 23 percent of borrowers had not completed a degree or certificate by 2001 and were not enrolled then (Gladieux and Perna 2005).

## **Data**

This report uses data from the Baccalaureate and Beyond Longitudinal Study (B&B) to examine how much bachelor's degree recipients who earned their degrees between July 1992 and June 1993 borrowed and how they managed their debt over the next 10 years. Base-year information on this cohort was collected as part of the 1992–93 National Postsecondary Student Aid Study (NPSAS:93). Graduates were interviewed again in 1994, 1997, and 2003. The interview data were supplemented with data from the National Student Loan Data System (NSLDS), which contains detailed records on the repayment history and the 2003 status of Stafford loans taken out by the 1992–93 graduates.<sup>4</sup>

NPSAS:93 included about 1,100 institutions and was based on a nationally representative sample of all students enrolled in postsecondary education institutions, including undergraduate, graduate, and first-professional students. One of a series of similar studies conducted every 4 to 5 years since 1987, NPSAS:93 represents more than 16 million undergraduates who were enrolled at some time between July 1, 1992, and June 30, 1993. The survey frames for NPSAS were built

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<sup>3</sup> Repayment obligations and options are described later in this report.

<sup>4</sup> The NSLDS data have been incorporated into the B&B:93/03 Data Analysis System.

from the 1990–91 “Institutional Characteristics Survey” of the Integrated Postsecondary Education Data System (IPEDS-IC); lists of students were obtained from each participating institution. The estimates presented in this report are based on the results of interviews with approximately 10,000 bachelor’s degree recipients each year from a sampling frame of about 12,500; these bachelor’s degree recipients represent the approximately 1.2 million bachelor’s degree completers in the United States (U.S. Department of Education 2004b). Excluded from the final sample were 760 students who were determined during the B&B interview or from transcripts not to have earned a bachelor’s degree during the 1992–93 academic year (see appendix B for more detail). The weighted overall response rate was 74 percent, reflecting an institution response rate (in 1992) of 88 percent and a student response rate (in 2003) of 83 percent. The data presented in this report cover the 50 states, District of Columbia (DC), and Puerto Rico.

All comparisons made in the text were tested using Student’s *t* statistic. All differences cited were statistically significant at the .05 level. Appendix B provides information about the formula used and more detail on significance levels. Standard errors for all estimates are available at <http://nces.ed.gov/das/library/reports.asp>.

The sample used for this analysis consists of the NPSAS:93 respondents who earned a bachelor’s degree in 1992–93 and participated in all three B&B interviews: 1994, 1997, and 2003. Information that was missing in 1994 or 1997 was updated in 2003 when possible, and a panel weight was created based on respondents to all three surveys. Consequently, some estimates presented here may differ slightly from previously published data.

## **Organization of the Report**

The first part of this report describes the undergraduate borrowing of bachelor’s degree recipients and examines their graduate enrollment and additional borrowing through 2003. The second part examines the repayment of undergraduate loans for bachelor’s degree recipients who had no additional degree enrollment, providing detail on how many had finished repaying their loans by 2003, who were still repaying and how much, what their debt burden was, and how they had managed their Stafford loan repayment over the 10-year period.

## **Undergraduate and Graduate Borrowing: All Bachelor's Degree Recipients**

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To provide context for the discussion of borrowing, this section begins with a brief profile of the 1992–93 cohort of bachelor's degree recipients and describes some of the ways in which those who borrowed to help pay for their undergraduate education differed from those who did not borrow. It then describes undergraduate borrowing and additional enrollment and borrowing, ending with a description of combined undergraduate and graduate borrowing.

### **Profile of 1992–93 Bachelor's Degree Recipients**

The 1992–93 bachelor's degree recipients were more than half female (55 percent) and predominantly white (84 percent) (table 1). Just under one-third (31 percent) were first-generation college students (i.e., did not have a parent who had attended college). Most (72 percent) were of traditional college age—24 years or younger when they earned their bachelor's degree. Reflecting their age (most students under 24 years are considered financially dependent on their parents for financial aid purposes), 60 percent were categorized as financially dependent the year they graduated.

About two-thirds (65 percent) graduated from a public college or university, and 31 percent graduated from a private not-for-profit institution. The remaining 4 percent graduated from a private for-profit or other type of institution.

By 2003, some 31 percent of the bachelor's degree recipients had enrolled in a master's degree program, 5 percent in a doctoral degree program, 5 percent in a first-professional degree program, and 7 percent in a nongraduate degree program (technical diploma, associate's degree, another bachelor's degree, or a postbaccalaureate certificate program). The remaining 52 percent had either no enrollment at all after the bachelor's degree they earned in 1992–93 or enrollment only in courses not leading to a degree or certificate. Graduates may have enrolled in more than one program; the percentages just cited represent the highest level at which they had ever enrolled. Twenty-six percent had earned at least one graduate or first-professional degree by 2003.

**Table 1. By undergraduate loan status, student and institutional characteristics of 1992–93 bachelor's degree recipients**

Student and institutional characteristics	Total	Undergraduate loans	
		Yes	No
Total	100.0	100.0	100.0
Gender			
Male	45.0	45.9	44.3
Female	55.0	54.1	55.7
Race/ethnicity <sup>1</sup>			
White	83.6	81.3	86.2
Black	6.0	7.7	4.3
Hispanic	5.1	6.3	3.7
Asian/Pacific Islander	4.8	4.0	5.5
Other	0.5	0.7	0.4
Parents' highest education			
High school graduate or less	31.1	36.3	25.5
Some college	18.6	21.2	15.7
Bachelor's degree	24.3	21.7	26.9
Advanced degree	26.0	20.8	31.9
Dependency status and family income			
Dependent			
Lowest	14.4	19.1	9.8
Low middle	15.7	14.2	17.2
High middle	14.9	11.0	18.7
Highest	14.6	7.2	22.4
Independent	40.5	48.6	31.9
Age received bachelor's degree			
24 or younger	71.8	66.3	78.0
25–29	12.2	15.5	8.8
30 or older	16.0	18.2	13.2
Type of degree-granting institution			
Public 4-year	65.2	61.9	68.8
Non-doctorate-granting	23.3	23.3	23.1
Doctorate-granting	42.0	38.7	45.7
Private not-for-profit 4-year	31.3	34.1	28.2
Non-doctorate-granting	17.7	20.3	14.9
Doctorate-granting	13.6	13.8	13.2
Other	3.5	3.9	3.0
Undergraduate major			
Business and management	22.0	20.5	23.4
Education	13.0	14.2	11.7
Engineering, mathematics, or science	16.5	17.6	15.5
Humanities or social sciences	23.7	22.4	25.0
Other	24.8	25.4	24.4

See notes at end of table.



**Table 1. By undergraduate loan status, student and institutional characteristics of 1992–93 bachelor's degree recipients—Continued**

Student and institutional characteristics	Total	Undergraduate loans	
		Yes	No
Highest enrollment after bachelor's degree by 2003			
No additional degree enrollment <sup>2</sup>	52.1	51.7	52.9
Nongraduate degree or certificate <sup>3</sup>	7.2	7.6	6.6
Master's degree	31.2	32.0	30.3
Doctoral degree	4.5	4.3	4.8
First-professional degree	5.0	4.4	5.4
Highest degree earned by 2003			
Bachelor's degree	73.9	74.8	73.3
Master's degree	20.2	20.1	20.1
Doctoral degree	2.0	1.8	2.2
First-professional degree	3.9	3.4	4.5
Enrollment/employment status in 2003			
Enrolled and employed	7.1	8.3	5.8
Enrolled only	1.1	0.9	1.3
Employed only	79.9	79.9	79.9
Not enrolled or employed	11.9	11.0	12.9
Marital status in 2003			
Married or cohabiting	72.6	71.6	73.4
Not married	27.4	28.4	26.6
Number of dependent children under age 18 in household in 2003			
None	49.7	47.9	51.4
One or more	50.3	52.1	48.6
Median annual salary			
1994	\$20,000	\$20,000	\$20,400
1997	30,000	29,500	30,000
2003	49,000	48,000	49,900
Average annual salary			
1994	22,500	22,500	22,500
1997	32,600	32,400	32,800
2003	56,000	55,300	56,800

<sup>1</sup> Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Other refers to American Indian or Alaska Native. Race categories exclude Hispanic origin unless specified.

<sup>2</sup> No enrollment after the bachelor's degree earned in 1992–93 or enrollment only in courses not leading to a degree or certificate.

<sup>3</sup> Enrolled in a program leading to a technical diploma, associate's degree, bachelor's degree, or postbaccalaureate certificate.

NOTE: Detail may not sum to totals because of rounding. Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

Most of the 1992–93 graduates were employed in 2003: 80 percent were employed only, and another 7 percent were combining school and work. A few (1 percent) were enrolled but not working, and 12 percent were neither working nor enrolled. The median annual salary for employed graduates was \$49,000. The majority (73 percent) were married or cohabiting, and 50 percent had children under 18 years old in their household.

## **Borrowers Compared With Nonborrowers**

Because only students with established financial need could borrow through federal student loan programs when the 1992–93 bachelor's degree recipients were undergraduates, borrowers were more likely than nonborrowers to have characteristics typically associated with financial need—that is, characteristics related to low income or a high price of attending. For example, borrowers were more likely than nonborrowers to have been financially independent in their last year of college, to have come from families with the lowest incomes if they were dependent, and to have parents with less than a bachelor's degree.<sup>5</sup> In addition, borrowers were more likely than nonborrowers to have graduated from private not-for-profit institutions, which typically have a higher price of attending than public ones (Tuma and Geis 1995).

Ten years later, however, there were no meaningful differences between borrowers and nonborrowers in their educational, employment, and family formation outcomes. For example, no meaningful differences existed between borrowers and nonborrowers in the percentages who had enrolled in an additional or graduate degree program by 2003<sup>6</sup> or in their average salaries that year. Eighty percent of both borrowers and nonborrowers were employed and not enrolled in 2003. Furthermore, there were no measurable differences between borrowers and nonborrowers in the percentages who were married or cohabiting. Borrowers, however, were slightly more likely than nonborrowers to have children under 18 in their household (52 vs. 49 percent), which may be related to the fact that borrowers tend to be older.

## **Undergraduate Borrowing**

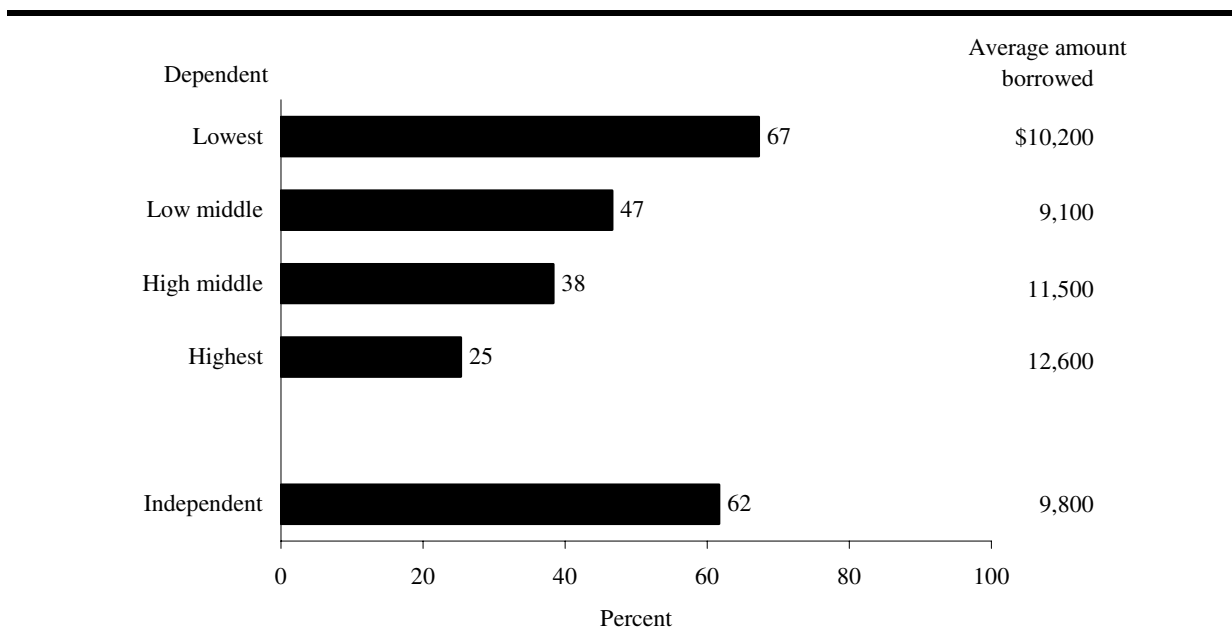
The 1992–93 bachelor's degree recipients were asked in 1994 how much they had borrowed from all sources to pay for their undergraduate education. About half (51 percent) had taken out loans at some point during college, borrowing an average of \$10,200 (figure 1 and

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<sup>5</sup> Dependent students were divided into four equal-sized categories based on family income. The upper bound was \$37,517 for the lowest income group, \$55,000 for the lower middle group, and \$74,036 for the upper middle group.

<sup>6</sup> The difference between borrowers and nonborrowers in the percentage who had earned a first-professional degree by 2003 was statistically significant but substantively unimportant (3 vs. 4 percent).

**Figure 1. Percentage of 1992–93 bachelor's degree recipients who borrowed for undergraduate education from any source and, among borrowers, average amount borrowed, by dependency status and family income**



NOTE: Estimates include students from the 50 states, DC, and Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

table 2).<sup>7</sup> This amount includes borrowing from all sources, not just through student loan programs, and the amounts that came from the various possible sources are unknown. Graduates may have borrowed through federal or state student loan programs, taken out loans from private sources such as banks, or borrowed from family, friends, or relatives. These data do not include borrowing by parents through the Parental Loans for Undergraduate Students (PLUS) program or from other sources.

As indicated earlier, the major federal loan program (open at that time only to students with financial need) was the Stafford loan program. In 1992–93, the maximum that dependent undergraduates could borrow through the Stafford loan program was \$2,625 per year for the first 2 years and \$4,000 per year after that, up to a maximum of \$17,250 (Office of Student Financial

<sup>7</sup> To illustrate the increase in borrowing since this cohort graduated: 62 percent of graduating seniors in 2003–04 had borrowed (2003–04 National Postsecondary Student Aid Study [NPSAS:04]; not shown in a table).

**Table 2. Percentage of 1992–93 bachelor's degree recipients who borrowed for undergraduate education from any source and, among borrowers, average amount borrowed and percentage distribution of amount borrowed, by student and institutional characteristics**

Student and institutional characteristics	Percent who borrowed	Average amount borrowed	Amount borrowed			
			Less than \$5,000	\$5,000–9,999	\$10,000–14,999	\$15,000 or more
Total	51.4	\$10,200	29.1	26.9	20.8	23.2
Dependency status and family income						
Dependent						
Lowest	67.2	10,200	26.6	24.9	21.5	27.0
Low middle	46.6	9,100	33.7	27.7	22.0	16.6
High middle	38.3	11,500	28.7	23.6	21.0	26.7
Highest	25.3	12,600	30.8	21.7	16.4	31.2
Independent	61.7	9,800	28.3	29.3	20.8	21.7
Type of degree-granting institution						
Public 4-year	48.7	8,800	33.7	29.2	19.5	17.7
Non-doctorate-granting	51.5	8,300	36.1	30.6	17.2	16.1
Doctorate-granting	47.2	9,100	32.2	28.3	20.9	18.6
Private not-for-profit 4-year	56.1	12,600	20.9	23.1	23.2	32.8
Non-doctorate-granting	59.0	11,600	22.1	26.0	23.8	28.1
Doctorate-granting	52.5	14,000	19.2	18.8	22.3	39.7
Other	58.0	11,000	28.0	25.9	18.8	27.2
Highest enrollment after bachelor's degree by 2003						
No additional degree enrollment <sup>1</sup>	50.8	10,000	29.6	26.5	20.6	23.3
Nongraduate degree or certificate <sup>2</sup>	54.9	9,900	31.0	24.7	25.4	18.8
Graduate or first-professional degree	51.5	10,400	28.2	27.7	20.3	23.8

<sup>1</sup> No enrollment after the bachelor's degree earned in 1992–93 or enrollment only in courses not leading to a degree or certificate.

<sup>2</sup> Enrolled in a program leading to a technical diploma, associate's degree, bachelor's degree, or postbaccalaureate certificate. NOTE: Detail may not sum to totals because of rounding. Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

Assistance 1992).<sup>8</sup> Because of the annual limits, however, a student completing a bachelor's degree in 4 years would have been able to borrow only \$13,250.

Reflecting the fact that participation in federal student loan programs in 1992–93 was need based, the percentage of dependent students who borrowed declined as family income increased (from 67 percent of students in the lowest income group to 25 percent of those in the highest).

<sup>8</sup> Financially dependent undergraduates are still limited to \$2,625 in their first year, but since the 1992 reauthorization they have been able to borrow \$3,500 their second year and \$5,500 per year thereafter, up to a maximum of \$23,000. Independent students can borrow twice as much as dependent students annually and cumulatively, but the additional amounts have to be unsubsidized.

Independent students were less likely than dependent students from the lowest family income group (62 vs. 67 percent) to borrow, but more likely than dependent students in other family income groups to do so. The average amounts borrowed varied less by income than one might expect because the amount students could borrow was constrained by loan program limits.

Reflecting the higher price of attending a private not-for-profit institution, graduates of those institutions were more likely than their counterparts at public institutions to have borrowed (56 vs. 49 percent). Among those who borrowed, graduates of private not-for-profit institutions borrowed more, on average, than graduates of public institutions (\$12,600 vs. \$8,800).

It is important to keep in mind that the amounts reported for student borrowing do not necessarily represent all borrowing to pay for undergraduate education because they do not take into account parental borrowing. Some of the graduates' parents may have borrowed through the federal Parent Loan for Undergraduate Students (PLUS) program or privately from banks or other sources.

### **Additional Enrollment and Borrowing for Graduate Education**

Additional postsecondary enrollment may result in increased debt if students take out more loans to finance those studies. Additional enrollment may also affect the timing of repaying undergraduate loans because students can defer repayment if they enroll at least half time.

By 2003, the enrollment status of the 1992–93 bachelor's degree recipients was as follows: 52 percent had never enrolled in another degree program, 7 percent had enrolled in another undergraduate degree program or postbaccalaureate certificate program, and about 41 percent had enrolled in a master's, doctoral, or first-professional degree program (table 3). The likelihood of pursuing another degree did not appear to be related to the amount that graduates had borrowed for their undergraduate education. The enrollment rates for nonborrowers and borrowers with less than \$5,000 in loans (about 53 percent in each case) were not measurably different from the enrollment rates of graduates who had borrowed larger amounts (51–52 percent). Additional enrollment appears to be more closely linked to other factors, such as gender, race/ethnicity, age at bachelor's degree receipt, parents' education, undergraduate major, and grade point average (GPA). However, because some of these factors are related to each other and also to borrowing, the effect of undergraduate borrowing on subsequent degree enrollment cannot really be examined independently of these other factors. Nevertheless, the finding that undergraduate borrowing has little or no effect on graduate enrollment is consistent with other research on this cohort using multivariate techniques to control for other factors (Heller 2001).

**Table 3. Percentage distribution of 1992–93 bachelor's degree recipients' additional degree enrollment, by student and institutional characteristics: 2003**

Student and institutional characteristics	No additional degree enrollment <sup>1</sup>	Nongraduate degree or certificate <sup>2</sup>	Master's degree	Doctoral degree	First-professional degree
Total	52.1	7.2	31.2	4.5	5.0
Gender					
Male	54.4	6.3	27.4	5.7	6.2
Female	50.2	7.9	34.4	3.5	4.0
Race/ethnicity <sup>3</sup>					
White	53.0	7.0	31.1	4.4	4.5
Black	46.3	7.5	35.7	5.4	5.1
Hispanic	48.6	7.9	33.0	5.9	4.6
Asian/Pacific Islander	49.9	7.5	25.7	3.4	13.4
Other	49.7	20.4	23.3	3.8	2.8
Parents' highest education					
High school graduate or less	58.5	6.6	29.4	2.5	3.1
Some college	52.9	7.3	32.3	3.3	4.3
Bachelor's degree	52.4	7.4	29.7	5.2	5.2
Advanced degree	43.4	7.4	34.5	7.3	7.4
Dependency status and family income					
Dependent					
Lowest	52.4	7.0	30.0	5.4	5.2
Low middle	48.9	7.9	32.4	4.8	6.1
High middle	46.7	5.5	34.4	6.6	6.7
Highest	43.9	7.1	32.6	7.3	9.1
Independent	58.2	7.6	29.6	2.3	2.4
Age received bachelor's degree					
24 or younger	49.8	6.7	31.6	5.6	6.2
25–29	62.2	8.4	25.6	2.0	1.8
30 or older	55.5	7.8	33.0	1.8	1.9
Type of degree-granting institution					
Public 4-year					
Non-doctorate-granting	52.9	8.5	29.9	4.4	4.3
Doctorate-granting	54.1	9.6	31.7	2.1	2.5
Private not-for-profit 4-year					
Non-doctorate-granting	52.2	8.0	28.9	5.6	5.3
Doctorate-granting	49.4	4.9	33.9	5.2	6.7
Other					
Non-doctorate-granting	52.2	5.7	33.3	4.3	4.4
Doctorate-granting	45.6	3.7	34.7	6.3	9.7
Other	61.3	2.7	31.9	1.9	2.3

See notes at end of table.

**Table 3. Percentage distribution of 1992–93 bachelor's degree recipients' additional degree enrollment, by student and institutional characteristics: 2003—Continued**

Student and institutional characteristics	No additional degree enrollment <sup>1</sup>	Nongraduate degree or certificate <sup>2</sup>	Master's degree	Doctoral degree	First-professional degree
<b>Undergraduate major</b>					
Business and management	68.1	6.0	23.0	0.6	2.3
Education	40.8	7.5	46.5	3.0	2.3
Engineering, mathematics, or science	43.6	5.9	29.3	12.9	8.3
Humanities or social sciences	44.5	8.8	33.8	5.6	7.3
Other	56.7	7.4	29.4	2.2	4.3
<b>GPA for undergraduate major</b>					
Less than 3.0	63.8	8.8	22.9	2.1	2.6
3.0 or higher	50.1	6.5	32.9	5.1	5.4
<b>Amount borrowed (undergraduate)</b>					
Did not borrow	52.9	6.6	30.3	4.8	5.4
Less than \$5,000	52.5	8.1	31.6	4.1	3.7
\$5,000–9,999	51.0	7.0	34.0	3.8	4.2
\$10,000–14,999	51.0	9.3	30.0	4.8	4.8
\$15,000 or more	51.9	6.2	32.1	4.6	5.3

<sup>1</sup> No enrollment after the bachelor's degree earned in 1992–93 or enrollment only in courses not leading to a degree or certificate.

<sup>2</sup> Enrolled in a program leading to a technical diploma, associate's degree, bachelor's degree, or postbaccalaureate certificate.

<sup>3</sup> Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Other refers to American Indian or Alaska Native. Race categories exclude Hispanic origin unless specified.

NOTE: Detail may not sum to totals because of rounding. Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

Survey participants who enrolled in graduate and first-professional degree programs were asked about borrowing to finance that education.<sup>9</sup> Although 1992–93 bachelor's degree recipients would have completed their undergraduate borrowing before the 1992 reauthorization of the HEA, their graduate borrowing would have taken place under the new rules. As graduate students, they would have been able to take out unsubsidized loans regardless of financial need and to borrow up to \$18,500 per year in Stafford loans.<sup>10</sup> The total allowable outstanding debt for Stafford subsidized and unsubsidized loans (graduate and undergraduate) was \$138,500.

<sup>9</sup> The 7 percent of the cohort members with additional undergraduate degree or postbaccalaureate certificate enrollment were not asked about borrowing to support that enrollment.

<sup>10</sup> Students in 9-month health professions programs (medical, dental, etc.) may borrow a maximum of \$38,500 each year.

Forty-five percent of bachelor's degree recipients who enrolled in graduate or first-professional degree programs took out loans to help pay for that education, borrowing an average of \$33,200 by 2003 (table 4). Borrowing a large amount as an undergraduate does not appear to

**Table 4. Among 1992–93 bachelor's degree recipients with graduate degree enrollment, percentage who borrowed for graduate education and, among borrowers, average amount and percentage distribution of amount borrowed for graduate education, by student and institutional characteristics: 2003**

Student and institutional characteristics	Percent who borrowed	Average amount	Amount borrowed				
			Less than \$10,000	\$10,000–14,999	\$15,000–29,999	\$30,000–54,999	\$55,000 or more
Total	44.8	\$33,200	23.2	10.3	27.0	20.1	19.4
Type of degree-granting institution							
Public 4-year	44.4	31,200	25.5	10.2	26.9	19.3	18.1
Non-doctorate-granting	40.0	25,000	27.3	11.3	32.4	18.3	10.7
Doctorate-granting	46.5	33,900	24.7	9.7	24.6	19.8	21.2
Private not-for-profit 4-year	45.9	36,600	20.3	10.3	25.7	21.8	21.8
Non-doctorate-granting	46.1	31,300	24.8	8.9	27.5	21.6	17.1
Doctorate-granting	45.7	42,300	15.5	11.8	23.8	22.1	26.8
Other	41.3	31,900	11.2	11.2	43.2	15.7	18.8
Undergraduate major							
Business and management	34.3	28,700	28.1	7.1	28.9	19.4	16.5
Education	34.3	23,000	37.4	12.5	25.5	12.9	11.8
Engineering, mathematics, or science	47.1	47,400	19.1	8.7	19.2	19.7	33.4
Humanities or social sciences	52.8	32,800	20.0	8.5	31.3	21.5	18.7
Other	47.4	28,100	21.6	14.3	28.0	22.9	13.2
Amount borrowed (undergraduate)							
Did not borrow	36.0	36,900	19.3	7.7	26.5	22.7	23.9
Less than \$5,000	45.7	30,300	29.7	9.5	28.4	17.3	15.2
\$5,000–9,999	56.3	29,200	28.0	13.0	31.0	12.9	15.1
\$10,000–14,999	54.7	28,700	25.7	16.1	23.6	19.4	15.3
\$15,000 or more	58.4	35,100	18.7	9.9	25.3	24.9	21.3
Highest enrollment after bachelor's degree by 2003							
Master's degree	37.9	19,900	30.0	13.2	33.5	18.9	4.5
Doctoral degree	63.1	43,700	18.3	7.6	21.6	21.1	31.5
First-professional degree	71.8	69,200	4.6	2.6	9.4	23.6	59.9
Highest degree earned by 2003							
Bachelor's degree	32.3	23,300	36.2	11.6	26.6	14.4	11.4
Master's degree	45.4	22,900	23.9	12.6	34.9	22.7	5.9
Doctoral degree	64.3	44,100	21.4	9.6	14.7	19.1	35.2
First-professional degree	78.8	75,500	2.0	1.1	8.2	21.6	67.1

NOTE: Graduate includes first-professional. Detail may not sum to totals because of rounding. Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).



have prevented additional borrowing for graduate study: those who borrowed \$5,000 or more as undergraduates were actually more likely to borrow for graduate or first-professional education (55–58 percent) than those who borrowed less than \$5,000 (46 percent) or not at all (36 percent).

Among advanced degree completers, those whose highest degree was a master's were the least likely to have borrowed to help pay for their graduate education (45 vs. 64 percent of doctoral degree recipients and 79 percent of first-professional recipients). In addition, they had borrowed the least (an average of \$22,900 vs. \$44,100 for doctoral students and \$75,500 for first-professional students). This pattern reflects the fact that master's degree programs are typically shorter than doctoral or first-professional degree programs and therefore less expensive and also that master's degree students are more likely than others to attend part time (Choy and Cataldi 2006). Variation in graduate borrowing patterns by undergraduate major reflects, at least in part, the types of graduate programs in which they enroll.

### **Combined Undergraduate and Graduate Borrowing**

Among bachelor's degree recipients who had enrolled in a graduate degree program by 2003, some 31 percent did not borrow at either the undergraduate or graduate level (table 5). Another 24 percent borrowed only as undergraduates and 18 percent only as graduates; the remaining 27 percent borrowed at both levels. Figure 2 shows the pattern by highest degree earned by 2003. Students might need to borrow at one level but not the other for a number of reasons. For example, the price of attending might differ because of a change in the type of institution attended, attendance status, or living arrangements. In addition, financial circumstances might change, with support from parents or a spouse available at one level but not the other. Finally, the availability of other types of financial aid such as grants or assistantships might mitigate the need to borrow at one level but not the other.

Among those who earned advanced degrees, those who earned master's degrees were the most likely to avoid borrowing at either level (32 percent, compared with 24 percent of those with doctoral degrees and 18 percent of those with first-professional degrees) (table 5). Among graduate degree earners who borrowed only for graduate education, first-professional degree recipients borrowed the most, on average (\$73,900), followed by doctoral degree recipients (\$46,600) and then master's degree recipients (\$25,200). First-professional degree completers who borrowed at both levels had an average total debt of \$88,900.

**Table 5. Among 1992–93 bachelor's degree recipients with graduate degree enrollment, percentage who borrowed for undergraduate and graduate education and average amounts, by student and institutional characteristics: 2003**

Student and institutional characteristics	Percent who borrowed				Average amount borrowed (by borrowers)		
	Neither	Under-graduate only	Graduate only	Both	Under-graduate only	Graduate only	Both
Total	31.4	23.7	17.7	27.2	\$9,600	\$36,900	\$41,700
Type of degree-granting institution							
Public 4-year	32.6	23.0	19.5	24.9	8,100	36,500	36,900
Non-doctorate-granting	34.4	25.6	15.9	24.1	7,800	29,100	31,900
Doctorate-granting	31.7	21.7	21.3	25.2	8,200	39,300	39,300
Private not-for-profit 4-year	29.7	24.2	15.3	30.8	12,500	37,500	48,900
Non-doctorate-granting	27.5	26.1	14.5	32.0	12,000	31,500	43,200
Doctorate-granting	32.1	22.3	16.1	29.5	13,000	43,200	55,500
Other	26.9	31.8	7.1	34.2	‡	‡	39,600
Undergraduate major							
Business and management	39.6	26.4	13.0	21.1	8,900	33,000	38,800
Education	34.6	31.0	12.8	21.7	10,100	28,600	30,800
Engineering, mathematics, or science	29.4	23.3	19.1	28.2	10,000	47,200	57,400
Humanities or social sciences	28.6	18.4	21.8	31.1	9,600	38,200	40,000
Other	29.3	23.4	17.8	29.5	9,500	31,000	37,400
Amount borrowed (undergraduate)							
Did not borrow	64.0	†	36.0	†	†	36,900	†
Less than \$5,000	†	54.4	†	45.7	2,700	†	32,700
\$5,000–9,999	†	43.7	†	56.3	6,900	†	36,200
\$10,000–14,999	†	45.3	†	54.7	11,300	†	40,200
\$15,000 or more	†	41.6	†	58.4	22,400	†	57,700
Highest enrollment after bachelor's degree by 2003							
Master's degree	34.3	27.8	13.6	24.3	9,500	22,600	29,000
Doctoral degree	23.6	13.2	28.3	34.9	10,400	44,300	54,900
First-professional degree	20.4	7.6	33.6	38.5	‡	68,000	82,000
Highest degree earned by 2003							
Bachelor's degree	35.5	32.0	10.8	21.7	9,500	25,500	32,500
Master's degree	31.8	22.8	17.5	27.9	9,500	25,200	32,500
Doctoral degree	23.7	11.8	31.2	33.3	‡	46,600	52,900
First-professional degree	17.8	3.5	37.6	41.1	‡	73,900	88,900

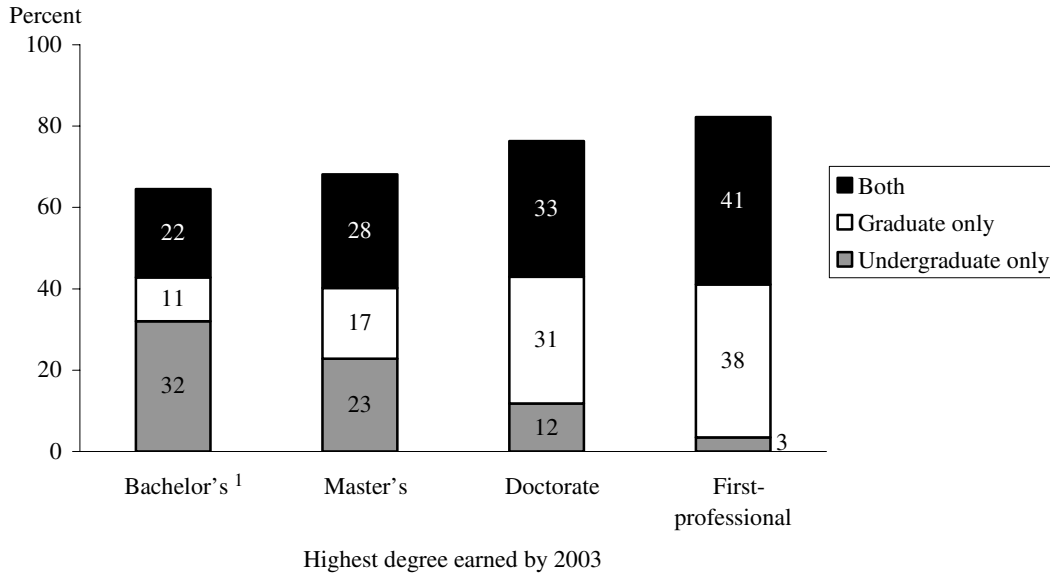
† Not applicable.

‡ Reporting standards not met (too few cases).

NOTE: Graduate includes first-professional. Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

**Figure 2. Among 1992–93 bachelor's degree recipients with graduate degree enrollment, percentage who borrowed for undergraduate and graduate education, by highest degree earned as of 2003 and level at which borrowed**



<sup>1</sup> Enrolled in a graduate or first-professional degree program but did not complete one.

NOTE: Graduate includes first-professional. Estimates include students from the 50 states, DC, and Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

The amounts borrowed by students who had enrolled in a graduate or first-professional program but had not earned a degree by 2003 resembled those of students who had earned a master's degree. There were no measurable differences between the two groups in terms of the average total amount borrowed, regardless of whether borrowing occurred at the undergraduate level only (about \$9,500), at the graduate level only (\$25,200–25,500), or at both levels (about \$32,500).

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## **Repayment of Undergraduate Loans: Undergraduate Borrowers With No Additional Degree Enrollment**

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This section examines the repayment of undergraduate loans taken out by 1992–93 bachelor’s degree recipients during the 10-year period following their graduation. To provide context for the analysis, the section begins with a discussion of repayment obligations and options and interest rates associated with Stafford loans. It then describes the amounts that graduates owed and were repaying, their debt burden, and the various strategies that they used to manage their debt. The discussion is limited to undergraduate borrowers with no additional degree enrollment to avoid complicating the picture with the implications of additional borrowing and deferments.

It is important to keep in mind that the borrowing described in the previous section includes borrowing from all sources. The survey questions about repayment, in contrast, refer only to education loans; nothing was asked about repayment of loans from family or friends, which is more likely to be informal. The focus here is on Stafford loans because most undergraduate borrowing takes place through this program, and the information about repayment is most accurate for these loans.

### **Repayment Obligations and Options for Stafford Loans**

Graduates with Stafford loans who do not immediately attend graduate school normally must begin making monthly payments 6 months after they finish college. The standard repayment plan gives borrowers 10 years to repay their loans. However, there is a minimum monthly payment of \$50, which means that borrowers with relatively small loan amounts (less than about \$4,000) usually need less than 10 years to repay. Borrowers with multiple loans (Stafford or other) can consolidate them into a single loan with one lender, even if they were originally from different lenders. If desired, the repayment period for a consolidated loan may be extended to as long as 30 years, depending on the size of the loan.

Under the *standard 10-year repayment plan*, bachelor’s degree recipients graduating between July 1992 and June 1993 would have made their last payments sometime during 2003 (as late as December 2003 if they had graduated in June). Graduates were interviewed between February and September of 2003. At the time they were interviewed, borrowers using the

standard repayment schedule (and who had loans large enough to require the full 10 years to repay) would have either recently finished paying off their loans (if they had graduated early in the 1992–93 academic year) or been in the final months of repayment (if they had graduated near the end of the period).

Borrowers who expect to have difficulty making the required payments may be able to select an alternative repayment plan, the specifics of which depend on the amount borrowed. These alternative plans have lower payments at the beginning, but greater interest charges accumulate over the life of the loan. With a *graduated repayment* plan, borrowers start with lower payments that increase gradually, typically every 2 years, over a repayment period ranging from 12 to 30 years. Under the *income-sensitive repayment* plan, payments are based on a percentage of gross monthly income and the amount borrowed, but must cover at least the interest due.

Borrowers who are unable to make payments during the repayment period because they enroll for further education or face economic hardships may apply for a period of deferment or forbearance. The list of circumstances qualifying a borrower for a *deferment* has expanded over time, and not all the graduates in this analysis would have had exactly the same opportunities to defer payments. In general, borrowers could obtain a deferment for reasons such as enrolling at least half time in postsecondary education, participating in a medical internship or residency program (for a limited time), enrolling in a rehabilitation program for the disabled, being on active military duty or in the U.S. Public Health Service, serving in the Peace Corps or comparable volunteer service, being unemployed or unable to work due to disability, or caring for a disabled dependent or newborn child. Borrowers with approved deferments are not required to make payments; interest accrues, but in the case of subsidized loans is paid by the government.

Borrowers who are unable to make payments but do not qualify for a deferment may request a period of *forbearance*, during which payments are temporarily postponed or reduced. Interest accrues at the out-of-school rate and is paid by the borrower, which makes forbearance less attractive than deferment. The amount of time to repay the loan is often extended, but interest is capitalized, increasing the loan balance. Forbearance may be granted for reasons such as having poor health, participating in a medical or dental internship or residency after the allowed deferment period is over, and having payment obligations that exceed 20 percent of monthly gross income.

A borrower who does not make any payments for 270 days and has not been granted a deferment or forbearance is considered to have defaulted on the loan. At that point, the entire balance becomes due, and the borrower faces severe consequences, including credit problems

and the loss of eligibility for any additional student financial aid. Under most circumstances, filing for bankruptcy does not discharge the obligation to repay federal student loans. Borrowers can remove loans from default by starting to make payments again and may be able to consolidate their loans to lower their monthly payments.

## **Interest Rates on Stafford Loans**

All Stafford loans made to 1992–93 bachelor’s degree recipients for their undergraduate education were subsidized—that is, the government paid the interest during the in-school, grace, and deferment periods. Interest rates on Stafford loans are set through legislation and have changed over time. Borrowers whose first Stafford loans were made between September 1983 and June 1988 paid 8 percent interest per year. Any additional loans issued to these borrowers while they had any outstanding Stafford loans were also at 8 percent. Borrowers among the 1992–93 bachelor’s degree recipients who took 5 years or more to earn their degree may have taken out their first loan during this period. These borrowers would have paid an 8 percent interest rate on all their Stafford loans throughout the repayment period.

For those whose first Stafford loans were issued to cover enrollment between July 1988 and July 1992 (which is when those who took less than 5 years to finish their degree probably first borrowed), interest rates were somewhat more favorable. Borrowers paid 8 percent per year for the first 4 years after they entered repayment status; at that time, the interest rates were supposed to increase to 10 percent. However, the 10 percent rate was subject to an annual adjustment linked to Treasury bill rates, and the actual interest rates have been lower: 6–9 percent up until July 2002 and 4–5 percent since then. This is the period during which most of the borrowing by this cohort probably took place.

Any borrowers in this cohort who took out their first loans after October 1992 would have had variable interest rates. The rates are adjusted each July and are capped at 8.25 percent. Interest rates were at an all-time low in 2004–05 (2.77 percent for borrowers in school or during their grace period, and 3.37 percent for those in repayment), but they increased in 2005–06 (to 4.70 and 5.30 percent, respectively).

When borrowers consolidate their loans, they obtain a fixed interest rate based on the rates charged on the original loans. When interest rates are low, consolidation can result in considerable savings for the borrower as well as provide the convenience of having just one lender. Costs to the government are greater, however, because of lender subsidies (U.S. General Accounting Office 2003).

## **Amounts Still Owed and Being Repaid**

When interviewed in 2003, the Baccalaureate and Beyond (B&B) participants were asked whether they still owed on their undergraduate loans, and if so, how much. They were also asked if they were currently making payments, and if so, the size of their monthly payments. However, the amounts they reported owing in 2003 tended to be too high when compared with the amounts they reported borrowing in the 1994 interview. For example, even though federal loan borrowers would have been in repayment for almost 10 years by 2003, about 10 percent of the borrowers with no further degree enrollment reported still owing amounts greater than the total amount they had reported borrowing in 1994 (sometimes by large amounts). This implies inaccurate reporting of either the amounts borrowed or the amounts owed (or possibly both).

While information on the amounts borrowed and owed were both collected in a telephone interview and therefore subject to recall error, the information on borrowing seems more likely to be accurate, for two reasons. First, a recent study of the debt burden faced by this cohort a year after graduating observed that the reported monthly loan payments were, on average, consistent with the reported amounts borrowed (Choy and Li 2005). Second, knowing how much they still owed in 2003 would require graduates to know how their loan balances declined as payments were made, which they might not have reason to monitor. They would have more reason to be familiar with how much they had borrowed, how much they had to pay each month, and when they would be finished repaying. Consequently, the amounts graduates reported owing were not used in this analysis; instead, the amounts reported borrowed and being repaid, which were consistent with each other, were trusted.

The amounts that graduates still owed can be estimated roughly, however, using a standard amortization schedule. For example, a student who graduated in June 1993 and took out \$10,000 in student loans (the average for graduates with no additional degree enrollment) at 8 percent would owe a total of \$14,559, including interest. Such a student would be required to make monthly payments of about \$120 per month. By June 2003, the student would have still owed about \$725.

Not all graduates would have owed the amount predicted by an amortization schedule, however. Some may have chosen to pay off their loans early (to reduce the total interest charges, for example); some may have consolidated their loans and extended the repayment period; others may have had periods of deferment or forbearance because of financial hardship; and still others may have defaulted either temporarily or permanently on their loans.



***Characteristics of Borrowers Who Still Owed and Were Repaying***

When interviewed in 2003, some 74 percent of those who had borrowed for their undergraduate education and had not enrolled in an additional degree program had paid off their student loans (table 6). This group includes borrowers who had completed repayment in less than the standard 10 years because they had borrowed relatively small amounts and were required

**Table 6. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment and borrowed as undergraduates, percentages who owed and were repaying their undergraduate loans and average and median amounts borrowed, by student and institutional characteristics: 2003**

Student and institutional characteristics	Percent who still owed	Percent who were repaying	Among those repaying	
			Average amount borrowed	Median amount borrowed
Total	25.9	22.6	\$13,400	\$11,600
Type of degree-granting institution				
Public 4-year	21.6	19.3	11,500	10,000
Non-doctorate-granting	23.3	19.4	11,400	10,000
Doctorate-granting	20.6	19.3	11,600	10,000
Private not-for-profit 4-year	32.6	27.8	15,600	14,000
Non-doctorate-granting	34.9	28.7	14,700	12,300
Doctorate-granting	28.5	26.4	17,100	15,000
Other	40.6	33.3	‡	‡
Undergraduate major				
Business and management	23.2	19.8	13,300	11,000
Education	29.8	27.0	12,900	10,000
Engineering, mathematics, or science	18.8	16.9	14,000	14,000
Humanities or social sciences	29.4	24.5	12,300	10,500
Other	28.6	25.6	14,200	13,000
Amount borrowed (undergraduate)				
Less than \$5,000	5.4	4.4	3,400	3,000
\$5,000–9,999	21.9	19.7	7,200	7,000
\$10,000–14,999	42.0	36.3	11,400	10,500
\$15,000 or more	42.8	37.7	20,600	18,000
Salary in 2003				
Lowest	33.1	24.4	12,100	10,000
Low middle	30.0	27.5	14,000	14,000
High middle	22.1	21.4	13,000	11,400
Highest	19.4	18.7	14,700	11,500

‡ Reporting standards not met (too few cases).

NOTE: Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

to repay a minimum of \$50 per month, borrowers who graduated early in the 1992–93 academic year and had used up their time to repay, and borrowers who, for reasons of their own, decided to pay their loans off early. The other 26 percent still owed on their loans, but, as already indicated, an unknown number of them would have finished repaying them by the end of 2003.

Twenty-three percent of the borrowers who had not enrolled in an additional degree program were making payments. Among those with federal loans but not repaying, some may have been enrolled in a nondegree postsecondary program and had a deferment for that reason (none of the graduates in the analysis sample were ever enrolled in a *degree* program after earning their bachelor's degree). Others may have had a deferment for hardship reasons, been granted forbearance, or been in default or approaching default status. These situations are discussed later.

The percentage of borrowers who still owed increased with the amount they had borrowed: 5 percent of those who had borrowed less than \$5,000 still owed, compared with 22 percent of those who had borrowed \$5,000–9,999 and about 42 percent of those who had borrowed \$10,000 or more.

The percentage of borrowers who still owed was also related to the salary they received at their current or most recent job, reflecting their capacity to repay. For example, 33 percent among those in the lowest income group still owed, compared with 19 percent of those in the highest income group. The median amount borrowed was not systematically related to their salaries, however, in part because of the loan limits imposed by the program, but also because their borrowing decisions were made more than 10 years earlier. Many undergraduates do not have well-formulated career plans and would be unable to base those decisions on anticipated salaries in 2003.

The percentage of borrowers who still owed appeared to be related to their undergraduate major and type of institution attended. For example, graduates with engineering majors were less likely than those with education, humanities, or other majors to still owe by 2003. Similarly, graduates of public 4-year institutions were less likely to still owe than their counterparts from private not-for-profit 4-year institutions. However, these relationships are most likely attributable to differences in salaries (in the case of majors) and in amounts borrowed (in the case of the type of institution).

### ***Borrowers Still Repaying Compared With Those Who No Longer Owed***

Of interest is whether there are any important differences between graduates who were still paying off their student loans and those who no longer owed. Borrowers who were free of education debt in 2003 were about 10 times as likely as those still repaying their loans to have

borrowed less than \$4,000 (2 vs. 28 percent) (table 7). This reflects the fact that those who had borrowed less than about \$4,000 would have normally been required to repay their loans within the study period.

**Table 7. By debt status, student and institutional characteristics of 1992–93 bachelor’s degree recipients who borrowed as undergraduates and had no additional degree enrollment: 2003**

Student and institutional characteristics	Total	Still owed and repaying	No longer owed
Total	100.0	100.0	100.0
Gender			
Male	48.7	44.6	50.4
Female	51.3	55.4	49.6
Race/ethnicity <sup>1</sup>			
White	82.9	80.1	85.4
Black	6.7	10.4	4.3
Hispanic	6.1	5.6	6.4
Asian/Pacific Islander	3.6	3.1	3.4
Other	0.7	0.8	0.5
Parents’ highest education			
High school graduate or less	39.5	46.1	37.3
Some college	20.6	20.1	20.9
Bachelor’s degree	22.0	17.8	22.5
Advanced degree	17.9	16.0	19.3
Dependency status and family income			
Dependent			
Lowest	18.9	23.6	17.2
Low middle	12.8	9.1	14.4
High middle	9.7	8.5	10.6
Highest	6.3	3.3	7.5
Independent	52.4	55.6	50.4
Age received bachelor’s degree			
24 or younger	63.5	61.1	64.9
25–29	18.5	17.8	18.1
30 or older	18.0	21.2	16.9
Type of degree-granting institution			
Public 4-year	63.2	54.4	67.3
Non-doctorate-granting	24.2	20.7	25.0
Doctorate-granting	39.0	33.6	42.3
Private not-for-profit 4-year	32.7	39.9	29.6
Non-doctorate-granting	20.4	26.1	18.1
Doctorate-granting	12.4	13.8	11.5
Other	4.1	5.8	3.1

See notes at end of table.

**Table 7. By debt status, student and institutional characteristics of 1992–93 bachelor’s degree recipients who borrowed as undergraduates and had no additional degree enrollment: 2003—Continued**

Student and institutional characteristics	Total	Still owed and repaying	No longer owed
Undergraduate major			
Business and management	26.8	23.6	27.9
Education	11.8	14.2	11.3
Engineering, mathematics, or science	15.9	11.7	17.2
Humanities or social sciences	17.8	19.4	17.1
Other	27.8	31.2	26.6
Amount borrowed (undergraduate)			
Less than \$5,000	29.6	5.8	37.9
\$5,000–9,999	26.5	23.6	28.4
\$10,000–14,999	20.6	32.8	16.1
\$15,000 or more	23.3	37.8	17.7
Amount borrowed (undergraduate)			
Less than \$4,000	21.3	2.4	28.1
\$4,000 or more	78.7	97.7	71.9
Current employment status			
Employed	87.5	92.5	86.5
Not employed	12.5	7.5	13.5
Marital status in 2003			
Married or cohabiting	73.5	71.1	74.5
Not married	26.5	28.9	25.5
Number of dependent children under age 18 in household in 2003			
None	45.3	46.4	46.0
One or more	54.7	53.6	54.0
Median annual salary			
1994	\$21,500	\$19,800	\$22,000
1997	30,000	28,500	31,100
2003	49,900	44,600	50,000
Average annual salary			
1994	24,200	21,600	25,300
1997	34,900	31,500	35,900
2003	56,600	50,700	58,900

<sup>1</sup> Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Other refers to American Indian or Alaska Native. Race categories exclude Hispanic origin unless specified.

NOTE: Detail may not sum to totals because of rounding. Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

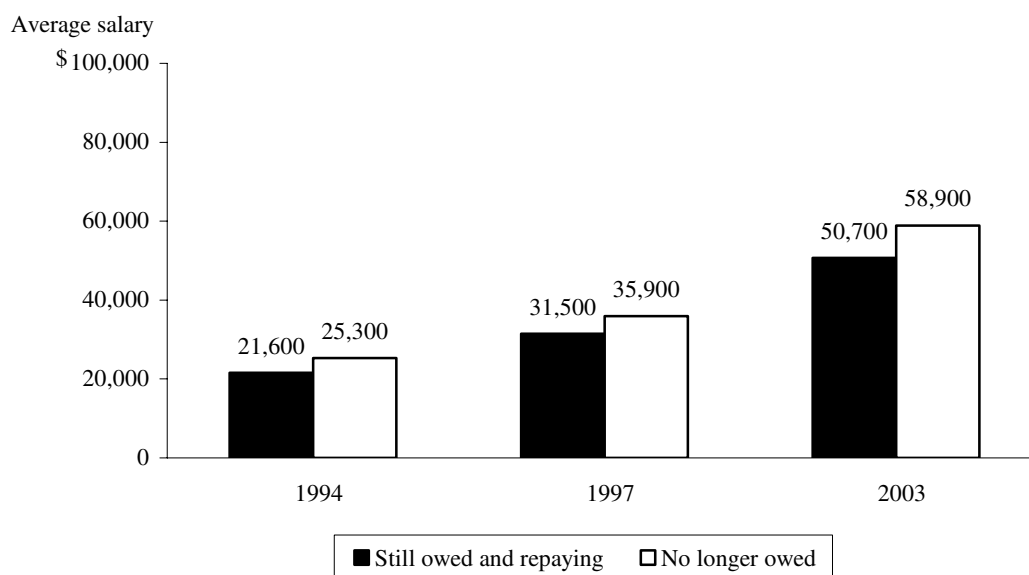
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

Debt-free borrowers had higher average salaries at each follow-up (1994, 1997, and 2003) than those who were still repaying their loans (figure 3 and table 7). Those with higher incomes may have had less need to request hardship deferments or forbearance (and thus stretch out the repayment period), or they may have simply decided to pay off their loans early because they could afford to do so. Debt-free borrowers were more likely than those who still owed to have graduated from a public institution, which would have been related to the amount borrowed.

Although debt status in 2003 is most directly related to the amount borrowed and current income, variation by demographic characteristics exists. For example, those who were still repaying their loans in 2003 were more likely than those who were debt free by then to be female, Black, and from the lowest income families, and to have parents who did not go to college. Without a multivariate analysis to control for the amount borrowed and current income, it is impossible to know if these characteristics had independent effects.

There were no statistically significant differences in family status between those still repaying their loans and those who were debt free: 71 percent of those still repaying their loans were married or cohabiting, compared with 74 percent of those who no longer owed, and 54 percent of each group had children under age 18.

**Figure 3. Average salary of 1992–93 bachelor’s degree recipients who had no additional degree enrollment and borrowed as undergraduates, by 2003 debt status: 1994, 1997, and 2003**



NOTE: Estimates include students from the 50 states, DC, and Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

### Type of Payment Plan

Graduates who were repaying student loans in 2003 were asked what type of repayment option they were using. (The questions referred to repayment of student loans only, not family loans.) Among graduates who had no further degree enrollment and still owed money, 88 percent were repaying their loans and 12 percent were not making payments (table 8).<sup>11</sup>

At each level of borrowing, at least 85 percent were repaying their loans. However, low income was associated with a lower percentage making payments: a lower percentage of graduates in the lowest income group in 2003 (which includes those with no income) were making payments (74 percent) than of those with higher incomes (93–97 percent).

Among those in repayment, most (89 percent) were on the standard repayment schedule. Another 5 percent were using an extended payment plan, 4 percent were in a graduated repayment option, and 2 percent were making income-sensitive payments. Those with the lowest salaries in 2003 were more likely than their peers in the highest salary group to have been using one of the alternative repayment options (17 vs. 6 percent).

**Table 8. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment and still owed undergraduate loans, percentage repaying loans and, among those repaying, percentage distribution of repayment plans, by amount borrowed and salary: 2003**

Amount borrowed and salary	Percent repaying loans	Repayment plan			
		Standard	Graduated	Income-sensitive	Extended
Total	88.0	88.9	3.8	2.1	5.2
Amount borrowed (undergraduate)					
Less than \$5,000	85.4	87.8	2.1	#	10.1
\$5,000–9,999	90.0	91.6	3.7	3.3	1.4
\$10,000–14,999	85.8	89.5	4.1	0.8	5.6
\$15,000 or more	89.2	87.0	3.8	2.8	6.4
Salary in 2003					
Lowest	74.5	82.6	5.7	4.3	7.3
Low middle	92.9	89.5	1.8	2.9	5.9
High middle	96.1	91.6	3.3	0.5	4.6
Highest	97.4	94.2	3.9	#	1.9

# Rounds to zero.

NOTE: Detail may not sum to totals because of rounding. Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

<sup>11</sup> Reasons why some may not have been making payments were discussed earlier.

For comparison, among all Federal Direct Loan Program repayers in March 1997 (not just bachelor's degree recipients), 80 percent had selected the standard repayment plan (U.S. General Accounting Office 1997). While these data are not directly comparable because they are limited to the Direct Loan Program and refer to a different time period, they suggest that bachelor's degree recipients without any further degree enrollment (i.e., the population shown in table 8) may be more likely than average to select the standard repayment plan.

Scherschel (1998) suggests several reasons why most borrowers have used the standard repayment plan: (1) the total amount paid is less than it would be under a graduated or income-sensitive repayment plan because of lower total interest charges over the life of the loans; (2) it is less complicated; (3) the flexible terms offered by alternative plans have not been needed given the amounts borrowed; and (4) borrowers have been unaware of the options.<sup>12</sup>

### *Size of Payments*

Among those making loan payments, the average payment was \$150 per month, and the median was \$130 (table 9). The average payment for a graduate who had borrowed less than

**Table 9. Among 1992–93 bachelor's degree recipients who had no additional degree enrollment and were repaying undergraduate loans, average monthly payment amount and percentage distribution of monthly payments, by amount borrowed and salary: 2003**

Amount borrowed and salary	Average payment amount	Median payment amount	Amount of monthly payment				
			Less than \$100	\$100–149	\$150–199	\$200–249	\$250 or more
Total	\$150	\$130	27.4	30.4	17.2	13.9	11.1
Amount borrowed (undergraduate)							
Less than \$5,000	100	60	69.8	14.0	2.7	4.6	8.8
\$5,000–9,999	100	100	52.4	28.0	12.2	4.2	3.3
\$10,000–14,999	140	130	20.2	44.2	19.7	10.9	5.1
\$15,000 or more	200	180	11.3	22.7	20.5	24.0	21.6
Salary in 2003							
Lowest	130	120	33.7	31.8	13.4	13.3	7.8
Low middle	160	150	24.4	21.3	19.4	25.3	9.6
High middle	160	140	29.4	31.1	20.2	4.9	14.3
Highest	150	120	20.0	41.4	15.5	10.6	12.5

NOTE: Detail may not sum to totals because of rounding. Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

<sup>12</sup> The income-sensitive repayment plan did not become widely available until the mid-1990s; the graduated payment option has been available for years, but lenders were not always required to inform borrowers of this option.

\$5,000 was \$100 (median, \$60), and for one who had borrowed more than \$15,000, it was \$200 (median, \$180).

## **Debt Burden**

Understanding the burden imposed by making loan payments requires examining the payments in relation to the capacity to repay. Employment status and income are two important factors, as are other financial obligations (such as dependents) and other financial resources (such as a spouse's salary or savings).

### ***Employment Status and Salary in 2003***

Among all bachelor's degree recipients with no further degree enrollment (borrowers and nonborrowers combined), 86 percent were employed, 4 percent were unemployed, and 10 percent were out of the labor force in 2003 (table 10). The average salary was \$58,000, ranging from \$56,400 to \$60,300 across borrowing levels, with no measurable differences among levels.

Graduates who were repaying their loans in 2003 were more likely than those not repaying at that time to be employed (93 vs. 85 percent). Five percent of those repaying their loans were out of the labor force, and another 3 percent were unemployed. Presumably, these graduates had other financial resources, such as savings or help from a spouse, partner, or other family member.

### ***Salary History***

A comparison of salaries in 2003 with earlier salaries (in 1994 and 1997) shows that many graduates' financial circumstances relative to others in their cohort changed over time. For example, of those in the lowest or highest salary group in 1994 (when they began repaying their loans), just 41 percent were still in the same group in 2003 (table 11). Similarly, among those in the highest income group in 1997, just about half (53 percent) were still in that group in 2003. While these percentages themselves are not very important—a small difference could easily move an individual from one category to the next—the overall pattern serves as a reminder that when borrowing decisions must be made, it is difficult to predict one's financial circumstances at the time of repayment.



**Table 10. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment, percentage distribution of employment status and, among those employed, average and median annual salaries, by selected student characteristics: 2003**

Student characteristics	Employment status in 2003			Among employed	
	Employed	Unemployed	Out of the labor force	Average annual salary	Median annual salary
Total	85.8	4.1	10.1	\$58,000	\$50,000
Gender					
Male	94.9	3.9	1.2	68,200	59,500
Female	77.7	4.3	18.1	46,900	42,000
Amount borrowed (undergraduate)					
Did not borrow	83.8	4.4	11.8	57,700	50,300
Less than \$5,000	85.0	3.8	11.2	58,900	50,000
\$5,000–9,999	89.3	3.6	7.1	57,800	49,600
\$10,000–14,999	85.9	6.3	7.9	56,400	48,900
\$15,000 or more	90.0	2.2	7.8	60,300	53,500
Undergraduate debt status					
No longer owed	84.9	4.3	10.8	59,100	51,000
Still owed	89.7	3.7	6.6	49,700	42,600
Payment status					
Not making payments	84.6	4.4	11.0	58,700	50,300
Making payments	92.7	2.7	4.6	51,800	45,000
Salary in 2003					
Lowest	76.8	5.3	17.9	24,100	25,700
Low middle	89.9	2.9	7.2	40,700	40,000
High middle	92.6	3.4	4.0	56,600	56,800
Highest	93.6	4.1	2.3	100,800	84,000

NOTE: Detail may not sum to totals because of rounding. Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

### ***Payments Relative to Income***

*Debt burden* is defined here as a borrower’s monthly loan payment divided by monthly salary income (using the April 2003 salary or salary from the most recent job). Thus, by definition, debt burden increases as the amount borrowed (and thus monthly payment) increases, and it decreases as salary increases. Because monthly payments are fixed throughout the repayment period but income generally rose over time, debt burden declined over time. Earlier studies of this cohort of bachelor’s degree recipients found a median debt burden of 6.7 percent in 1994 and 4.8 percent in 1997 (Choy 2000; Choy and Li 2005).

**Table 11. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment and were repaying loans, percentage distribution of 2003 salary, by earlier salaries**

Salary	Salary in 2003			
	Lowest	Lower middle	Upper middle	Highest
Total	28.0	26.9	23.7	21.4
Salary in 1994				
Lowest	40.5	31.1	17.7	10.8
Low middle	42.6	32.4	15.9	9.1
High middle	22.4	26.7	29.5	21.4
Highest	9.6	21.0	28.0	41.4
Salary in 1997				
Lowest	59.8	25.6	6.5	8.1
Low middle	28.7	44.4	20.3	6.6
High middle	8.6	24.5	42.8	24.1
Highest	9.1	3.5	34.2	53.1

NOTE: Lowest includes zero. Detail may not sum to totals because of rounding. Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

The median debt burden in 2003 for those still repaying loans was 3.3 percent (table 12). About 11 percent exceeded the 8 percent benchmark generally considered reasonable (Scherschel 1998) (figure 4 and table 12). For graduates who had borrowed the largest amounts (\$15,000 or more), the median debt burden was 4.5 percent. For graduates in the lowest income group, the median debt burden was 6.0 percent. Among those whose debt burdens had been more than 12 percent in 1994 or 1997, the median debt burden was 5 percent in 2003.

### ***Student Debt and Marriage***

During the 10-year period after graduation, many bachelor’s degree recipients marry and start families, and the effect of these changes on debt burden varies. For some graduates, marriage brings additional income and financial help in repaying loans; for others, it brings a nonworking spouse and/or dependents and increases the financial stress of student loans. For still others—such as those whose spouses also have student loans—it may bring additional debt.

**Table 12. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment and were repaying undergraduate loans, average and median debt burden and percentage distribution of debt burden, by selected student characteristics: 2003**

Student characteristics	Average debt burden <sup>1</sup>	Median debt burden	Debt burden			
			Less than 5 percent	5–8 percent	9–12 percent	More than 12 percent
Total	4.5	3.3	63.1	25.7	8.2	3.0
Amount borrowed (undergraduate)						
Less than \$5,000	3.2	1.4	79.4	14.6	1.6	4.4
\$5,000–9,999	3.8	2.2	75.6	17.3	3.8	3.3
\$10,000–14,999	4.2	3.2	67.2	24.6	5.6	2.7
\$15,000 or more	5.4	4.5	48.6	33.9	14.5	3.0
Monthly loan payment in 2003						
Less than \$100	2.5	1.9	95.9	2.3	#	1.8
\$100–149	3.6	3.0	76.0	20.8	2.0	1.2
\$150–199	4.7	4.3	51.4	42.9	4.1	1.8
\$200–249	6.7	6.1	20.9	50.5	25.7	3.0
\$250 or more	9.0	7.7	14.2	40.6	31.7	13.5
Salary in 2003						
Lowest	7.0	6.0	37.2	38.0	15.0	9.9
Low middle	4.8	4.4	48.4	40.7	9.7	1.2
High middle	3.3	2.8	81.9	12.9	5.2	#
Highest	2.1	1.8	94.7	4.3	0.9	#
Debt burden in 1994 <sup>1</sup>						
Not making repayments	4.8	3.8	57.3	35.1	2.6	5.0
Less than 5 percent	2.9	2.1	80.4	13.9	5.7	#
5–8 percent	3.9	2.7	79.9	15.0	1.7	3.4
9–12 percent	4.9	3.9	59.3	18.1	20.3	2.3
More than 12 percent	5.5	4.6	49.4	33.8	14.4	2.4
Debt burden in 1997 <sup>1</sup>						
Not making repayments	4.6	3.4	61.8	26.6	7.0	4.6
Less than 5 percent	3.5	2.4	77.6	11.5	9.1	1.7
5–8 percent	4.1	3.8	60.8	33.6	5.6	#
9–12 percent	5.7	4.6	43.0	49.3	4.1	3.6
More than 12 percent	6.3	5.0	48.3	26.3	18.3	7.1

# Rounds to zero.

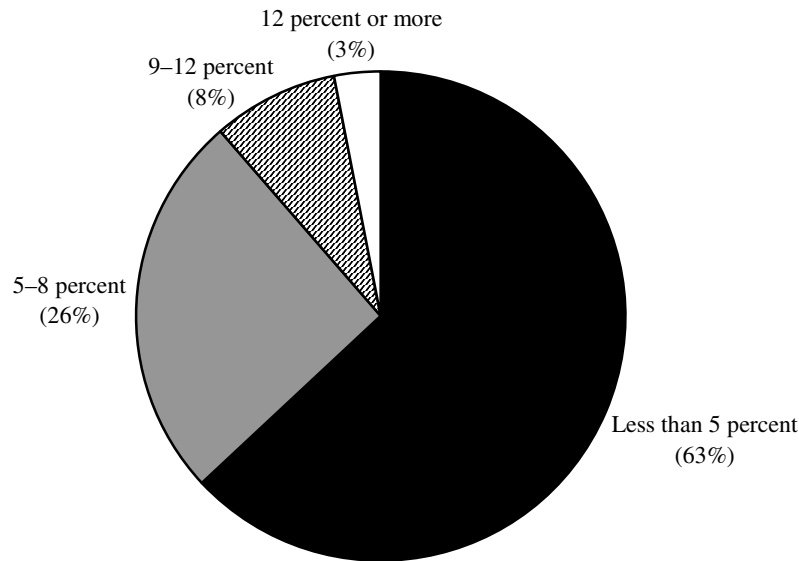
<sup>1</sup> Debt burden is the monthly loan payment as a percentage of monthly income.

NOTE: Detail may not sum to totals because of rounding. Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

**Figure 4. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment and were repaying undergraduate loans, percentage distribution by debt burden: 2003**

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NOTE: Debt burden is the monthly loan payment as a percentage of monthly income. Estimates include students from the 50 states, DC, and Puerto Rico. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

Among those who had no further degree enrollment and in 2003 were repaying undergraduate student loans, 70 percent were married or cohabiting (table 13). Among those who were married or cohabiting, a minority (37 percent) had a spouse/partner who had also taken out student loans for either undergraduate or graduate education. When both had borrowed, the average total amount borrowed was \$37,400, and their average monthly payment in 2003 was \$300. Their average annual income was \$100,700.

The majority of married or cohabiting students who were repaying student loans (63 percent) did not have a spouse or partner with debt. For these students, the average monthly payment was \$150 (i.e., about half the size of the payment when both had debt), but household income averaged \$97,100, which was not measurably lower than the income of households in which both had debt.

**Table 13. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment and were repaying undergraduate loans, percentage who were married or cohabiting and, among those married or cohabiting, spouse/partner loan status, average household amount borrowed, monthly payment, and annual income, by salary characteristics: 2003**

Student characteristics	Percent married or cohabiting	Married or cohabiting							
		If spouse/partner had loans, average household				If spouse/partner had no loans, average household			
		Percent spouse/partner had loans	Amount borrowed	Monthly payment	Annual income	Percent spouse/partner had no loans	Amount borrowed	Monthly payment	Annual income
Total	70.5	37.1	\$37,400	\$300	\$100,700	62.9	\$13,900	\$150	\$97,100
Salary in 2003									
Lowest	62.9	34.1	‡	‡	‡	65.9	13,100	140	66,200
Low middle	70.3	35.2	‡	‡	‡	64.8	14,200	160	80,600
High middle	80.2	37.6	‡	‡	‡	62.4	14,200	170	107,900
Highest	68.0	39.7	‡	‡	‡	60.3	14,100	130	130,700

‡ Reporting standards not met (too few cases).

NOTE: Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

## Managing Stafford Loan Repayment

The National Student Loan Data System (NSLDS) contains information on all loans taken out through the Stafford loan program, the major source of loans for undergraduate education. Information from the NSLDS was merged with the B&B interview data to examine how the 1992–93 bachelor’s degree recipients managed their Stafford loan debt, including their use of consolidation, deferment, forbearance, and default.

### *Stafford Loan Borrowing*

In the B&B interview, 51 percent of graduates with no additional degree enrollment reported having borrowed for their undergraduate education (table 14); according to the NSLDS, 39 percent took out Stafford loans. The rest, then, borrowed only from other sources, such as banks, family, or friends. Among those with Stafford loans, the average amount was \$7,800, about three-quarters of the average amount borrowed from all sources (\$10,000). As with borrowing from all sources, graduates of private not-for-profit institutions did more borrowing through the Stafford loan program than graduates of public institutions (in terms of both the percentage who borrowed and the average amount).

**Table 14. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment, percentage who took out loans and average amounts, by type of loan and student and institutional characteristics: 2003**

Student and institutional characteristics	All loans		Stafford loans <sup>1</sup>		Stafford loan amount			
	Percent	Average amount	Percent	Average amount	Less than \$5,000	\$5,000–9,999	\$10,000–14,999	\$15,000 or more
Total	50.8	\$10,000	38.8	\$7,800	37.2	30.4	23.4	9.1
Gender								
Male	52.5	10,200	39.5	7,700	38.0	31.1	23.1	7.8
Female	49.2	9,800	38.2	8,000	36.3	29.8	23.7	10.2
Race/ethnicity <sup>2</sup>								
White	49.7	10,300	37.6	7,900	35.7	32.7	22.6	9.0
Black	64.2	8,800	53.2	8,300	37.5	26.3	24.4	11.9
Hispanic	65.0	7,900	51.1	6,600	53.6	16.3	25.0	5.1
Asian/Pacific Islander	40.5	10,200	31.4	8,800	38.3	17.2	30.4	14.0
Other	‡	‡	‡	‡	‡	‡	‡	‡
Dependency status and family income								
Dependent								
Lowest	65.5	10,200	55.7	7,700	37.2	28.8	25.8	8.2
Low middle	44.3	9,300	31.8	7,000	43.4	27.4	27.0	2.2
High middle	37.0	9,500	25.3	6,600	47.9	29.5	19.4	3.3
Highest	25.9	12,800	13.2	6,300	42.8	39.2	14.8	3.3
Independent	59.1	9,900	46.7	8,400	33.7	30.9	23.0	12.4
Type of degree-granting institution								
Public 4-year								
Non-doctorate-granting	48.4	8,600	34.5	6,900	45.3	29.6	17.1	8.0
Doctorate-granting	50.9	7,800	36.6	6,300	50.2	28.4	16.3	5.1
Private not-for-profit 4-year								
Non-doctorate-granting	47.0	9,100	33.3	7,200	42.2	30.4	17.7	9.8
Doctorate-granting	55.9	12,500	47.1	9,100	25.4	31.7	32.7	10.3
Other								
Non-doctorate-granting	58.4	11,200	50.0	9,100	28.3	30.5	28.7	12.5
Doctorate-granting	52.3	14,600	42.8	9,100	20.3	33.7	39.6	6.3
Other	51.5	12,200	48.8	10,200	26.6	29.9	30.5	13.0
Amount borrowed (undergraduate)								
Less than \$5,000	100.0	2,600	65.3	3,000	93.8	4.5	1.4	0.3
\$5,000–9,999	100.0	6,800	76.8	6,200	32.2	62.8	4.9	0.2
\$10,000–14,999	100.0	11,500	87.1	10,300	8.8	29.9	55.2	6.1
\$15,000 or more	100.0	21,800	77.9	12,800	8.8	21.1	37.7	32.4

‡ Reporting standards not met (too few cases).

<sup>1</sup> Including those who had borrowed through the Supplemental Loans for Students (SLS) program (0.5 percent), either with or without Stafford loans.

<sup>2</sup> Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Other refers to American Indian or Alaska Native. Race categories exclude Hispanic origin unless specified.

NOTE: Detail may not sum to totals because of rounding. Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

Reflecting the need-based character of the program at the time this cohort borrowed for undergraduate education, the percentage who had taken out Stafford loans declined as family income increased for dependent students (from 56 percent of those in the lowest income category to 13 percent of those in the highest income category).<sup>13</sup> Those from the lowest income families had taken out more in Stafford loans, on average, than those in the highest income group (\$7,700 vs. \$6,300).

Independent students were less likely than dependent students from the lowest income families to take out Stafford loans (47 vs. 56 percent), but there was no statistically significant difference between the two groups in the average amounts borrowed (\$8,400 and \$7,700, respectively). Compared with dependent students at other income levels, independent students were more likely to take out Stafford loans and to borrow more, on average.

### ***Consolidation of Stafford Loans***

As indicated earlier, borrowers can consolidate loans for convenience, to obtain a fixed interest rate, or to extend the repayment period. While extending the repayment period lowers monthly payments, it increases total interest charges.<sup>14</sup> Twelve percent of borrowers had consolidated at least some of their Stafford loans by 2003 (table 15). Among those who had consolidated any loans, 36 percent had consolidated all of them.

Among 1992–93 bachelor’s degree recipients with undergraduate Stafford loans and no further degree enrollment, consolidation was related to borrowing large amounts and low income. Stafford loan consolidators had borrowed roughly twice as much, on average, as those who had not consolidated any of their loans (\$13,000 vs. \$7,100). The percentage who had consolidated any Stafford loans ranged from 2 percent among those who had borrowed less than \$5,000 to 38 percent for those who had borrowed \$15,000 or more (figure 5 and table 15). Borrowers with annual salaries in the lowest and lower middle groups in 1994 (when they were starting to repay their loans) were more likely than their counterparts with higher salaries at that time to have consolidated Stafford loans (17–21 percent vs. 8–9 percent).

Consolidation was also related to other indicators of financial stress. For example, when their 1994 debt burden (which is related to both the amount borrowed and income) was more than 8 percent, 15–20 percent of borrowers consolidated. Finally, those who had ever deferred, had any periods of forbearance, or had ever defaulted were much more likely to have

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<sup>13</sup> The apparent difference between the two middle-income groups was not statistically significant.

<sup>14</sup> Low interest rates have provided current borrowers with an additional incentive to consolidate: to lock in a low fixed rate. However, the 1992–93 graduates did not have these low rates.

**Table 15. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment and took out Stafford loans, percentage who consolidated loans, average amount consolidated, and average Stafford loan amount, by selected student characteristics: 2003**

Student characteristics	Percent consolidating Stafford loans		Average amount consolidated	Average (consolidated and unconsolidated) Stafford loan amount	
	Any loans	If any, all loans		If any consolidated	If none consolidated
Total	12.0	35.8	\$10,900	\$13,000	\$7,100
Amount borrowed (undergraduate)					
Less than \$5,000	1.9	‡	‡	‡	2,800
\$5,000–9,999	9.3	17.0	7,400	8,200	7,400
\$10,000–14,999	21.4	27.5	10,800	12,300	12,200
\$15,000 or more	38.5	57.8	15,400	19,700	17,800
Salary in 1994					
Lowest	20.7	33.3	11,100	13,300	6,700
Low middle	16.6	22.5	10,300	11,200	6,700
High middle	8.1	30.1	10,800	12,900	7,100
Highest	8.7	61.3	11,000	14,500	7,600
Debt burden in 1994 <sup>1</sup>					
Not making repayments	15.7	21.7	12,500	13,300	4,700
Less than 5 percent	4.5	‡	‡	‡	5,000
5–8 percent	8.8	43.4	9,700	12,100	7,800
9–12 percent	15.4	‡	‡	‡	9,900
More than 12 percent	19.9	31.7	11,300	12,500	10,300
Stafford loan deferments by 2003					
Any deferments	42.4	32.7	11,000	12,200	9,500
No deferments	10.3	36.5	10,800	13,200	7,100
Stafford loan forbearances by 2003					
Ever in forbearance	38.9	24.5	12,300	13,900	9,800
Never in forbearance	8.3	43.2	9,900	12,400	6,900
Stafford loan defaults by 2003					
Ever defaulted	41.4	39.3	11,500	13,700	7,400
Never defaulted	8.9	34.0	10,500	12,600	7,100

‡ Reporting standards not met (too few cases).

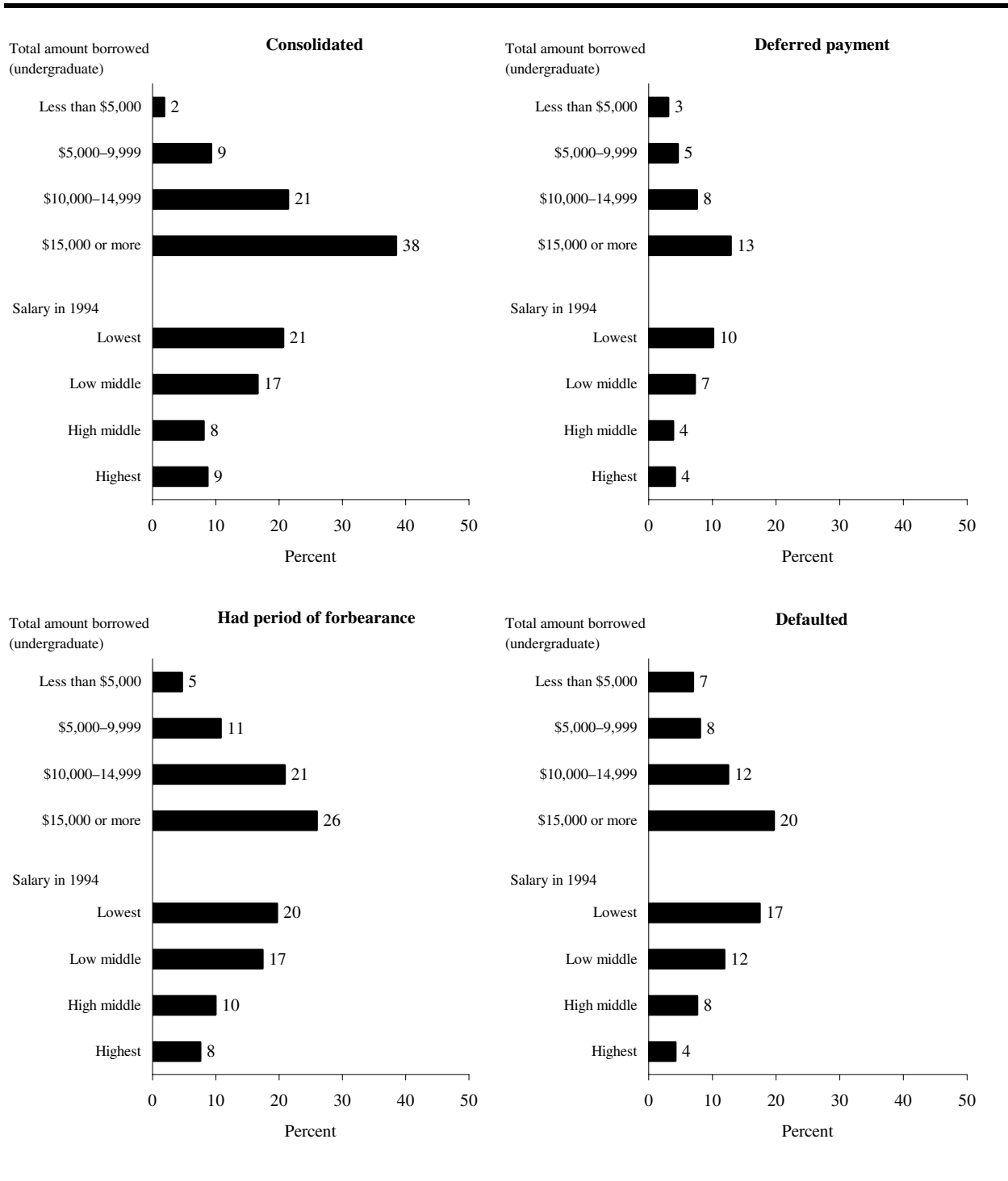
<sup>1</sup> Debt burden is the monthly loan payment as a percentage of monthly income.

NOTE: Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).



**Figure 5. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment and took out Stafford loans, percentage who consolidated loans, deferred payment, had periods of forbearance, or defaulted as of 2003**



NOTE: Estimates include students from the 50 states, DC, and Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

consolidated loans than those who had not been in these positions (39–42 percent vs. 8–10 percent).

### ***Stafford Loan Deferments***

Because this analysis is limited to bachelor's degree recipients with no further degree enrollment, the deferments reported here would have been granted for one or more of the reasons described earlier other than graduate enrollment, such as military service or disability. Among 1992–93 bachelor's degree recipients with Stafford undergraduate loans and no further degree enrollment, deferments were relatively rare: 5 percent had ever deferred their loan payments, typically deferring for the first time about 4 years after they had graduated (table 16).

Deferment was related to borrowing large amounts. Graduates who had ever deferred their loan payments had borrowed more, on average, than their peers who had not deferred (\$10,600 vs. \$7,700). Those with loans of \$15,000 or more were about four times as likely as those who had borrowed less than \$5,000 to have deferred (13 vs. 3 percent) (figure 5 and table 16). Low salaries in the early years after graduation were also a factor: 10 percent of those with the lowest salaries in 1994 had deferred, compared with 4 percent of those who were in the high-middle or highest salary groups at that time. Deferment was also related to forbearance: 19 percent of those who had ever been in forbearance had also deferred, compared with 4 percent of those who had never been in forbearance.

### ***Stafford Loan Forbearance***

Forbearance is an option when a borrower is unable to make payments but does not qualify for a deferment. As was true for deferment, forbearance was related to high levels of borrowing and low income. Among bachelor's degree recipients with Stafford loans and no additional degree enrollment, forbearance was more common than deferment (12 vs. 5 percent), most likely because deferment is permitted only if specific conditions are met (tables 17 and 16). On average, the first period of forbearance occurred about 5 years after graduation (table 17).

Graduates with any periods of forbearance had borrowed more, on average, than their counterparts with none (\$11,400 vs. \$7,400). Graduates whose undergraduate Stafford loans totaled \$10,000 or more were more likely than those who had borrowed less to have been in forbearance (21–26 vs. 5–11 percent) (figure 5 and table 17). Those in the lowest and low-middle salary ranges in 1994 were more likely than their counterparts at higher salary levels to have had a period of forbearance (17–20 vs. 8–10 percent).

**Table 16. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment and took out Stafford loans, percentage who ever deferred on those loans, average length of time until the first deferment, and average Stafford loan amount, by selected student characteristics: 2003**

Student characteristics	Percent who ever deferred Stafford loan repayment	Average number of years from bachelor’s degree to first deferment	Average Stafford loan amount	
			If deferred	If did not defer
Total	5.5	3.9	\$10,600	\$7,700
Amount borrowed (undergraduate)				
Less than \$5,000	3.1	‡	‡	2,800
\$5,000–9,999	4.6	‡	‡	7,500
\$10,000–14,999	7.6	4.4	12,100	12,200
\$15,000 or more	12.9	‡	‡	18,500
Salary in 1994				
Lowest	10.1	3.6	11,500	7,700
Low middle	7.2	‡	‡	7,200
High middle	3.8	‡	‡	7,500
Highest	4.1	‡	‡	8,100
Debt burden in 1994 <sup>1</sup>				
Not making repayments	7.8	‡	‡	5,500
Less than 5 percent	4.4	‡	‡	5,000
5–8 percent	3.7	‡	‡	8,100
9–12 percent	7.1	‡	‡	10,400
More than 12 percent	4.5	‡	‡	10,700
Stafford loan forbearances by 2003				
Ever in forbearance	19.4	4.3	12,000	11,200
Never in forbearance	3.6	3.6	9,600	7,300
Stafford loan defaults by 2003				
Ever defaulted	11.7	‡	‡	9,800
Never defaulted	4.8	3.8	10,400	7,500

‡ Reporting standards not met (too few cases).

<sup>1</sup> Debt burden is the monthly loan payment as a percentage of monthly income.

NOTE: Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

Among those with a debt burden of 9–12 percent or more than 12 percent in 1994, about 18 percent had been in forbearance at some point. Those who had ever deferred repayment or defaulted on loans were more likely than their peers who had not done either to have had a period of forbearance on loans (25–43 vs. 10–11 percent).

**Table 17. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment and took out Stafford loans, percentage who had any periods of forbearance, average length of time until the first period, and average amount of loans, by selected student characteristics: 2003**

Student characteristics	Percent with any forbearance	Average number of years from bachelor’s degree to first forbearance	Average Stafford loan amount	
			If forbearance	If no forbearance
Total	12.3	4.8	\$11,400	\$7,400
Amount borrowed (undergraduate)				
Less than \$5,000	4.7	‡	‡	2,800
\$5,000–9,999	10.8	4.7	7,900	7,400
\$10,000–14,999	20.9	4.8	12,500	12,200
\$15,000 or more	25.9	5.2	19,800	18,100
Salary in 1994				
Lowest	19.7	4.5	11,000	7,300
Low middle	17.4	4.4	11,300	6,600
High middle	9.9	5.5	10,600	7,200
Highest	7.5	5.1	13,100	7,800
Debt burden in 1994 <sup>1</sup>				
Not making repayments	11.7	‡	‡	5,000
Less than 5 percent	4.3	‡	‡	5,000
5–8 percent	11.4	4.8	9,300	8,000
9–12 percent	18.0	4.2	11,900	10,400
More than 12 percent	18.9	4.3	13,800	10,000
Stafford loan deferments by 2003				
Any deferments	43.3	5.0	12,000	9,600
No deferments	10.5	4.7	11,200	7,300
Stafford loan defaults by 2003				
Ever defaulted	25.0	4.7	13,000	9,000
Never defaulted	10.9	4.8	10,900	7,200

‡ Reporting standards not met (too few cases).

<sup>1</sup> Debt burden is the monthly loan payment as a percentage of monthly income.

NOTE: Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

### ***Stafford Loan Defaults***

As indicated earlier, default occurs when a borrower does not make any payments for 9 months. Among bachelor’s degree recipients with Stafford undergraduate loans and no further degree enrollment, 10 percent had defaulted at least once (table 18). However, 45 percent of

**Table 18. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment and took out Stafford loans, percentage who ever defaulted, average length of time until the first default, percentage who re-entered repayment, and average amount of loans, by selected student characteristics: 2003**

Student characteristics	Percent who ever defaulted	Average number of years from bachelor’s degree to first default	Percent of defaulters who ever re-entered repayment	Average Stafford loan amount	
				If defaulted	If did not default
Total	9.7	3.9	44.5	\$10,000	\$7,600
Amount borrowed (undergraduate)					
Less than \$5,000	7.0	3.2	65.5	2,700	2,800
\$5,000–9,999	8.1	3.8	30.0	7,500	7,500
\$10,000–14,999	12.5	4.6	46.1	11,800	12,300
\$15,000 or more	19.7	4.2	31.4	21,100	17,900
Salary in 1994					
Lowest	17.4	5.0	22.7	9,000	7,900
Low middle	11.9	3.9	38.9	9,500	7,100
High middle	7.6	3.3	58.8	8,500	7,500
Highest	4.2	‡	‡	‡	7,900
Debt burden in 1994 <sup>1</sup>					
Not making repayments	12.6	‡	‡	‡	5,500
Less than 5 percent	3.7	‡	‡	‡	5,100
5–8 percent	7.3	‡	‡	‡	8,100
9–12 percent	8.2	‡	‡	‡	10,500
More than 12 percent	12.6	‡	‡	‡	10,600
Stafford loan deferments by 2003					
Any deferments	20.8	‡	‡	‡	10,400
No deferments	9.1	3.7	47.2	9,800	7,500
Stafford loan forbearances by 2003					
Ever in forbearance	19.9	5.8	27.1	13,000	10,900
Never in forbearance	8.3	3.3	50.3	9,000	7,200

‡ Reporting standards not met (too few cases).

<sup>1</sup> Debt burden is the monthly loan payment as a percentage of monthly income.

NOTE: Detail may not sum to totals because of rounding. Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

those who had defaulted later re-entered repayment. Graduates who defaulted had borrowed more, on average, than those who did not default (\$10,000 vs. \$7,600).

As with other repayment difficulties, large loans were associated with default: 20 percent of borrowers with \$15,000 or more in Stafford loans defaulted at some point, compared with 7–8

percent of those who borrowed less than \$10,000 (figure 5 and table 18). Those who started off with the highest salaries in 1994 were less likely than those with lower incomes to have defaulted.

The percentage of borrowers who defaulted was also related to deferment and forbearance: 21 percent of those who had ever deferred and 20 percent of those who had ever been in forbearance defaulted, compared with 9 percent of those who had not deferred and 8 percent who had not been in forbearance. Nevertheless, about 80 percent of those with deferments or periods of forbearance did not default.

Note that the federal government calculates cohort default rates based on the percentage of borrowers who enter repayment on a federal student loan during a particular federal fiscal year and default by the end of the next fiscal year. For fiscal year (FY) 2002, the cohort default rates were 4.0 percent for students who attended public 4-year institutions and 3.1 percent for students who attended private not-for-profit 4-year institutions (U.S. Department of Education 2004a). One would expect the rate observed in this analysis (10 percent) to be higher because it covers a much longer time period.

### ***Salary and Amount Borrowed***

As described above, difficulty repaying loans is related to both low income and large Stafford loan amounts. Table 19 shows how borrowers with various levels of debt burden were distributed by their salaries in 1994 and the amount they had taken out in Stafford loans as undergraduates. Borrowers with the highest debt burden (more than 12 percent) were more likely than others to be in the bottom half of the income distribution, but the percentages at each borrowing level were not measurably different from those for graduates with a debt burden in the 9–12 percent range. This suggests that low income may be a more common cause of very high debt burden. Borrowers with deferments, periods of forbearance, and defaults were more likely than those who did not encounter these difficulties to be in the lower half of the salary distribution and also more likely to have borrowed \$10,000 or more.

### ***Stafford Loan Repayment Status in 2003 and Time Taken to Repay***

Among bachelor's degree recipients with Stafford undergraduate loans and no further degree enrollment and who did not consolidate their loans, 70 percent had repaid their loans by

**Table 19. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment and took out Stafford loans, percentage distribution of 1994 salary and Stafford loan amount, by selected student characteristics: 2003**

Student characteristics	Salary in 1994				Stafford loan amount			
	Lowest	Lower middle	Upper middle	Highest	Less than \$5,000	\$5,000–9,999	\$10,000–14,999	\$15,000 or more
Total	15.7	25.2	31.8	27.4	37.2	30.4	23.4	9.1
Debt burden in 1994 <sup>1</sup>								
Not making repayments	8.1	36.1	27.1	28.7	56.4	22.0	13.8	7.8
Less than 5 percent	0.2	10.8	38.9	50.2	62.1	30.1	5.5	2.3
5–8 percent	4.4	24.9	41.2	29.5	27.7	39.5	25.2	7.6
9–12 percent	2.2	34.5	44.3	19.0	14.9	31.1	38.8	15.2
More than 12 percent	21.2	46.8	23.1	8.9	14.0	32.7	38.3	15.1
Stafford loan deferments by 2003								
Any deferments	27.6	31.6	21.2	19.6	20.8	25.5	32.4	21.4
No deferments	15.0	24.8	32.5	27.8	38.1	30.7	22.9	8.4
Stafford loan forbearances by 2003								
Ever in forbearance	24.3	34.5	24.9	16.3	14.1	26.7	40.0	19.2
Never in forbearance	14.4	23.8	32.8	29.0	40.4	30.9	21.1	7.7
Stafford loan defaults by 2003								
Ever defaulted	29.4	32.1	26.1	12.4	26.6	25.1	30.0	18.3
Never defaulted	14.3	24.4	32.4	28.9	38.3	31.0	22.7	8.1

<sup>1</sup> Debt burden is the monthly loan payment as a percentage of monthly income.

NOTE: Detail may not sum to totals because of rounding. Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

2003 (table 20).<sup>15</sup> The likelihood of having paid off all loans by 2003 declined with the amount borrowed, ranging from 90 percent among those with loans of less than \$5,000 to 38 percent among those who had borrowed \$15,000 or more. In addition, those who had the lowest salaries in 1994 were less likely than those with salaries in the high-middle or highest level to have paid off all of their loans by 2003 (58 vs. 73–76 percent). Among students who had not experienced difficulty repaying their loans (i.e., had never deferred, been in forbearance, or defaulted), about three-quarters had repaid them.

<sup>15</sup> These data from NSLDS are relatively consistent with the student-reported data in table 6, which show that 26 percent still owed on any student loans, not just Stafford loans, and, thus, that 74 percent had repaid *all* their student loans. Students who consolidated Stafford loans were excluded from table 19 because their consolidated loan may include other types of loans as well. Among those who had consolidated any of their Stafford loans, 2 percent had paid off all their loans by 2003.

**Table 20. Among 1992–93 bachelor’s degree recipients who had no additional degree enrollment, took out Stafford loans, and did not consolidate any of their Stafford loans, percentage who had paid off all loans, average amount of loans, average length of time to repay, and percentage distribution of length of time to repay, by selected student characteristics: 2003**

Student characteristics	Percent who had paid off all loans <sup>1</sup>	Among those who had paid off all loans						
		Average Stafford loan amount	Average number of years to repay	Time to repay				
				3 years or less	3.1–5 years	5.1–8 years	8.1–10 years	More than 10 years <sup>2</sup>
Total	70.4	\$6,500	5.7	25.1	17.3	27.3	22.7	7.7
Amount borrowed (undergraduate)								
Less than \$5,000	90.1	2,800	4.5	37.0	19.9	26.2	13.3	3.6
\$5,000–9,999	69.6	7,400	6.8	11.6	13.7	31.8	31.4	11.5
\$10,000–14,999	52.8	12,100	6.8	15.8	15.6	22.0	34.4	12.1
\$15,000 or more	38.3	17,500	5.4	25.4	19.5	29.1	17.8	8.3
Salary in 1994								
Lowest	58.2	6,300	5.7	22.4	16.2	31.0	28.3	2.3
Low middle	67.0	5,800	5.6	26.5	15.9	29.8	19.0	8.8
High middle	76.3	6,700	5.4	28.9	17.3	25.5	21.3	6.9
Highest	73.2	6,800	6.1	21.0	14.2	28.5	25.7	10.7
Debt burden in 1994 <sup>3</sup>								
Not making repayments	72.9	4,200	3.1	66.1	10.3	8.7	14.0	0.9
Less than 5 percent	83.0	4,700	6.2	18.2	17.7	30.1	22.6	11.4
5–8 percent	69.6	7,200	6.1	17.3	17.2	32.9	25.4	7.2
9–12 percent	67.1	9,600	6.7	11.9	18.3	28.8	31.4	9.5
More than 12 percent	55.4	9,100	6.1	14.5	17.6	39.6	19.8	8.6
Stafford loan deferments by 2003								
Any deferments	25.9	9,500	6.3	6.5	30.9	31.4	24.0	7.3
No deferments	73.0	6,400	5.6	25.4	17.0	27.2	22.7	7.7
Stafford loan forbearances by 2003								
Ever in forbearance	25.8	7,500	7.5	8.9	10.6	26.3	40.4	13.8
Never in forbearance	76.7	6,500	5.6	25.8	17.6	27.4	21.9	7.4
Stafford loan defaults by 2003								
Ever defaulted	33.5	7,000	5.4	29.2	25.2	18.1	24.6	2.9
Never defaulted	74.4	6,500	5.7	24.9	16.9	27.8	22.6	7.9

<sup>1</sup> Among Stafford loan consolidators, 2 percent had paid off all loans by 2003.

<sup>2</sup> Some borrowers may have started repaying their loans before 1992–93, either while still enrolled or during a stopout period.

<sup>3</sup> Debt burden is the monthly loan payment as a percentage of monthly income.

NOTE: Detail may not sum to totals because of rounding. Estimates include students from the 50 states, DC, and Puerto Rico. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).



Among undergraduate borrowers with no further degree enrollment who did not consolidate any of their Stafford loans *and* had paid off all loans by 2003, the average amount of time taken to repay their Stafford loans was 5.7 years; 25 percent had repaid them within 3 years. As would be expected, periods of forbearance slowed them down. Graduates with any periods of forbearance on their Stafford loans took an average of 7.5 years to repay them, compared with 5.6 years for other borrowers.

Graduates who had deferred loan repayment (but still managed to repay their loans within 10 years) took an average of 6.3 years to finish paying off all of their loans, which was not measurably longer than the time taken by those who had not deferred (5.6 years), despite the fact that they had borrowed more (\$9,500 vs. \$6,400).

### ***Graduate Enrollment and Undergraduate Loan Repayment***

The primary focus of this study is how the 1992–93 college graduates with no further degree enrollment managed their undergraduate loan repayment in the 10 years after graduation. Students with postbaccalaureate enrollment were omitted because deferments and additional borrowing make it difficult to compare experiences in any detail. Nevertheless, it is worth looking briefly at how the 41 percent with postbaccalaureate degree enrollment (table 3) fared in terms of repaying their undergraduate loans.

While there were no measurable differences between graduates with and without further degree enrollment in the percentage who took out any undergraduate loans or any Stafford undergraduate loans or the average amounts borrowed, their repayment status differed (table 21). Among those with no further degree enrollment beyond a bachelor's degree, 74 percent had paid off all their loans by 2003, and 72 percent had paid off all their Stafford loans. In contrast, 59 percent of those with graduate or first-professional degree enrollment had paid off all their undergraduate loans, and 54 percent had paid off all their Stafford undergraduate loans.

Those with graduate or first-professional enrollment were more likely than those with no further degree enrollment to have consolidated their undergraduate loans (25 vs. 12 percent). Because enrollment in a graduate or first-professional program at least half time makes students eligible to defer loan repayment, they were also more likely than those with no further enrollment to have deferred (34 vs. 6 percent). There were no measurable differences in the undergraduate loan default rates of the two groups.

**Table 21. Among 1992–93 bachelor’s degree recipients who borrowed for undergraduate education, percentage who borrowed from all sources and through the Stafford loan program, and percentage of Stafford loan borrowers with various repayment histories for their undergraduate loans, by highest degree program: 2003**

Highest degree program	Percent who borrowed from any source	Percent with Stafford loans	Among borrowers from any source		Among borrowers with Stafford loans					
			Average amount all loans	Percent who had paid off all loans	Average Stafford loan amount	Percent who consolidated Stafford loans	Percent who deferred Stafford loan repayment	Percent who had forbearance on Stafford loans	Percent who had defaulted on Stafford loans	Percent who had paid off all Stafford loans
Total	51.4	38.2	\$10,200	67.0	\$7,900	17.2	18.3	15.5	9.1	64.2
Highest enrollment after bachelor’s degree by 2003										
No additional degree enrollment <sup>1</sup>	50.8	38.8	10,000	74.1	7,800	12.0	5.5	12.3	9.7	72.0
Nongraduate degree or certificate <sup>2</sup>	54.9	40.7	9,900	59.6	7,800	13.9	23.9	15.7	11.3	67.0
Graduate/first-professional	51.5	37.1	10,400	59.3	7,900	24.5	34.3	19.6	7.8	53.6

<sup>1</sup> No enrollment after the bachelor’s degree earned in 1992–93 or enrollment only in courses not leading to a degree or certificate.

<sup>2</sup> Enrolled in a program leading to a technical diploma, associate’s degree, bachelor’s degree, or postbaccalaureate certificate.

NOTE: Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>. Estimates include students from the 50 states, DC, and Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

## Summary and Conclusions

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### Summary of Key Findings

*Borrowing.* About half of all 1992–93 bachelor’s degree recipients (51 percent) had borrowed to help pay for college, taking out an average of \$10,200 in loans. About 41 percent of the graduates had enrolled in a graduate or first-professional degree program by 2003, and 45 percent of them had borrowed for that education. Those with loans for graduate or first-professional education only had borrowed an average of \$36,900 by 2003, while those with both undergraduate and graduate loans had borrowed an average of \$41,700. Among graduates with no further degree enrollment (the focus of this analysis), 51 percent had borrowed an average of \$10,000.

*Borrowers compared with nonborrowers.* Because only students with established financial need could borrow through federal student loan programs when the 1992–93 bachelor’s degree recipients were undergraduates, borrowers were more likely than nonborrowers to have characteristics typically associated with financial need—that is, characteristics related to low income or a high price of attending, such as financial independence, low family income if dependent, parents with less than a bachelor’s degree, and graduating from a private not-for-profit institution.

Ten years later, however, there were no meaningful differences between borrowers and nonborrowers in educational, employment, and family formation outcomes such as the percentage who had enrolled in an additional degree program, average salary, or the percentage who were married or cohabiting. Borrowers were slightly more likely than nonborrowers to have children under 18 in their household, which may be related to the fact that borrowers tended to be older.

*Repayment of undergraduate loans.* Among bachelor’s degree recipients who did not go on to a graduate or first-professional degree program, most appeared able to handle their debt: 74 percent had repaid all their undergraduate student loans by the time they were interviewed in 2003. While 26 percent still owed, it is important to note that June graduates who were on the standard 10-year repayment plan for federal loans and borrowed more than about \$4,000 would not be expected to finish repaying their loans until December 2003 (i.e., after they were

interviewed). Although the analysis focuses on those with no additional degree enrollment, table 20 shows the status of those who had enrolled in graduate or first-professional degree programs: 59 percent of them had repaid all their undergraduate loans by 2003.

*Debt burden.* Among those who did not enroll in a graduate or first-professional degree program and were still repaying their undergraduate loans, the median debt burden (defined as monthly loan payment divided by income) was 3.3 percent. Because monthly payments were fixed throughout the repayment period but graduates' income generally rose over time, their debt burden declined over time. Earlier studies of 1992–93 bachelor's degree recipients found a median debt burden of 6.7 percent in 1994 and 4.8 percent in 1997. For those who had borrowed the largest amounts (more than \$15,000), the median debt burden was 4.5 percent in 2003, and for those in the lowest income group (bottom quarter), it was 6.0 percent. By 2003, about 90 percent of graduates were within the 8 percent generally considered reasonable, but 3 percent had debt burden of 12 percent or more.

*Debt management.* Among bachelor's degree recipients with no further degree enrollment, 39 percent took out Stafford loans as undergraduates. Among this group, 12 percent consolidated some or all of their loans, 5 percent ever had a deferment, 12 percent ever had a period of forbearance, and 10 percent entered default at some point. However, 45 percent of those who ever defaulted later re-entered repayment. As one would expect, deferment, forbearance, and default were related. Many of the individuals exhibiting this type of difficulty consolidated their loans (presumably in some cases to stretch out the repayment period). Most borrowers who deferred or had periods of forbearance did not default. The average length of time between graduation and the first deferment, forbearance, or default was 4–5 years.

## **Implications for Current Borrowers**

The implications of these findings for current borrowers are difficult to assess. Although contemporary undergraduates are borrowing more, which would suggest more repayment problems, the characteristics of borrowers have changed since the introduction of unsubsidized loans for students regardless of financial need. Now more students from middle- and high-income families are borrowing, and their families may be better equipped to help them if they run into difficulty repaying their loans.

It is clear from this analysis, however, that the financial circumstances of bachelor's degree recipients 10 years after graduation are difficult to predict. While loan payments remain constant, income, which is key to the ability to repay, does not: general economic conditions affect income over time, and the data show that students with the highest incomes soon after graduation are not

necessarily those with the highest incomes 10 years later. On average, students did not run into trouble right away; repayment problems came later. For many, the problems were temporary, with about half of defaulters able to re-enter repayment at a later date. In addition, most borrowers who deferred or had periods of forbearance were able to recover financially and did not default. These findings highlight the fact that when students and their families must make the decision to borrow, it is difficult for them to predict the actual burden of that debt.

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## Appendix A—Glossary

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This glossary describes the variables used in this report. The variables come from the NCES 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03) Data Analysis System (DAS), a software application developed by NCES to generate tables from the survey data. The B&B:93/03 DAS includes data collected in the base year (1992–93) and the three follow-ups conducted in 1994, 1997, and 2003. Appendix B contains descriptions of both the DAS software and the B&B surveys.

In the index below, the variables are organized by general topic and, within topic, listed in the order in which they appear in the tables. The glossary items are listed in alphabetical order by the variable name (displayed in capital letters to the right of the variable label). Data listed below under “Undergraduate Stafford loan repayment history” were originally obtained from the National Student Loan Data System (NSLDS) in 2003; all other data for 2003 were collected in student interviews; data for 1994 were collected from student interviews and institutional records; and data for 1997 were collected in student interviews. Variables created from the NSLDS (indicated with labels beginning with “N”) were created for all bachelor’s degree recipients, regardless of whether they attended graduate school. However, the variables refer only to undergraduate borrowing. The analysis of the NSLDS data used in this report was limited to bachelor’s degree recipients who had no further degree enrollment.

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**DAS Variable****Age received bachelor's degree****AGEATBA**

Indicates the respondent's age at the time the bachelor's degree was received. The age categories used in this report are:

- 24 or younger
- 25–29
- 30 or older

**Salary in 1994, 1997, and 2003****APRANSAL  
SALPCT  
B2SALARY  
B3CRSAL**

For each year, respondents were divided into four categories based on their annual salary, with each group representing one-quarter of the salary distribution. The lowest category includes respondents who were unemployed. In current dollars, the ranges for each group are as follows:

	1994	1997	2003
Lowest	\$9,594 or less	\$22,400 or less	\$34,000 or less
Lower middle	\$9,595–\$17,992	\$22,401–\$29,992	\$34,001–\$48,000
Upper middle	\$17,993–\$25,771	\$29,993–\$40,888	\$48,001–\$66,900
Highest	Greater than \$25,771	Greater than \$40,888	Greater than \$66,900

In 1994, respondents reported the annual salary or rate of pay for the job they held in April 1994 (APRANSAL). Where the salary in 1994 appears as a row variable, it is based on SALPCT, which is the percentile ranking of APRANSAL. Salary in 1997 (B2SALARY) is the respondent's annual salary for the job held in April 1997 (except for teachers, for whom the academic-year salary was used). Salary in 2003 (B3CRSAL) is the respondent's annual salary for his or her current (interview date) or most recent job (including teachers). In 2003, respondents who reported salaries greater than \$500,000 were recoded to \$500,000.

B2SALARY has a weighted item response rate below 85 percent when the entire survey sample is considered (as in table 1), thus requiring a bias analysis according to NCES publication standards; see appendix B for details on how this report's findings might have been biased due to missing data on B2SALARY.

**Debt burden in 1997****B2EDPCT**

Monthly loan payment as a percentage of monthly income, created by dividing the monthly student loan payment amount by monthly income and multiplying by 100. The percentages were multiplied by 100 to achieve higher precision—specifically, to be able to show median debt burden to one decimal place rather than an integer. Respondents with unrealistically high values (i.e., a debt burden of more than 50 percent) were excluded from the analysis of debt burden in this report; less than 1 percent were excluded for this reason. This variable includes payments for both undergraduate and graduate loans in 1997. However, when used in this report, the amount refers to payments on undergraduate loans only because only bachelor's degree recipients with no additional degree enrollment were included in the analysis of debt burden.

The monthly income refers to income from all sources in 1996, the year prior to the follow-up survey. Thus, B2EDPCT differs from its counterparts for both 1994 (EDPCTR) and 2003 (B3EDPCT); for the other years, income refers to salary income in the survey year (see details under "EDPCTR" and "B3EDPCT" in this glossary). The impact of this difference on findings in this report is minimal because B2EDPCT was used only in table 12 and was used only as a row variable.

	<i>DAS Variable</i>
<b><i>Salary in 1997</i></b>	<b>B2SALARY</b>
See APRANSAL	
<b><i>Number of dependent children under age 18 in household in 2003</i></b>	<b>B3CHDEP</b>
Number of dependent children under age 18 who were living in the household in 2003.	
<b><i>Salary in 2003</i></b>	<b>B3CRSAL</b>
See APRANSAL	
<b><i>Debt burden in 2003</i></b>	<b>B3EDPCT</b>
Monthly loan payment as a percentage of monthly income, created by dividing the monthly student loan payment amount by monthly income and multiplying by 100. The percentages were multiplied by 100 to achieve higher precision—specifically, to be able to show median debt burden to one decimal place rather than an integer. Respondents with unrealistically high values (i.e., a debt burden of more than 50 percent) were excluded from the analysis of debt burden in this report; less than 1 percent were excluded for this reason. This variable includes payments for both undergraduate and graduate loans in 1997. However, when used in this report, the amount refers to payments on undergraduate loans only because only bachelor’s degree recipients with no additional degree enrollment were included in the analysis of debt burden. Monthly income refers to income from salary only and both the numerator and denominator refer to the survey year (2003). (See also EDPCTR and B2EDPCT.)	
<b><i>Enrollment/employment status in 2003</i></b>	<b>B3EMPEN</b>
Respondent’s enrollment and employment status at the time of the interview. Enrollment includes enrollment at either the graduate or undergraduate level. Categories include:	
Enrolled and employed	
Enrolled only	
Employed only	
Not enrolled or employed	
<b><i>Amount borrowed for graduate education by 2003</i></b>	<b>B3GRLN2</b>
Amount borrowed to support enrollment in a graduate degree program after earning a bachelor’s degree.	
<b><i>Highest degree earned by 2003</i></b>	<b>B3HDG03</b>
Highest degree the respondent had earned by 2003. Since all respondents had earned a bachelor’s degree in 1992–93, the bachelor’s degree is the lowest possible degree attained.	
Bachelor’s degree	
Master’s degree	
Doctoral degree	
First-professional degree	

**DAS Variable*****Highest enrollment after bachelor's degree by 2003*****B3HDGPG**

Describes additional enrollment after the bachelor's degree. For students who enrolled in more than one program, this variable indicates the highest level at which they enrolled.

No additional degree enrollment	No enrollment after the bachelor's degree earned in 1992–93 or enrollment only in courses not leading to a degree or certificate.
Nongraduate degree or certificate	Enrolled in a program leading to a technical diploma, associate's degree, bachelor's degree, or postbaccalaureate certificate.
Master's degree	Enrolled in a program leading to a master's degree or post-master's certificate.
Doctoral degree	Enrolled in a program leading to a doctoral degree.
First-professional degree	Enrolled in a program leading to a first-professional degree (medicine, chiropractic, dentistry, optometry, osteopathic medicine, pharmacy, podiatry, veterinary medicine, law, or theology).

***Amount borrowed by household by 2003*****B3HHLN2**

Total amount borrowed by the respondent and his or her spouse/partner. The respondent's portion refers to amounts borrowed for all undergraduate enrollment and for graduate degree enrollment (see B3TOTLN2), whereas the spouse/partner's portion does not have this constraint and includes loans for any type of postsecondary education. Because the analysis of household borrowing is limited to graduates with no additional degree enrollment, this variable includes only undergraduate loans for the respondent in this report.

***Household monthly payment in 2003*****B3HHRPY**

Monthly payment amount for the respondent's household. This amount was calculated by combining the respondent's and spouse/partner's monthly student loan payments.

***Employment status in 2003*****B3LFP03**

Labor force participation status in 2003. This variable indicates the number of jobs held and, for those with one job, whether the job was full or part time. Respondents who were not working were classified as unemployed or out of the labor force. For this report, respondents were grouped into three categories: employed, unemployed, and out of the labor force.

***Borrowing status in 2003*****B3LNSTAT**

Indicates whether respondents had borrowed for undergraduate education only, graduate degree programs only, both, or neither.

***Marital status in 2003*****B3MAR**

Respondents' marital status at the time of the 2003 interview (unmarried or married/cohabiting). Those who responded that they were "cohabiting/living with a partner" were grouped with "married" in this report.

*DAS Variable*

***Household income in 2002***

**B3OINC02**

Respondents' reply to the question: "What was your/your spouse/partner's total income earned from all sources, prior to taxes and deductions, for 2002?"

***Monthly loan payment in 2003***

**B3RPYAMT**

Respondents' reply to the question: "How much do you pay each month on your education loans?" Because the analysis of loan repayment in this report is limited to those with no graduate degree enrollment, payments would be associated with undergraduate loans only.

***Repayment plan in 2003***

**B3RPYTYP**

Type of plan being used to repay student loans at the time of the interview in 2003: standard, graduated, income-sensitive, or extended. Details about the terms and conditions for each type of plan are included in the text of the report.

***Spouse/partner loan status in 2003***

**B3SEDLN**

Respondents were asked: "Other than any money your spouse/partner may have borrowed from family or friends, how much did he/she borrow to pay for his/her education?" For this report, this variable was used only to indicate whether or not the spouse/partner had borrowed (yes/no).

***Amount borrowed for undergraduate and graduate education by 2003***

**B3TOTLN2**

The sum of the amount borrowed for undergraduate education (B3UGLN) and the amount borrowed for graduate degree programs after earning the bachelor's degree (B3GRLN2).

***Amount borrowed for undergraduate education***

**B3UGLN**

Respondents' reply to the question: "Other than any money you may have borrowed from family or friends, how much did you borrow in education loans for your undergraduate education?"

***Undergraduate debt status in 2003***

**B3UGOWE**

Derived from the responses to the questions: "How much do you borrow for your undergraduate education?" and "How much of that amount do you still owe?" This variable was used to determine the percentage who still owed. As explained in the text, the amounts reportedly owed appeared unreliable.

***Undergraduate major***

**BAMAJOR**

Graduate's self-reported major field of study for the bachelor's degree using 12 categories, which were collapsed into 5 categories in this report:

Business and management

Business and management



**DAS Variable*****Undergraduate major—continued*****BAMAJOR**

Education	Education
Engineering/math/science	Engineering, mathematics and physical science, biological sciences
Humanities and social sciences	Humanities, history, psychology, and social science
Other	Health professions, public affairs/social services, and other fields not listed above

***Debt burden in 1994*****EDPCTR**

Monthly loan payment as a percentage of monthly income, created by dividing the monthly student loan payment amount by monthly income and multiplying by 100. The percentages were multiplied by 100 to achieve higher precision—specifically, to be able to show median debt burden to one decimal place rather than an integer. Respondents with unrealistically high values (i.e., a debt burden of more than 50 percent) were excluded from the analysis of debt burden in this report; less than 1 percent were excluded for this reason. This variable includes payments for both undergraduate and graduate loans in 1997. However, when used in this report, the amount refers to payments on undergraduate loans only because only bachelor’s degree recipients with no additional degree enrollment were included in the analysis of debt burden. Monthly income refers to income from salary only and both the numerator and denominator refer to the survey year (1994). (See also B2EDPCT and B3EDPCT.)

***Gender*****GENDER**

Respondent’s gender (male or female).

***GPA for undergraduate major*****GPAMAJ**

Student-reported grade point average in their undergraduate major on a 4.0 scale—collected in the 1994 follow-up survey. If students indicated a grading scale other than a 4-point scale, their grades were converted to a 4-point scale. The resulting 4-point scale grades were multiplied by 100 in the DAS to produce an integer scale ranging from 0 to 400.

***Dependency status and family income*****INCQUTIL**

Respondents’ family income category, determined separately for dependent and independent students. All students who are 24 years or older are considered independent. Students under 24 are considered independent if they are veterans of the U.S. Armed Forces; enrolled in a graduate or professional program beyond a bachelor’s degree; married; an orphan or ward of the court; or if they have legal dependents other than a spouse. All other students under 24 are considered dependent unless they demonstrate that they are receiving no parental support and are classified as independent by a financial aid officer using professional judgment. For financial aid purposes, “family income” refers to parents’ income for dependent students and the student’s income (including a spouse’s income if married) for independent students. For this report, graduates were divided into five groups based on their family income and their dependency status in 1992–93. The categories for dependent students represent one-quarter of the family income distribution for dependent students. All independent students were combined into one group. In current dollars, the ranges covered by each of the family income groups for dependent students are as follows:

**DAS Variable**

***Dependency status and family income—continued***

**INCQUTIL**

Lowest	\$37,517 or less
Lower middle	\$37,518–\$55,000
Upper middle	\$55,001–\$74,036
Highest	More than \$74,036

***Defaults by 2003***

**NDEFAST**

Indicates whether respondents had ever defaulted on any undergraduate Stafford or consolidated loans. Borrowers may consolidate Stafford and other federal loans (such as Perkins) and may consolidate graduate and undergraduate loans. However, the analysis of repayment in this report includes only bachelor’s degree recipients with no graduate degree enrollment; thus, their consolidated loans would include only undergraduate loans.

The variable has six categories, which were collapsed into a dichotomous classification of “Yes” and “No” for this analysis. The “Did not borrow” category could include respondents who had borrowed Stafford loans for education other than that of the 1992–93 bachelor’s degree (see NSTFAMT for details).

- Yes     Defaulted on undergraduate Stafford loans only; defaulted on consolidated loans only; defaulted on both undergraduate Stafford and consolidated loans; did not borrow undergraduate Stafford loans but defaulted on consolidated loans.
- No     Defaulted on neither; did not borrow Stafford undergraduate loans; no default on consolidated loans.

***Repayment after default status by 2003***

**NDEFATRP**

Indicates whether respondents who had ever defaulted on Stafford undergraduate or consolidated loans later reentered repayment (yes/no).

***Deferments by 2003***

**NDEFEST**

Indicates whether respondents had deferred payment for any undergraduate Stafford or consolidated loans by 2003. The variable has six categories, which were collapsed into a dichotomous classification of “Yes” and “No” for this study (shown below). The “Did not borrow” category could include respondents who had borrowed Stafford loans for education other than that of the 1992–93 bachelor’s degree (see NSTFAMT for details).

- Yes     Deferred on undergraduate Stafford loans only; deferred on consolidated loans only; deferred on both undergraduate Stafford and consolidated loans; did not borrow undergraduate Stafford loans but deferred on consolidated loans.
- No     Deferred on neither; did not borrow Stafford undergraduate loans; no deferment of consolidated loans.

***Forbearances by 2003***

**NFORBST**

Indicates whether respondents had forbearance for any undergraduate Stafford or consolidated loans. The variable has six categories, which are collapsed into a dichotomous classification of “Yes” and “No” for this study (shown

**DAS Variable*****Forbearances by 2003—continued*****NFORBST**

below). The “Did not borrow” categories could include respondents who had borrowed Stafford loans that are for education other than that of the 1992–93 bachelor’s degree (see NSTFAMT for details).

- |     |   |
|-----|---|
| Yes | Had forbearance on undergraduate Stafford loans only; had forbearance on consolidated loans only; had forbearance on both undergraduate Stafford and consolidated loans; did not borrow undergraduate Stafford loans but had forbearance on consolidated loans. |
| No  | Had forbearance on neither; did not borrow Stafford undergraduate loans; no forbearance of consolidated loans.  |

***Years until first default*****NMTFDEFA**

Number of years from bachelor’s degree receipt until the first default date for undergraduate Stafford or consolidated loans.

***Years until first deferment*****NMTFDEFE**

Number of years from bachelor’s degree receipt until the first deferment date for undergraduate Stafford or consolidated loans.

***Years until first forbearance*****NMTFFORB**

Number of years from bachelor’s degree receipt until the first forbearance date for undergraduate Stafford or consolidated loans.

***Years to repay*****NMTLPAID**

Number of years from bachelor’s degree receipt until the date that the last loan was paid off. This variable applies only to respondents who had borrowed undergraduate Stafford loans, of which none had been consolidated and all had been paid off.

***Undergraduate Stafford loan amount*****NSTFAMT**

Amount borrowed in undergraduate Stafford loans. Refers to all Stafford loans taken out for undergraduate education between 1985 and the date of bachelor’s degree receipt in 1992–93.

***Loan consolidation status in 2003*****NSTFCALL**

Indicates if none, any, or all of respondents’ undergraduate Stafford loans were consolidated by 2003. The variable has four categories:

- Consolidated some
- Consolidated all
- Consolidated none
- Did not borrow undergraduate Stafford loans

**DAS Variable**

**Amount consolidated by 2003**

**NSTFCAMT**

Amount of Stafford undergraduate loans consolidated.

**Parents' highest education**

**PAREduc**

Response to the question: "What is the highest grade or level of education completed by either of your parents?" The variable identifies 14 mutually exclusive categories that were aggregated into four groups for this report:

High school or less	Less than high school; GED; high school graduation.
Some postsecondary education	Vocational/technical training (less than 1 year, 1 year but less than 2 years, 2 or more years); less than 2 years of college; associate's degree; 2 or more years of college.
Bachelor's degree	Bachelor's degree.
Advanced degree	Master's degree or equivalent; first-professional degree; other advanced professional degree; doctorate (Ph.D., Ed.D.).

**Race/ethnicity**

**RETHNIC**

Respondents' race/ethnicity, including Hispanic/Latino. The variable gives priority to Hispanic/Latino regardless of race.

Asian/Pacific Islander	A person having origins in any of the peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This includes people from China, Japan, Korea, the Philippine Islands, India, Vietnam, Hawaii, and Samoa.
Black	A person having origins in any of the black racial groups of Africa. Includes African Americans.
White	A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.
Hispanic	A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race. Includes Latino.
Other	American Indian (a person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition). Includes Alaska Natives and any other race not included above.

**DAS Variable*****Type of degree-granting institution*****SECTOR\_B**

Type of the institution (level and control) granting the bachelor's degree. This variable differentiates between non-doctorate-granting and doctorate-granting 4-year institutions. Non-doctorate-granting institutions include colleges with a major emphasis on baccalaureate programs and also colleges and universities that offer both baccalaureate programs and graduate education through the master's degree. Doctorate-granting institutions offer baccalaureate programs and graduate education through the doctoral degree. Institutions that offer first-professional degrees are considered doctorate-granting institutions. "Other" institutions include for-profit institutions and a small number of less-than-4-year institutions that grant bachelor's degrees. The categories used in this report are:

- Public 4-year non-doctorate-granting
- Public 4-year doctorate-granting
- Private not-for-profit 4-year non-doctorate-granting
- Private not-for-profit 4-year doctorate-granting
- Other

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## **Appendix B—Technical Notes and Methodology**

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### **The 1993–2003 Baccalaureate and Beyond Longitudinal Study**

The estimates and statistics reported in the tables and figures of this report are based on data from the first, second, and third follow-ups of the 1993–2003 Baccalaureate and Beyond Longitudinal Study (B&B:93/03). This study tracks the experiences of a cohort of college graduates who received a baccalaureate degree during the 1992–93 academic year and were first interviewed as part of the 1992–93 National Postsecondary Student Aid Study (NPSAS:93), conducted by the U.S. Department of Education’s National Center for Education Statistics. NPSAS is based on a nationally representative sample of all students in postsecondary education institutions, including undergraduate, graduate, and first-professional students. For NPSAS:93, information was obtained from about 1,100 postsecondary institutions on approximately 53,000 undergraduates and about 13,000 graduate and first-professional students who were enrolled at some time between July 1, 1992, and June 30, 1993.

For B&B:93/03, those members of the NPSAS:93 sample who completed a bachelor’s degree between July 1, 1992, and June 30, 1993, were identified and contacted for a 1-year follow-up interview in 1994. The second follow-up of the B&B cohort occurred in 1997, approximately 4 years after graduation. The final follow-up survey 10 years after graduation, in 2003, is the focus of this report. However, the estimates in this report are based on the approximately 8,100 bachelor’s degree recipients who participated in all four surveys—the NPSAS base-year survey and the three follow-ups—representing about 1.2 million bachelor’s degree completers (U.S. Department of Education 2004b, table 252).

The NPSAS:93 sample, while representative and statistically accurate, was not a simple random sample. Instead, the survey sample was selected using a more complex three-step procedure with stratified samples and differential probabilities of selection at each level. First, primary sampling units (PSUs) were selected within the geographic coverage of NPSAS (the 50 states, the District of Columbia, and Puerto Rico). Second, for each selected PSU, individual postsecondary institutions—organized into 22 strata by control (i.e., public, private not-for-profit, or private for-profit) and level of degree offering (less-than-2-year, 2- to 3-year, 4-year non-doctorate-granting, and 4-year doctorate-granting)—were selected. Finally, eligible students were selected within the responding sample institutions. The NPSAS:93 survey sample yielded an

overall weighted institutional response rate of 88 percent. For more information about the NPSAS:93 survey, refer to the *Methodology Report for the National Postsecondary Student Aid Study, 1992–93* (Loft et al. 1995).

For the first follow-up B&B interview in 1994, a total of about 10,100 eligible individuals completed the interview between June and December—using computer-assisted telephone interviewing (CATI), with field interviewing when necessary—which corresponds to a weighted response rate of 90 percent (from the NPSAS:93-identified B&B eligible sample of about 11,000 cases). Data collection for the second follow-up interview of the B&B cohort took place between April and December 1997; about 10,100 individuals completed the interview, yielding a weighted response rate of 90 percent. For more information on procedures for the first and second follow-ups, consult the respective methodology reports (Green et al. [1996] for the first follow-up and Green et al. [1999] for the second follow-up).

Between February and September 2003, the third and final follow-up of the 1992–93 cohort of bachelor’s degree recipients was conducted. For the first time, students were offered the opportunity to conduct their own B&B interview via the Internet. A single, Web-based interview was designed and programmed for use as a self-administered interview, a telephone interview, and an in-person interview. All respondents to the 1997 interview were included for participation in the 2003 follow-up; a subsample of about one-third of nonrespondents from 1997 was also included, resulting in a final sample of about 10,400 individuals. Almost 9,000 members of this final sample responded, yielding a weighted response rate of 83 percent. For more details about the third follow-up survey procedures, consult the B&B:93/03 methodology report (Wine et al. 2006).

Except for having all graduated in the same academic year, the 1992–93 graduate cohort members could be as diverse as possible in other aspects (e.g., the degree recipients could have been enrolled sporadically over time or had been enrolled continuously; some might have delayed their entry to postsecondary education while others perhaps had gone to college right after completing high school). Therefore, the B&B:93/03 data provide the first opportunity to examine how a nationally representative, cross-sectional group of college graduates handled their undergraduate debt over a period of 10 years after graduation, the standard length of time allowed for paying off federal student loans. The B&B dataset contains comprehensive data on post-baccalaureate graduate enrollment, attainment, student demographic characteristics, and labor force participation and finances (including education loans). However, the student debt information collected through B&B refers only to the snapshot time point at the interviews, rather than a complete history of debt management, which was obtained using data from the National Student Loan Data System.



## The National Student Loan Data System

The National Student Loan Data System (NSLDS) is the U.S. Department of Education’s central database for student aid. It receives data from schools, agencies that guarantee loans, the Direct Loan program, the Pell Grant program, and other U.S. Department of Education programs. NSLDS provides a centralized, integrated view of Title IV loans and Pell Grants that are tracked through their entire cycle, from aid approval through closure. The NSLDS records indicate when each federal loan is disbursed to the student, at what academic level (e.g., first-year undergraduate, first-year graduate), the amount of the loan disbursed, the time period covered, and the history of the loan. The history part tracks each change in the status of the loan, such as when it is consolidated, deferred, defaulted, in repayment, or paid off, and the date of each change. The last entry of a loan in the NSLDS records shows the most recent outstanding balance of the loan. Thus, the September 2003 NSLDS dataset, which was used to add information to B&B:93/03 file, provides detailed information about the repayment history of each loan, including debt status and amount still outstanding at that time.

Although NSLDS contains information on all federal loans, this study examines only Stafford loans, the most commonly used federal loans.<sup>1</sup> Also excluded are loans covering periods ending before January 1985 on the grounds that they were most likely irrelevant to the attainment of the bachelor’s degree earned in the 1992–93 academic year.

## Weighting

All estimates in this report are weighted to compensate for unequal probability of selection into the survey sample and to adjust for nonresponse. The specific weight variable used in this report is WTC00, which was constructed as the panel weight for analyzing those students who responded to all four surveys: NPSAS:93 and the 1994, 1997, and 2003 B&B follow-up interviews. For more information on weighting, consult chapter 6, “Weighting and Variance Estimation,” of the B&B:93/03 methodology report (Wine et al. 2006).

## Overall Response Rates

As discussed earlier in this appendix, the overall weighted institution response rate for NPSAS:93 was 88 percent. The overall weighted student response rate was 90 percent for both the first (in 1994) and second (in 1997) follow-up B&B interviews and 83 percent for the final B&B follow-up interview (in 2003).

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<sup>1</sup> Examples of federal loans excluded from this study include PLUS loans—because they are taken out by parents—and Perkins loans—because of concerns that early NSLDS records tend to underreport Perkins loans.

## Accuracy of Estimates

The statistics in this report are estimates derived from a sample. Two broad categories of error occur in such estimates: sampling and nonsampling errors. Sampling errors occur because observations are made on only samples of students, not entire populations. Nonsampling errors occur not only in sample surveys but also in complete censuses of entire populations. Nonsampling errors can be attributed to a number of sources: inability to obtain complete information about all students in all institutions in the sample (some students or institutions refused to participate, or students participated but answered only certain items); ambiguous definitions; differences in interpreting questions; inability or unwillingness to give correct information; mistakes in recording or coding data; and other errors of collecting, processing, sampling, and imputing missing data. Readers interested in efforts to minimize nonsampling errors for estimates used in this report should consult the methodology reports referenced earlier in this appendix. Below is a discussion on possible bias on statistics for a couple of variables presented in the tables/figures of this report that had low item response rates.

### *Item Response Rates and Bias Analysis*

Weighted item response rates were calculated for all the variables used in this report by dividing the weighted number of valid responses by the weighted population for which the item was applicable. Overall, most of the items had very high response rates. Items with weighted item response rates at 90 percent or below are shown in table B-1.

Only two variables had weighted item response rates below 85 percent. In one of these cases (B3RPYTYP, type of loan repayment in 2003), the low weighted response rate—18 percent—is due largely to the fact that this variable was applicable to a small proportion of the sample population (i.e., those who were in repayment in 2003), hence leaving a large proportion of the sample population with incomplete interviews. Such cases are considered to have indeterminate responses, as are respondents who give invalid responses (such as “Refused” or “Don’t know”). Incomplete interviews thus make up a relatively high proportion of the indeterminate responses for this item. However, it is highly likely that the majority of indeterminate responses would have been excluded from the item had their information been gathered, considering that the item applies only to a small proportion of the sample population. When incomplete interviews were excluded from the calculation of the item response rate, the response rate for B3RPYTYP indeed increased from 18 to 81 percent, a big improvement but nonetheless still below the NCES threshold of 85 percent. However, the only incidence where this variable was used in this report is when the focus is on those who had no additional degree enrollment and were in repayment in 2003 (table 8), a subgroup of the sample population, for

**Table B-1. Lowest weighted item response rates for variables used in this report**

Variable name	Variable label	Item response rate	
		Incomplete interviews assumed applicable	Incomplete interviews excluded <sup>1</sup>
Variables with response rates lower than 85 percent:			
B2SALARY	April 1997 annual salary	80.5	†
B3RPYTYP	Type of loan repayment	18.3 <sup>2</sup>	80.7
Variables with response rates between 85 and 90 percent:			
APRANSAL	April 1994 annual salary	85.7	†
B2EDPCT	Debt burden in 1997	87.7	†
B2SALARY <sup>3</sup>	April 1997 annual salary	87.2	†
B2SALARY <sup>4</sup>	April 1997 annual salary	90.1	†
B3HHLN2	Household amount borrowed	89.0	†
B3SEDLN	Amount borrowed by spouse	85.9	†

† Not applicable.

<sup>1</sup> Only if the variable has a nonapplicable proportion of 70 percent or above.

<sup>2</sup> However, when limited to those who had no additional degree enrollment, had borrowed as undergraduates, and were in repayment in 2003, the subgroup for which B3RPYTYP was used only once in this report (table 8), the weighted item response rate was 99 percent, not requiring bias analysis.

<sup>3</sup> When its use is limited to those who had no additional degree enrollment and borrowed as undergraduates (table 7).

<sup>4</sup> When its use is limited to those who had no additional degree enrollment, had borrowed as undergraduates, and were in repayment in 2003 (table 11).

NOTE: Weighted item response rates were calculated by dividing the total weighted number of valid responses by the weighted total population for whom the question was applicable. Bias analyses were conducted for variables with a weighted item response rate below 85 percent unless noted otherwise.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

which the item response rate for B3RPYTYP is actually 99 percent. Thus, it is very unlikely that statistics presented in table 8 and relevant statements made in the text are biased because of missing data.

The only other variable with a weighted item response rate below 85 percent is B2SALARY (annual salary at April 1997 job) when it was used to compute the median and average salaries in 1997 in table 1 for the entire applicable sample (rather than a subgroup of the sample). A bias analysis was conducted to determine whether the cases missing values for this variable differed from those with positive values in aspects that are associated with salary income. Cases with missing and positive responses were compared with each other for four demographic variables: GENDER (gender), RETHNIC (race/ethnicity), BAMAJOR (undergraduate major), and SECTOR\_B (degree-granting institution type). Each of these comparison variables had a response rate of 96 percent or higher and was related to B2SALARY.

Results show that there were no measurable gender-associated differences between respondents who had positive values on B2SALARY and those with missing values for this variable—e.g., the percentage of males was 45 and 44 percent, respectively. However, those with missing values for B2SALARY were more likely than those with valid data to have been Asian/Pacific Islander (8 vs. 4 percent) but less likely to have been White (80 vs. 84 percent) and more likely to have graduated from private not-for-profit doctoral institutions (17 vs. 13 percent), characteristics associated with higher salary income (\$37,500 for Asian/Pacific Islander vs. \$32,500 for White; \$36,400 for private not-for-profit doctoral institutions vs. \$30,400–\$33,100 for others). This suggests the possibility that the statistics reported in the table might have been underestimated—that is, the average and median salary would likely have been higher if the response rate for B2SALARY had been higher. However, respondents with unknown values for B2SALARY were more likely than those with known values to have majored in humanities and social sciences (27 vs. 23 percent) and less likely to have majored in the “Other” category (22 vs. 25 percent), which would likely lead to estimates lower than those presented in table 1, because humanities and social sciences majors earned, on average, less than those whose major was in the “Other” category (\$29,700 vs. \$33,400). Nonetheless, in neither direction of potential bias were the differences between respondents and nonrespondents considerable in magnitude, meaning that if there were any biases, they would have had a very limited effect on the overall sample. When combining this with the fact that among all sample cases, only 19 percent of them had a missing value on B2SALARY, it is unlikely that the estimates reported in table 1 would be seriously biased.

## **Data Analysis System**

The estimates presented in this report were produced using the B&B:93/03 Data Analysis System (DAS). (The data from the 1994, 1997, and 2003 interviews were incorporated into one DAS.) The DAS software makes it possible for users to specify and generate their own tables. The DAS also contains a detailed description of how each variable was created, and includes question wording for items coming directly from an interview.

With the DAS, users can replicate or expand upon the tables presented in this report. In addition to the table estimates, the DAS calculates the proper standard errors<sup>2</sup> and weighted sample sizes for these estimates. For example, table B-2 contains standard errors that correspond

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<sup>2</sup> The B&B samples are not simple random samples, and therefore, simple random sample techniques for estimating sampling error cannot be applied to these data. The DAS 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 the DAS involves approximating the estimator by balanced repeated replication of the sampled population. The procedure is typically referred to as the “balanced repeated replication technique.”

**Table B-2. Standard errors for table 2: Percentage of 1992–93 bachelor’s degree recipients who borrowed for undergraduate education from any source and, among borrowers, average amount borrowed and percentage distribution of amount borrowed, by student and institutional characteristics**

Student and institutional characteristics	Percent who borrowed	Average amount borrowed	Amount borrowed			
			Less than \$5,000	\$5,000–9,999	\$10,000–14,999	\$15,000 or more
Total	0.86	\$210	0.94	0.83	0.75	1.02
Dependency status and family income						
Dependent						
Lowest	1.58	440	2.07	1.73	1.63	2.56
Low middle	1.73	370	2.78	2.52	1.99	1.54
High middle	1.46	770	2.72	2.50	1.80	2.91
Highest	1.33	630	2.45	2.22	2.35	2.70
Independent						
1.39	240	1.38	1.73	1.20	1.36	
Type of degree-granting institution						
Public 4-year						
1.08	220	1.42	1.08	1.04	1.10	
Non-doctorate-granting						
2.10	470	2.68	1.75	1.58	2.07	
Doctorate-granting						
1.29	210	1.54	1.22	1.48	1.35	
Private not-for-profit 4-year						
1.43	320	1.28	1.66	1.27	1.89	
Non-doctorate-granting						
2.04	440	1.65	2.59	1.46	2.37	
Doctorate-granting						
2.10	550	2.02	1.69	2.35	2.92	
Other						
6.36	1,190	6.60	6.15	6.34	5.56	
Highest enrollment after bachelor’s degree by 2003						
No degree						
1.26	320	1.38	1.22	1.11	1.47	
Nongraduate degree						
2.69	640	3.03	2.88	3.48	3.14	
Graduate or first-professional degree						
1.13	260	1.46	1.47	1.18	1.38	

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/03 Baccalaureate and Beyond Longitudinal Study (B&B:93/03).

to estimates in table 2 in the report. If the number of valid cases is too small to produce a reliable estimate (fewer than 30 cases), the DAS prints the message “low-N” instead of the estimate. All standard errors for estimates presented in this report can be viewed at <http://nces.ed.gov/das/library/reports.asp>. In addition to tables, the DAS will also produce a correlation matrix of selected variables to be used for linear regression models. Included in the output with the correlation matrix are the design effects (DEFTs) for each variable in the matrix. Since statistical procedures generally compute regression coefficients based on simple random sample assumptions, the standard errors must be adjusted with the design effects to take into account the stratified sampling method used in the NPSAS surveys.

The DAS can be accessed electronically at <http://nces.ed.gov/das>. For more information about the Data Analysis System, contact:

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## Statistical Procedures

### *Differences Between Means*

The descriptive comparisons in this report were tested using Student's *t* statistic. Differences between estimates are tested against the probability of a Type I error,<sup>3</sup> or significance level. The significance levels were determined by calculating the Student's *t* values for the differences between each pair of means or proportions and comparing these with published tables of significance levels for two-tailed hypothesis testing ( $p < .05$ ).

Student's *t* values may be computed to test the difference between estimates with the following formula:

$$t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2}} \quad (1)$$

where  $E_1$  and  $E_2$  are the estimates to be compared and  $se_1$  and  $se_2$  are their corresponding standard errors. This formula is valid only for independent estimates. When estimates are not independent, a covariance term must be added to the formula:

$$t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2 - 2(r)se_1 se_2}} \quad (2)$$

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<sup>3</sup> 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.

where  $r$  is the correlation between the two estimates.<sup>4</sup> This formula is used when comparing two percentages from a distribution that adds to 100. If the comparison is between the mean of a subgroup and the mean of the total group, the following formula is used:

$$t = \frac{E_{sub} - E_{tot}}{\sqrt{se_{sub}^2 + se_{tot}^2 - 2p se_{sub}^2}} \quad (3)$$

where  $p$  is the proportion of the total group contained in the subgroup.<sup>5</sup> The estimates, standard errors, and correlations can all be obtained from the DAS.

There are hazards in using 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  $t$  statistic.

A second hazard in using statistical tests is the possibility that one can report a “false positive” or Type I error. In the case of a  $t$  statistic, this false positive would result when a difference measured with a particular sample showed a statistically significant difference when there is no difference in the underlying population. Statistical tests are designed to control this type of error, denoted by alpha. The alpha level of .05 selected for findings in this report indicates that a difference of a certain magnitude or larger would be produced no more than one time out of 20 when there was no actual difference in the quantities in the underlying population. When researchers test hypotheses that show  $t$  values below the .05 significance level, they treat this finding as rejecting the null hypothesis that there is no difference between the two quantities. Failing to reject the null hypothesis (i.e., finding no difference), however, does not necessarily imply that the values are the same or equivalent.

<sup>4</sup> U.S. Department of Education, National Center for Education Statistics, *A Note from the Chief Statistician*, no. 2, 1993.

<sup>5</sup> Ibid.