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Debt Burden

A Comparison of 1992-93 and 1999-2000 Bachelor's Degree Recipients a Year After Graduating

Postsecondary Education Descriptive Analysis Reports



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A Comparison of 1992-93 and 1999-2000 Bachelor's Degree Recipients a Year After Graduating

Postsecondary Education Descriptive Analysis Reports

March 2005

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Executive Summary

Two important changes during the 1990s had major implications for borrowing for undergraduate education. First, the price of going to college increased faster than inflation (The College Board 2003a). Second, the 1992 Reauthorization of the Higher Education Act increased loan limits for the Stafford loan program, expanded eligibility for need-based aid, and introduced unsubsidized Stafford loans for undergraduates regardless of their financial need. The resulting increase in federal borrowing was immediate and dramatic. After adjusting for inflation, the federal loan volume for undergraduate and graduate borrowing increased by 35 percent the first year after the change (1992–93 to 1993–94) (The College Board 2003b). Between 1992–93 and 2002–03, it grew from \$20.7 billion (in constant 2002 dollars) to \$49.1 billion, an increase of 137 percent.

This report uses the 1994 and 2001 Baccalaureate and Beyond Longitudinal Study (B&B) to compare the borrowing patterns of 1992–93 and 1999–2000 bachelor’s degree recipients. It also examines their repayment situations and resulting *debt burdens* (defined as monthly loan payments as a percentage of monthly salary income a year after they graduated). Members of the earlier cohort finished their undergraduate borrowing before the changes in the Stafford loan program were implemented, and most members of the later cohort would have done all of their borrowing under the new rules.

The major finding of the analysis was that although both the percentage of graduates who had borrowed for their undergraduate education and the average total amount borrowed (adjusting for inflation) increased, the median debt burden (as defined in the previous paragraph) a year after graduating was about the same for both cohorts. Higher salaries (after adjusting for inflation) and lower payments relative to the amount borrowed for the later cohort (whose payments were kept down by declining interest rates) appear to be the major reason why there was no increase in the later cohort’s debt burden. Various alternative payment options could have lowered the payments for some members of either cohort, but comparable data on how the two cohorts used these alternatives are not available.

The data presented in this report are nationally representative of bachelor’s degree recipients in 1992–93 and 1999–2000. They cover the 50 states, the District of Columbia, and Puerto Rico, except for the first row in each table, which excludes Puerto Rico. The comparisons made in the text were tested using the Student’s *t* statistic. All differences cited are statistically significant at the .05 level. The amounts borrowed by 1992–93 graduates were adjusted to 1999 constant dollars using the Consumer Price Index for all urban dwellers (CPI-U) to make them comparable to the amounts borrowed by 1999–2000 graduates; the amounts owed, monthly payments, and earnings a year later (in 1994) were adjusted to 2001 constant dollars.

Undergraduate Borrowing

The percentage of bachelor's degree recipients who had borrowed from any source to finance their undergraduate education increased from 49 percent in 1992–93 to 65 percent in 1999–2000 (tables A and 2). Among borrowers, the average amount borrowed increased from \$12,100 (in constant 1999 dollars) to \$19,300.

The increase in the percentage who borrowed occurred for males and females and each racial/ethnic¹ and age group. It also occurred for

all categories of enrollment characteristics such as where they first enrolled, where they earned their degree, how long they took to earn their degree, and undergraduate major. Finally, the increase occurred for graduates who had been either dependent or independent and at all family income levels for dependent students. Among graduates who were dependent students, the percentage who borrowed increased from 67 to 72 percent for those in the lowest family income group and roughly doubled (from 24 to 46 percent) for those in the highest income group (figure A).

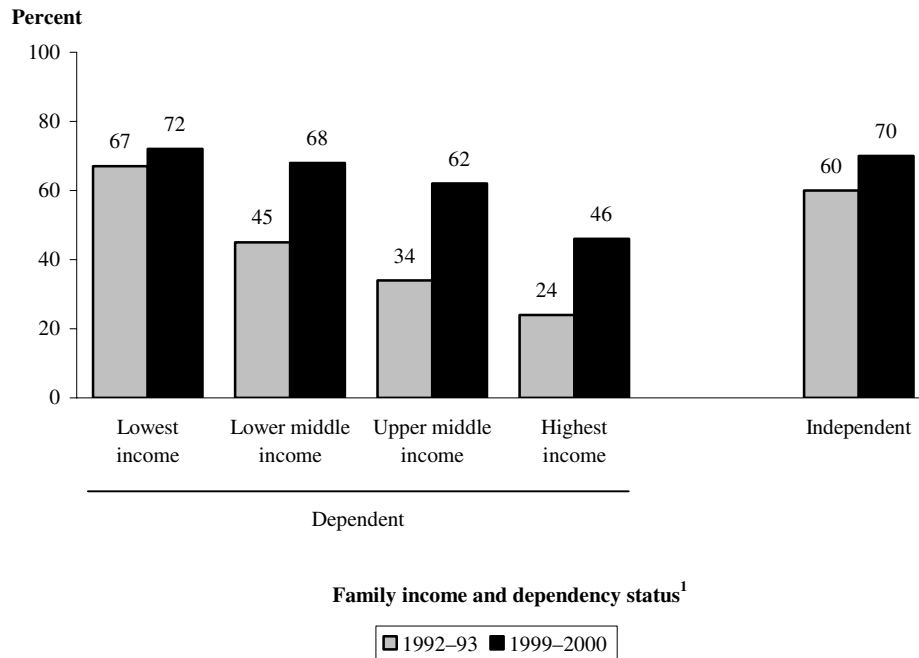
Table A. Among 1992–93 and 1999–2000 bachelor's degree recipients who borrowed for undergraduate education, average amount borrowed (in 1999 constant dollars) and among those repaying their loans a year later, average monthly salary and loan payment (in 2001 dollars) and median debt burden, by type of degree-granting institution: 1994 and 2001

Type of degree-granting institution	All graduates	Borrowers	Borrowers in repayment		Median debt burden
	Percent who had borrowed	Average amount borrowed	Average annual salary	Average monthly loan payment	
	1992–93		1994		
U.S. total (excluding Puerto Rico)	49.3	\$12,100	\$28,300	\$170	6.7
Total (50 states, D.C., and Puerto Rico)	49.3	12,100	28,300	160	6.7
Public 4-year non-doctoral	48.0	9,800	25,000	140	6.6
Public 4-year doctoral	45.5	10,600	29,400	150	5.9
Private not-for-profit 4-year non-doctoral	57.5	14,100	27,300	180	7.8
Private not-for-profit doctoral	49.5	16,800	28,900	220	8.5
	1999–2000		2001		
U.S. total (excluding Puerto Rico)	65.5	\$19,400	\$34,100	\$210	6.9
Total (50 states, D.C., and Puerto Rico)	65.4	19,300	34,100	210	6.9
Public 4-year non-doctoral	63.1	15,000	32,500	170	5.8
Public 4-year doctoral	63.6	17,500	34,300	200	6.7
Private not-for-profit 4-year non-doctoral	71.5	20,900	32,300	230	8.0
Private not-for-profit doctoral	65.4	28,000	37,500	260	7.7

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

¹The apparent increase for American Indians was not statistically significant.

Figure A. Percentage of 1992–93 and 1999–2000 bachelor’s degree recipients who borrowed for their undergraduate education, by family income and dependency status



¹Refers to status during 1992–93 or 1999–2000. Dependency status and income may not have been the same throughout students’ undergraduate education.

NOTE: Includes education loans and loans from family or friends. Estimates include data from 50 states, D.C., and Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

The increase in the average cumulative amount borrowed occurred at all types of institutions, at each income level, and across all other student and institutional characteristics just mentioned.² The percentage of graduates who had borrowed \$25,000 or more for their undergraduate education increased from 7 percent in 1992–93 to 26 percent in 1999–2000 (table 3).

Debt did not seem to discourage graduates from enrolling in graduate or first-professional education in any major way. In fact, despite their higher debt, 1999–2000 graduates were more

likely than their 1992–93 counterparts to have enrolled in a graduate or first-professional program a year later (21 vs. 16 percent) (table 5). Among 1999–2000 graduates who had not enrolled by 2001 but were expecting to attend graduate school later, 5 percent cited undergraduate debt as the primary reason for postponing their enrollment (table 6). Debt also did not appear to discourage the later cohort from entering teaching: despite their greater average debt, they were slightly more likely than the earlier cohort to have taught within a year of graduating (12 vs. 10 percent) (table 7). Nor did higher debt appear to force graduates to take jobs unrelated to their career goals: about 29 percent

²Again, the apparent increase for American Indians was not statistically significant.

reported taking such jobs, with no detectable increase related to the amount borrowed (table 8).

Loan Repayment

Borrowers usually must begin repaying their education loans 6 months after they graduate, although they may be able to postpone repaying if they are enrolled in postsecondary education at least half time, are unemployed, are participating in a qualifying service program (e.g., volunteering in the Peace Corps), or have an approved medical or economic hardship.³ The standard repayment period for Stafford loans is 10 years, but alternative repayment options—graduated, extended, income-based—are available to some, depending on the specific loan program and amount borrowed. These alternatives reduce the monthly payment in the early years, but increase total interest charges. One option is for borrowers to consolidate their loans and obtain a fixed rate as well as extend the repayment period. When interest rates are low, as they are now, students who exercise this option can save substantial amounts over the life of the loan.

Just under two-thirds of the borrowers in each cohort were repaying their loans a year after graduating (table 10). Because 1999–2000 graduates had borrowed more, on average, than their 1992–93 counterparts, they also had larger average monthly loan payments a year later (\$210 vs. \$160 per month in constant 2001 dollars) (tables A and 11). A comparison of the payments relative to the amounts borrowed for the two cohorts suggests that the later cohort had more favorable repayment terms a year after they

³The 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>.

graduated: the average amount borrowed increased by 60 percent, but the average monthly payment increased by 30 percent.⁴ For the later cohort, lower interest rates helped to keep monthly payments down. Interest rates on Stafford loans disbursed before 1992 were fixed and ranged from 8 to 10 percent (although borrowers were permitted to convert them to variable rates later). Interest rates are now variable; they are set annually on July 1 and cannot exceed 8.25 percent. In 2001, the interest rate on Stafford loans was between 6 and 7 percent, depending on the date of the loan.⁵

The later cohort also benefited from higher salaries, even after adjusting for inflation. The 1999–2000 graduates had an average salary of \$34,100 in 2001, compared with an average of \$28,300 (in constant 2001 dollars) for 1992–93 graduates in 1994 (tables A and 13).

Debt Burden

Debt burden is defined here as the monthly loan payment as a percentage of monthly income. While this is a commonly used indicator, there is no widely recognized standard of what constitutes an acceptable level of debt burden (Greiner 1996). Scherschel (1998) noted that mortgage lenders frequently recommend that student loan payments

⁴While not based on a nationally representative sample of students, a similar pattern of discrepancy was reported by Baum and O'Malley (2003) in the rate of growth in undergraduate debt level and monthly repayments based on data from the 2002 National Student Loan Survey conducted by the Nellie Mae Corporation.

⁵While both the amounts borrowed and the monthly loan payments are student reported in a telephone interview and therefore subject to recall error, the two appear to be consistent. The monthly payment on a 10-year loan for \$12,100 (the average borrowed by 1992–93 graduates) at 8–10 percent interest would be \$147–160; the payment on a 10-year loan for \$19,300 (the average for 1999–2000 graduates) at 6–7 percent interest would be \$214–224.

should not exceed 8 percent of their pre-tax income.

A comparison of the debt burden of the two cohorts reflects differences not only in how much they borrowed but also in the salaries they were able to command, the prevailing interest rates, and the repayment options they selected. Although the later graduates had borrowed more, on average, than the earlier graduates, the combination of higher salaries and apparent better repayment terms resulted in a median debt burden that was similar for both cohorts (7 percent) (tables A and 14). Goldenberg (2004) estimated comparable levels of debt burden for all borrowers (not only bachelor's degree recipients) in their first year of repayment in all years from 1997 through 2001 (6 to 7 percent) using loan data from a random sample of borrowers in the National Student Loan Data Base and income data from the Internal Revenue Service.

Even though the median debt burden did not increase, graduates with large loans or low salaries faced relatively high debt burdens. For example, 1999–2000 graduates who had borrowed \$25,000 or more had a median debt burden of 10 percent in 2001, compared with 3 percent for their peers who had borrowed less than \$10,000. Also, low salaries understandably make repaying loans more burdensome. For both cohorts, the lower the income category, the greater the median debt burden was. Those with the lowest salaries had a median debt burden of 18 percent in 1994 and 15 percent in 2001, and those with middle and high incomes had median debt burdens in the 4–9 percent range.

While the relationship between loan payments and earnings is probably the most important indicator of debt burden, it is useful to look at other details of graduates' financial circumstances

and life choices for any signs that undergraduate debt may be creating hardships. Considering graduates who were not enrolled for further education, no systematic differences were detected between those who borrowed various amounts and those who had not borrowed in terms of their living arrangements (table 16) or propensity to marry (table 18).

However, as debt burden increased (i.e., as student loan payments used up an increasing proportion of their salaries) graduates' ability or willingness to take on other financial obligations was affected. For both cohorts, among graduates repaying their loans, those with a debt burden of less than 5 percent were more likely than those with a debt burden of 17 percent or more to have mortgage, rent, or auto loan payments, and when they did, the amounts they paid were generally larger.

It is important to understand that these data represent debt burden a year after graduation but that debt burden can change during the repayment period. Interest rates on federal loans are variable and therefore may go up or down, and income and employment status can change because of personal circumstances or changing economic conditions. Thus, the extent to which any group of borrowers is likely to have difficulty repaying their loans depends not only on the size of their loans but also on conditions during the repayment period that are difficult to predict when students and their families make decisions about borrowing. Students whose academic success is uncertain or whose families lack the financial resources to help them repay their loans if they run into difficulty are especially vulnerable to these uncertainties.

Finally, it is important to note that although median debt burden a year after graduating has not

increased, the amount that the average bachelor's degree recipient borrowed, and thus will have to repay, has increased. Although loans help students gain access to undergraduate education by

reducing the necessary immediate outlay, they do not decrease the total price of going to college; they simply postpone paying the bill.

Foreword

This report compares the borrowing patterns of two cohorts of bachelor's degree recipients and examines their debt burdens (defined as monthly payments as a percentage of monthly salary income) a year after they graduated, using data from the 1993/94 and 2000/01 Baccalaureate and Beyond Studies (B&B:93/94 and B&B:2000/01). The participants in these studies were first interviewed as part of the National Postsecondary Student Aid Studies conducted in 1992–93 and 1999–2000, which are based on nationally representative samples of students enrolled in postsecondary education and are designed to provide detailed information on how students and their families pay for college. The earlier cohort was interviewed again in 1994, and the later one in 2001. The 1992–93 graduates were interviewed again in 1997 and 2003, but data collected then were not used for this analysis. For most respondents, this next interview took place approximately 1 year after they graduated, although the time frame was somewhat longer for those who graduated early in the academic year.

The estimates presented in this report were produced using the B&B:93/97 and B&B:2000/01 Data Analysis Systems (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.

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Introduction

Two important changes during the 1990s had major implications for borrowing to finance undergraduate education. First, the price of going to college increased faster than inflation (The College Board 2003a). Second, the 1992 Reauthorization of the Higher Education Act increased loan limits for the Stafford loan program (the major source for undergraduate loans), expanded eligibility for need-based aid, and introduced unsubsidized loans for undergraduates regardless of their financial need. The resulting increase in federal borrowing was immediate and dramatic. After adjusting for inflation, the federal loan volume for undergraduate and graduate borrowing increased by 35 percent the first year after the change (1992–93 to 1993–94) (The College Board 2003b). Between 1992–93 and 2002–03, it grew from \$20.7 billion (in constant 2002 dollars) to \$49.1 billion, an increase of 137 percent.

This increase in borrowing has fueled long-held concerns about potentially negative consequences of students' borrowing. In addition to their concerns about default, many educators, policymakers, and others have worried that student debt may limit borrowers' choices with respect to graduate or first-professional education, restrict their ability to choose careers such as teaching that are important to society but have low earnings potential relative to other careers open to college graduates, or cause them to alter their family or lifestyle goals (Hansen 1987; Davis and Merisotis 1998; Joyner 1998).

This report describes the borrowing patterns of two cohorts of bachelor's degree recipients (1992–93 and 1999–2000) and examines their repayment situations and resulting debt burdens a year after they graduated (i.e., in 1994 and 2001). *Debt burden* is defined here as monthly loan payments as a percentage of monthly salary income. The report also looks at the relationship between borrowing and teaching, enrollment in graduate and first-professional degree programs, job choices immediately after college, and selected lifestyle choices once the graduates begin repaying their loans.

It is interesting to compare these two cohorts because members of the earlier cohort finished their undergraduate borrowing before the changes in the federal loan programs were put into place, and most members of the later cohort would have done all of their borrowing under the new rules. The major finding of the analysis was that although both the percentage of graduates who had borrowed for their undergraduate education and the average total amount borrowed (adjusting for inflation) increased, the median debt burden a year after graduating was

about the same for both cohorts. Higher salaries (after adjusting for inflation) and lower payments relative to the amount borrowed for the later cohort (whose payments were kept down by declining interest rates) appear to be the major reason that debt burden did not increase. Various alternative payment options also may have lowered the payments for some members of either cohort, but comparable data on how the two cohorts used these alternatives are not available.¹

Student Loan Programs

The federal government helps students borrow by guaranteeing the loans and, for students who qualify for need-based aid, by paying the interest while they are enrolled.² After students graduate, the federal government helps lighten students' repayment burden by providing deferments for hardships and offering various alternatives to the usual repayment schedule of equal payments over 10 years that reduce payments in the early years. The alternative repayment options provide a short-term solution for students who have difficulty making payments, but they increase the total interest charges the borrower must eventually pay. In addition, the federal government has programs that forgive a portion of students' debt in exchange for working in certain occupations or geographic areas.

The Stafford loan program is now the major federal loan program for undergraduates. (Its forerunner was the Guaranteed Student Loan (GSL) program established by the Higher Education Act of 1965.) Federal student loan programs were originally designed to help students with financial need attend college, but as the price of attendance increased during the 1970s and 1980s, Congress responded by raising both loan limits and income ceilings. Since 1992, all students, regardless of income or financial need, have been permitted to take out federally guaranteed student loans.

For a student who qualifies for need-based aid, the federal government pays the interest on the loan 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. Interest on these loans starts accruing as soon as the loans are disbursed, but students may postpone paying the interest until they leave school. Of the \$49.1 billion borrowed through federal student loan programs in 2002–03, \$42.3 billion was borrowed (by undergraduates and graduates) through the Stafford loan program (\$22.4 billion as subsidized loans and \$19.9 billion as unsubsidized loans) (The College Board 2003b).

¹The major options available to the two cohorts were similar.

²The 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>.

The maximum Stafford loan limits vary by undergraduate class level and dependency status. In 1992–93, dependent students could borrow a maximum of \$17,250, and independent students could borrow up to \$37,250. The 1992 Reauthorization of the Higher Education Act raised the limits on the total amount borrowed to \$23,000 (subsidized plus unsubsidized) for dependent students and to \$46,000 for independent students (no more than \$23,000 of which may be subsidized). These limits are still in effect.

The reauthorization currently under consideration has stimulated vigorous debate about Stafford loan limits (Burd 2003). Proponents of higher loan limits argue that students and their families have greater financial need now than they did a decade ago and are being forced to borrow from private sources that provide less attractive terms than federal student loan programs. Those opposed to raising the loan limits argue that students are already borrowing large amounts and that any increased federal aid should be distributed in the form of grants rather than loans.

The Perkins loan program, originally the National Defense Student Loans (NDSL) established in 1958, is the smallest federal loan program for undergraduates. It provides loans to students with exceptional need. Funds are limited, and institutional financial aid administrators have considerable discretion in determining who receives them. In 2002–03, students (undergraduate and graduate) borrowed \$1.3 billion in Perkins loans (The College Board 2003b).

Parents of dependent undergraduates may borrow through the federally sponsored Parent Loans for Undergraduate Students (PLUS) program. Before the 1992 reauthorization, the loan limit was \$20,000; since the reauthorization, parents have been permitted to borrow up to the full price of attending (minus any other aid). In 2002–03, parents borrowed \$5.4 billion through this program (The College Board 2003b).

Nonfederal student loans totaled \$7.6 billion in 2002–03 (The College Board 2003b). Some of this borrowing was through state loan programs, but most of it was through banks and other private lenders.

Loans and Access

Loans, unlike grants, must be repaid, typically over a 10-year period after the student graduates or leaves school. Therefore, unlike grants, loans do not reduce the price of going to college. They increase a student's access to college by reducing the immediate outlay needed to attend, but they simply postpone paying the bill. Therefore, the decision to borrow has long-term implications that can affect a student for many years after leaving school.

While loans promote access, they also entail risk. Families must make decisions about borrowing without knowing what the interest rates will be during the repayment period. They also cannot be certain that the students will graduate, get jobs, and earn enough to meet their repayment obligations. For students who do not perform well academically (and thus are at risk of not completing college) or whose families lack the financial resources to help them if they cannot meet their financial commitments during the repayment period, borrowing is more risky than it is for students who are academically and financially secure. Because this analysis covers only students who completed bachelor's degrees, it cannot address the difficulty 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.

Data

This report uses the Baccalaureate and Beyond Longitudinal Studies (B&B) conducted in 1994 and 2001 to examine the borrowing patterns and debt burdens of 1992–93 and 1999–2000 bachelor's degree recipients. The B&B Studies tracked the experiences of two cohorts of bachelor's degree recipients after they graduated. They are the most recent nationally representative longitudinal studies of bachelor's degree recipients. All participants were first interviewed as part of the National Postsecondary Student Aid Studies conducted in 1992–93 and 1999–2000 (NPSAS:93 and NPSAS:2000). The earlier cohort was interviewed again in 1994, and the later one in 2001 (B&B:93/94 and 2000/01).³ For most respondents, the B&B interview took place approximately 1 year after they graduated, but the time frame was somewhat longer for those who graduated early in the academic year. For convenience, the terms “a year later” or “after a year” are used in this report, although the actual time frame is not exactly 12 months for all graduates.

The NPSAS studies included about 1,100 institutions and were based on a nationally representative sample of all students enrolled in postsecondary education institutions, including undergraduate, graduate, and first-professional students; each NPSAS study represents more than 16 million undergraduates who were enrolled at some time between July 1 and June 30 of the respective survey year. The survey frames for NPSAS were built from the Integrated Postsecondary Education Data Systems Institutional Characteristics file (IPEDS-IC) for 1990–91 and 1998–99; 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 sampling frames of about 12,500 in 1992–93 and 11,600 in 1999–2000. These bachelor's degree recipients represent the approximately 1.2 million

³The 1992–93 cohort was also interviewed in 1997 and 2003, but those data are not analyzed here.

bachelor's degree completers in each of the 2 years (U.S. Department of Education 2003). Excluded from the final sample were students who were determined during the B&B interview or from transcripts not to have earned a bachelor's degree during the relevant academic year (760 in 1992–93 and 70 in 1999–2000). See appendix B for more detail.

The weighted overall response rate for B&B:2000/01 was 74 percent (taking into account an institution response rate of 90 percent from NPSAS:2000). The weighted response rate for B&B:93/94 was 81 percent (taking into account an institution response rate of 88 percent for NPSAS:1993). The data presented in this report cover the 50 states, District of Columbia (D.C.), and Puerto Rico, except the first row in each table, which includes only the 50 states and D.C. (excluding Puerto Rico).

In most cases, comparable data exist for both cohorts of bachelor's degree recipients. In a few cases where the definition of a variable is not exactly the same for both cohorts, the discrepancy is noted along with an explanation of the expected direction of any bias. When comparable questions were not asked of both cohorts, data for the 1999–2000 cohort are presented. The glossary in appendix A provides a complete description of each variable presented in the tables.

All comparisons made in the text were tested using Student's *t* statistic. All differences cited were statistically significant at the .05 level. The formula used and more detail on significance levels are provided in appendix B.

Dollar amounts for the earlier cohort were adjusted for inflation. The amounts borrowed by 1992–93 graduates were adjusted to 1999 constant dollars using the Consumer Price Index for all urban dwellers (CPI-U) to make them comparable to the amounts borrowed by the 1999–2000 graduates; the amounts owed, monthly payments, and earnings a year later (i.e., 1994) were adjusted to 2001 constant dollars.⁴ Dollar amounts cited in this report from other sources describing loan limits or loan volumes were not adjusted for inflation.

The two B&B cohorts had relatively similar student and institutional characteristics, but a few statistically significant shifts occurred. Members of the later cohort were more likely than the earlier one to be female, to be from a minority racial/ethnic group,⁵ to have majored in the humanities or social science or in “other” fields, and to have graduated from a public 4-year doctoral institution (table 1). Correspondingly, they were less likely to be male, to be White, to

⁴Specifically, the 1992–93 amounts were multiplied by 1.1887455 to adjust to 1999–2000 dollars, and the 1994 amounts by 1.195007 to adjust to 2001 dollars.

⁵The apparent increase for American Indians was not statistically significant.

Table 1. Percentage distribution of 1992–93 and 1999–2000 bachelor’s degree recipients by selected student and institutional characteristics

Student and institutional characteristics	1992–93	1999–2000
Total	100.0	100.0
Gender		
Male	45.4	42.6
Female	54.6	57.4
Race/ethnicity ¹		
American Indian	0.6	0.7
Asian/Pacific Islander	4.9	6.8
Black	6.1	8.3
White	83.3	75.2
Hispanic	5.1	9.0
Age received bachelor’s degree		
24 and under	71.7	65.9
25–29	12.4	16.3
30 and above	16.0	17.8
Time from college entry to bachelor’s degree		
Within 4 years	35.5	38.7
More than 4, up to 6 years	38.9	33.4
More than 6 years	25.6	28.0
Undergraduate major		
Business and management	22.0	20.2
Education	12.8	8.2
Engineering, mathematics, or science	16.4	15.6
Humanities or social sciences	24.3	29.4
Other	24.5	26.6
Dependency status		
Dependent	58.9	56.4
Independent	41.2	43.6
Type of degree-granting institution		
Public 4-year non-doctoral	23.2	19.2
Public 4-year doctoral	42.0	44.7
Private not-for-profit 4-year non-doctoral	17.9	19.2
Private not-for-profit 4-year doctoral	13.4	13.8
Other	3.5	3.1

¹American Indian includes Alaska Native, Black includes African American, Pacific Islander includes Native Hawaiian, and Hispanic includes Latino. Race categories exclude Hispanic origin unless specified.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

have majored in business and management or education, and to have earned their degree from a public 4-year non-doctoral institution.

Organization of the Report

The next section describes borrowing for undergraduate education, including who borrowed, how much, and from what sources. It also examines how undergraduate borrowing is related to graduate and first-professional enrollment and career plans, ending with a description of the amounts owed a year after graduating. The report looks next at the loan repayment status a year after graduation and the size of the monthly payments being made. Finally, the report describes debt burden a year after graduation—specifically, the amounts borrowed in relation to salaries and other aspects of graduates' financial circumstances.

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Borrowing for Undergraduate Education

The 1992–93 and 1999–2000 bachelor’s degree recipients were asked how much they had borrowed from all sources, including both student loans and loans from family and friends. The 1999–2000 graduates were also asked to indicate how much they had borrowed through any education loan program (including federal programs), through federal programs specifically, and from family and friends. Because this detail is lacking for the earlier cohort, only the total amounts borrowed by the two cohorts can be compared. This section first describes undergraduate borrowing (with more detail for the later cohort) and then examines the relationship between borrowing and various outcomes a year after graduating, such as enrolling in graduate or first-professional degree programs, teaching, and taking jobs unrelated to their career goals. Note that the borrowing described here does not include borrowing by parents and consequently does not represent the total amount families borrowed to pay for undergraduate education.

Who Borrows and How Much

Whether students borrow and how much they borrow depends on their financial need (which, in turn, depends on the price of attending their chosen institution and their financial resources), their willingness to borrow, and the availability of loans. Reflecting the increased price of attending and changes in the federal loan programs, the percentage of bachelor’s degree recipients who borrowed to pay for their undergraduate education and the average amount borrowed both increased. The percentage who had borrowed at any time during their undergraduate years increased from 49 percent for 1992–93 graduates to 65 percent for 1999–2000 graduates (table 2). Among those who borrowed, the average cumulative amount borrowed (adjusted for inflation) rose from \$12,100 to \$19,300.

The percentage who borrowed increased among both males and females and for all racial/ethnic⁶ and age groups. It also increased at all types of institutions where graduates first enrolled or earned their degree (figure 1), for each of time-to-degree category, and for all undergraduate majors. The increase also occurred among graduates who had been either dependent or independent in the year they graduated and at all family income levels for

⁶The apparent increase for American Indians was not statistically significant.

Table 2. Percentage of 1992–93 and 1999–2000 bachelor’s degree recipients who borrowed for their undergraduate education and among those who borrowed, average amount (in 1999 constant dollars), by selected student and institutional characteristics

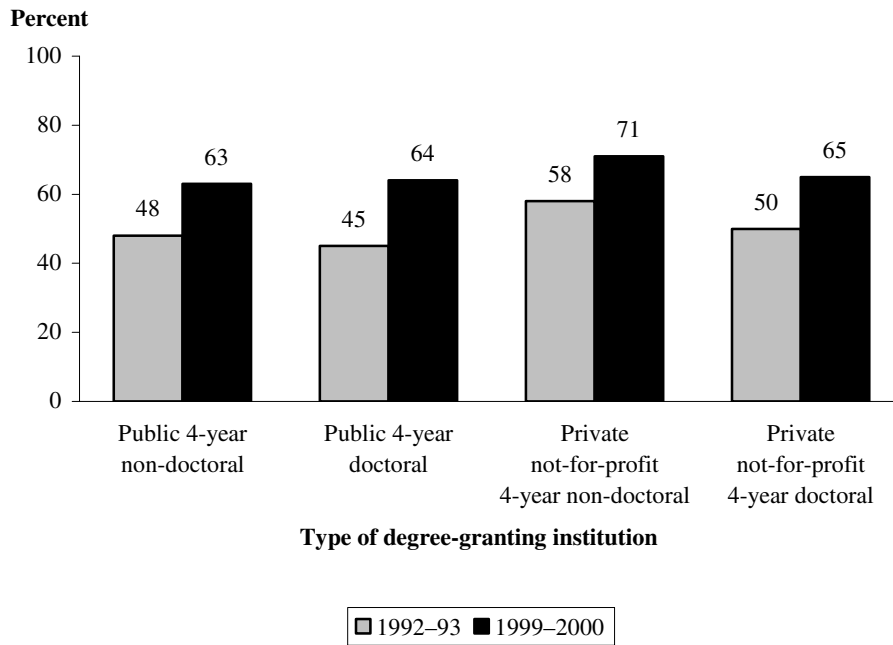
Student and institutional characteristics	Percent who borrowed		Among borrowers, average amount borrowed	
	1992–93	1999–2000	1992–93	1999–2000
U.S. total (excluding Puerto Rico)	49.3	65.5	\$12,100	\$19,400
Total (50 states, D.C., and Puerto Rico)	49.3	65.4	12,100	19,300
Gender				
Male	49.7	64.7	12,400	19,100
Female	48.9	65.9	11,800	19,500
Race/ethnicity ¹				
American Indian	66.2	78.4	13,300	16,800
Asian/Pacific Islander	42.7	60.5	13,500	17,900
Black	64.1	79.8	11,400	19,800
White	47.8	63.7	12,300	19,700
Hispanic	60.7	70.6	9,500	17,000
Age received bachelor’s degree				
24 and under	45.3	63.3	12,300	19,400
25–29	65.2	72.4	11,400	19,700
30 and above	55.1	66.6	11,500	18,800
Time from college entry to bachelor’s degree				
Within 4 years	41.4	60.3	13,100	20,500
More than 4, up to 6 years	50.1	67.8	12,000	18,300
More than 6 years	59.4	69.9	11,000	18,800
Undergraduate major				
Business and management	46.1	60.2	12,200	17,200
Education	54.0	71.2	11,800	18,100
Engineering, mathematics, or science	53.5	62.9	11,800	19,500
Humanities or social sciences	44.9	66.5	11,700	20,500
Other	51.3	68.0	12,600	20,000
Dependency status and family income				
Dependent, total	42.7	61.9	12,600	19,700
Lowest	66.7	72.1	12,700	17,800
Lower middle	45.1	68.1	10,800	19,100
Upper middle	34.3	61.9	12,700	20,100
Highest	24.3	45.6	15,300	23,300
Independent, total	59.8	69.8	11,500	18,900
Type of degree-granting institution				
Public 4-year non-doctoral	48.0	63.1	9,800	15,000
Public 4-year doctoral	45.5	63.6	10,600	17,500
Private not-for-profit 4-year non-doctoral	57.5	71.5	14,100	20,900
Private not-for-profit 4-year doctoral	49.5	65.4	16,800	28,000
First postsecondary institution attended				
Public 2-year	52.8	69.9	11,000	17,500
Public 4-year	45.9	61.5	10,700	17,300
Private not-for-profit 4-year	53.2	70.7	14,800	23,900
Other	58.1	70.1	12,500	19,800

¹American Indian includes Alaska Native, Black includes African American, Pacific Islander includes Native Hawaiian, and Hispanic includes Latino. Race categories exclude Hispanic origin unless specified.

NOTE: Includes education loans and loans from family or friends, but not borrowing by parents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

Figure 1. Percentage of 1992–93 and 1999–2000 bachelor’s degree recipients who borrowed for their undergraduate education, by type of degree-granting institution



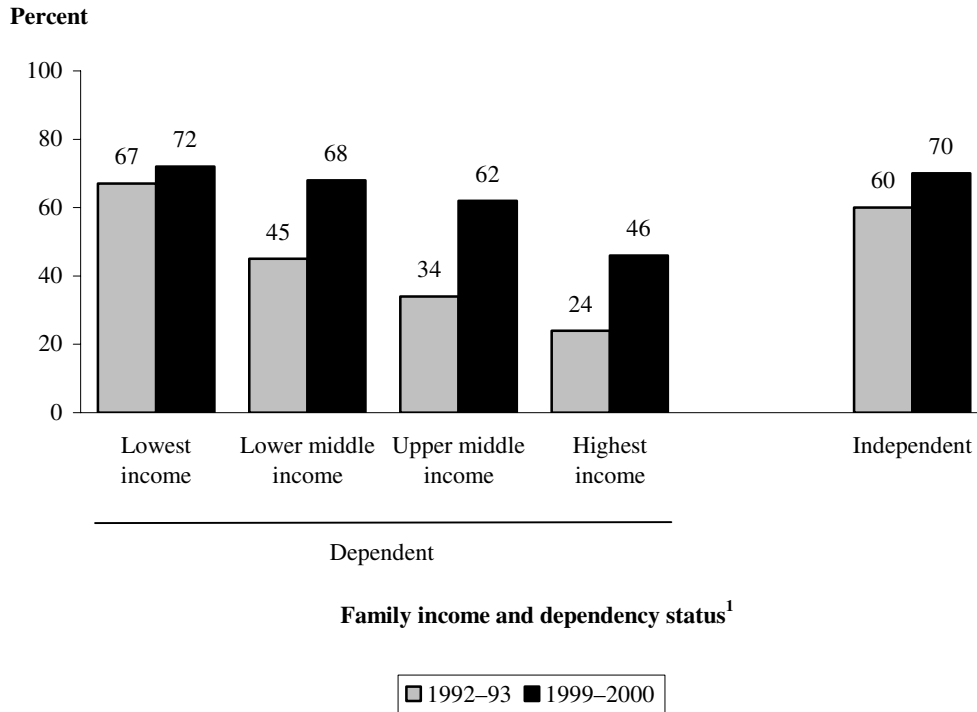
NOTE: Includes education loans and loans from family or friends. Estimates include data from 50 states, D.C., and Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

dependent students (figure 2). Among graduates who were dependent students in the year that they graduated, the percentage who borrowed increased from 67 to 72 percent for those in the lowest family income group and roughly doubled (from 24 to 46 percent) for those in the highest income group. The increase in the average cumulative amount borrowed occurred at all types of institutions (figure 3), at each income level (figure 4), and across all other student and institutional characteristics shown in table 2 except among American Indians, whose apparent increase was not statistically significant and possibly associated with a small sample size or large standard errors, or both.

In both cohorts, the relationship between borrowing and student characteristics followed the same patterns. For example, White and Asian bachelor’s degree recipients were less likely than Black or Hispanic graduates to have borrowed, which is consistent with the fact that Blacks and Hispanics are more likely to have financial need (Berkner et al. 2002). Bachelor’s degree recipients 25–29 years old were more likely than those who were younger or older to have

Figure 2. Percentage of 1992–93 and 1999–2000 bachelor’s degree recipients who borrowed for their undergraduate education, by family income and dependency status



¹Refers to status during 1992–93 or 1999–2000. Dependency status and income may not have been the same throughout students’ undergraduate education.

NOTE: Includes education loans and loans from family or friends. Estimates include data from 50 states, D.C., and Puerto Rico.

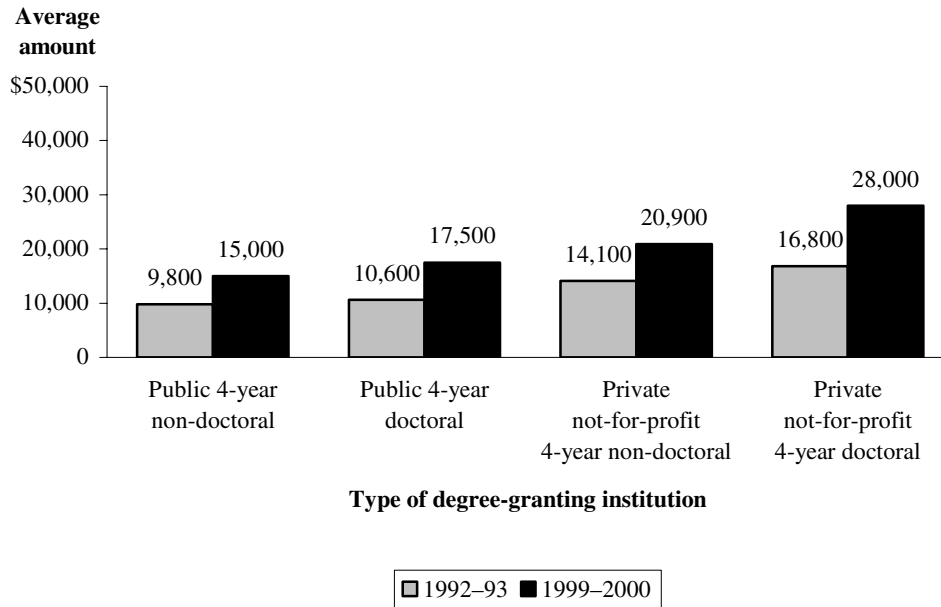
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

borrowed: 65 versus 45–55 percent for 1992–93 graduates and 72 versus 63–67 percent for 1999–2000 graduates.

Bachelor’s degree recipients in both cohorts who took more than 6 years to finish college were more likely than those who completed within 4 years to have borrowed: 59 versus 41 percent for 1992–93 graduates and 70 versus 60 percent for 1999–2000 graduates. However, the graduates who took more than 6 years to finish borrowed less, on average, than those who finished within 4 years: \$11,000 versus \$13,100 for 1992–93 graduates and \$18,800 versus \$20,500 for 1999–2000 graduates.

Graduates who had been dependent students from families with the highest incomes were less likely than their counterparts from lower income families or those who had been independent

Figure 3. Among 1992–93 and 1999–2000 bachelor’s degree recipients who borrowed for their undergraduate education, average amount borrowed (in 1999 constant dollars), by type of degree-granting institution



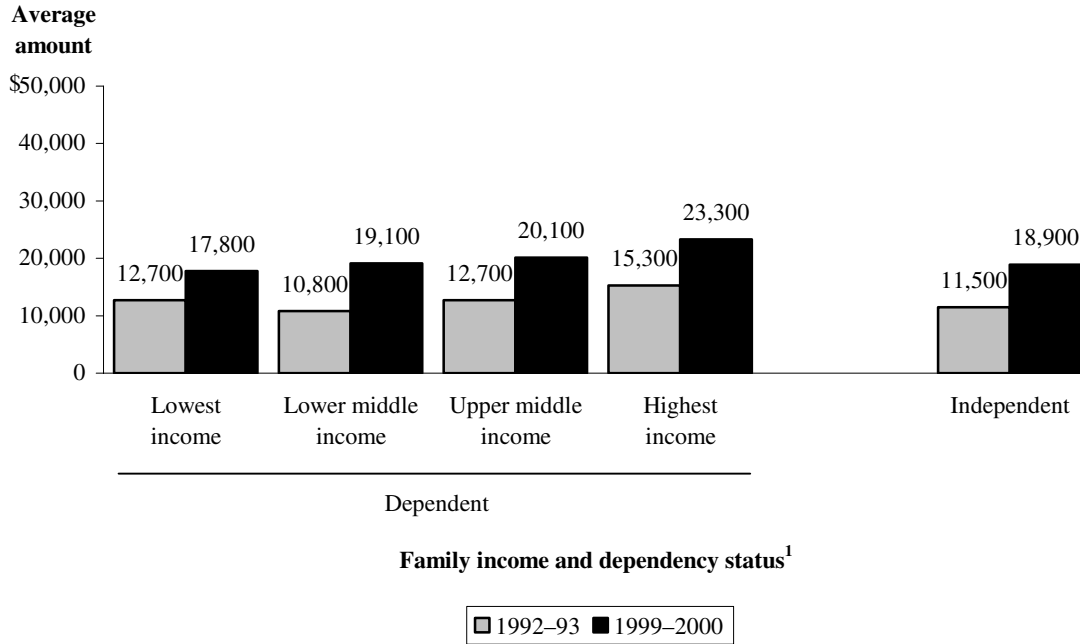
NOTE: Includes education loans and loans from family or friends. Estimates include data from 50 states, D.C., and Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

students to have borrowed: 24 versus 34–67 percent for 1992–93 graduates and 46 versus 62–72 percent for 1999–2000 graduates. However, when graduates from higher income families did borrow, they borrowed larger amounts, on average, than other graduates: \$15,300 versus \$10,800–\$12,700 for 1992–93 graduates and \$23,300 versus \$17,800–\$20,100 for 1999–2000 graduates. The greater amounts borrowed by students from high-income families reflect, in part, the fact that these students are more likely to attend institutions with higher prices and are less likely to be eligible for need-based grants.

Bachelor’s degree recipients from private not-for-profit non-doctoral institutions were more likely than those who graduated from other types of institutions to have borrowed: 58 versus 45–50 percent in 1992–93 and 71 versus 63–65 percent in 1999–2000. However, among borrowers in both cohorts, graduates of private not-for-profit doctoral institutions borrowed the largest amount, on average. Graduates who began their postsecondary education at public 4-year institutions were the least likely to have borrowed. Among borrowers, those who had begun at private not-for-profit 4-year institutions borrowed the most, on average.

Figure 4. Among 1992–93 and 1999–2000 bachelor’s degree recipients who borrowed for their undergraduate education, average amount borrowed (in 1999 constant dollars), by family income and dependency status



¹Refers to status during 1992–93 or 1999–2000. Dependency status and income may not have been the same throughout students’ undergraduate education.

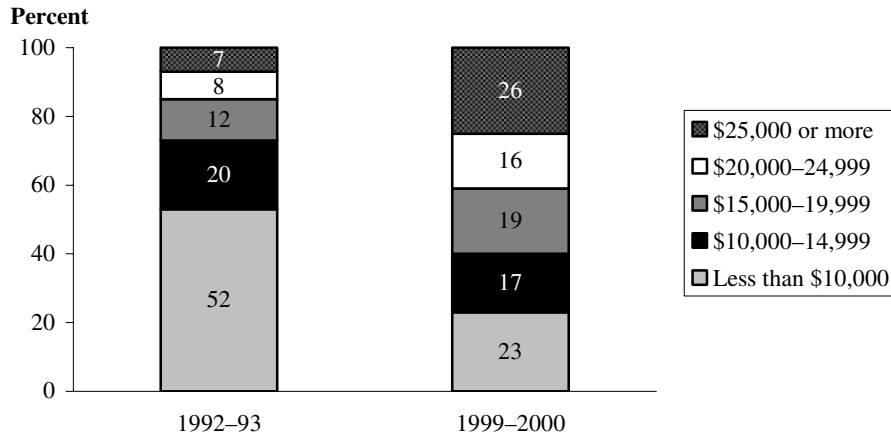
NOTE: Includes education loans and loans from family or friends. Estimates include data from 50 states, D.C., and Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

Consistent with the larger average amounts borrowed in 1999–2000 than in 1992–93, the distribution of borrowers by the amount borrowed also shifted over time. Between 1992–93 and 1999–2000, the percentage of graduates who had borrowed less than \$10,000 (in 1999 constant dollars) decreased from 52 to 23 percent, and the percentage who had borrowed \$25,000 or more increased from 7 to 26 percent (figure 5 and table 3).

Among borrowers in both cohorts of graduates, Hispanics were more likely than Whites or Asians to have borrowed less than \$10,000. In addition, graduates of private not-for-profit doctoral institutions were more likely than those at any other type of institution to have borrowed \$25,000 or more (16 vs. 3 to 10 percent in 1992–93 and 42 vs. 17 to 27 percent in 1999–2000). This difference is consistent with the higher average price of attending this type of institution (Berkner et al. 2002).

Figure 5. Among 1992–93 and 1999–2000 bachelor’s degree recipients who borrowed for their undergraduate education, percentage distribution by the amount borrowed (in 1999 constant dollars)



NOTE: Includes education loans and loans from family or friends. Detail may not sum to totals because of rounding. Estimates include data from 50 states, D.C., and Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

As already indicated, the borrowing described here does not include borrowing by parents. Although graduates were not asked about parental borrowing, information on PLUS loans is available through federal records. Among 1999–2000 graduates, 14 percent of their parents had taken out PLUS loans, up from 6 percent for the 1992–93 cohort.⁷ Among those whose parents used this program, the average cumulative amount borrowed increased from \$7,500 for the earlier cohort to \$14,900 for the later one. The amount parents may have borrowed from other sources is unknown.

Loan Sources

The 1999–2000 graduates were asked how much they had borrowed in education loans in total (including federal loans), in federal loans specifically, and from family and friends. Education loan programs set limits on the amounts students can borrow and establish the repayment terms. In contrast, loans from family and friends are likely to be more informal. Students may borrow from family and friends on a short-term basis to help cover immediate cash

⁷Baccalaureate and Beyond Longitudinal Study (B&B:1993/94 and B&B:2000/01), Data Analysis Systems. Not shown in table.

Table 3. Among 1992–93 and 1999–2000 bachelor’s degree recipients who borrowed for their undergraduate education, percentage distribution of the amount borrowed (in 1999 constant dollars), by selected student and institutional characteristics

Student and institutional characteristics	Less than \$10,000		\$10,000– 14,999		\$15,000– 19,999		\$20,000– 24,999		\$25,000 or more	
	1992– 93	1999– 2000	1992– 93	1999– 2000	1992– 93	1999– 2000	1992– 93	1999– 2000	1992– 93	1999– 2000
U.S. total (excluding Puerto Rico)	52.0	22.2	20.4	17.1	12.5	19.0	8.0	15.7	7.2	26.0
Total (50 states, D.C., and Puerto Rico)	52.2	22.6	20.3	17.1	12.4	18.8	8.0	15.7	7.1	25.9
Gender										
Male	51.0	23.9	20.2	17.1	13.7	17.9	7.7	16.2	7.5	25.0
Female	53.3	21.6	20.4	17.1	11.2	19.5	8.2	15.3	6.9	26.5
Race/ethnicity ¹										
American Indian	50.3	27.6	7.8	10.3	18.1	24.0	4.8	18.4	19.1	19.7
Asian/Pacific Islander	43.1	21.3	31.9	27.9	9.0	15.7	6.8	15.8	9.1	19.3
Black	53.5	18.7	20.8	15.0	13.9	17.9	6.5	19.8	5.3	28.6
White	51.7	21.7	20.2	16.6	12.5	19.5	8.3	15.8	7.3	26.4
Hispanic	64.2	31.9	14.5	17.7	9.8	17.4	6.9	10.4	4.6	22.6
Age received bachelor’s degree										
24 and under	51.4	21.4	20.5	17.7	12.4	20.8	8.4	16.7	7.3	23.4
25–29	50.6	22.5	23.3	15.2	14.2	16.9	6.4	14.0	5.6	31.4
30 and above	56.7	26.7	16.7	16.8	10.4	14.1	8.2	13.8	8.1	28.7
Time from college entry to bachelor’s degree										
Within 4 years	49.2	19.5	20.5	16.7	13.0	24.3	8.7	14.9	8.7	24.6
More than 4, up to 6 years	52.2	23.2	20.3	18.3	12.7	17.2	8.2	18.3	6.6	23.0
More than 6 years	55.7	25.7	20.7	16.0	11.5	15.3	6.0	13.9	6.1	29.2
Undergraduate major										
Business and management	55.0	24.3	17.3	18.0	12.3	22.0	8.0	15.5	7.4	20.3
Education	53.2	21.6	21.0	19.6	12.1	19.0	6.5	15.5	7.2	24.4
Engineering, mathematics, or science	53.7	24.8	18.6	16.6	13.7	17.1	6.6	16.4	7.3	25.2
Humanities or social sciences	51.8	20.8	22.7	16.6	11.1	18.6	8.4	16.4	6.0	27.6
Other	48.7	22.2	21.6	16.4	12.6	17.6	9.4	14.8	7.7	29.0
Dependency status and family income										
Dependent, total	51.1	20.2	19.8	17.1	12.8	22.1	8.9	16.9	7.5	23.6
Lowest	46.9	22.1	20.9	20.4	17.0	19.9	9.5	16.4	5.6	21.3
Lower middle	57.0	16.4	20.2	16.8	9.7	22.8	7.7	20.6	5.4	23.4
Upper middle	52.0	19.8	19.9	16.1	10.3	25.8	8.2	14.0	9.6	24.4
Highest	50.5	23.6	15.5	13.9	10.1	19.3	10.2	16.4	13.7	26.7
Independent, total	53.3	25.2	20.8	17.0	12.1	15.2	7.1	14.3	6.7	28.3
Type of degree-granting institution										
Public 4-year non-doctoral	62.8	33.2	19.2	19.7	9.3	16.1	5.9	13.5	2.9	17.5
Public 4-year doctoral	57.4	25.7	20.0	17.8	11.3	18.3	6.4	15.5	5.0	22.7
Private not-for-profit 4-year non-doctoral	45.2	15.0	19.4	17.2	15.3	23.5	10.2	17.2	9.9	27.2
Private not-for-profit 4-year doctoral	34.4	10.2	20.3	12.0	15.0	18.9	13.7	16.6	16.5	42.3
First postsecondary institution attended										
Public 2-year	54.9	27.1	22.5	18.7	11.8	18.0	4.9	12.1	5.9	24.1
Public 4-year	57.9	25.7	19.7	18.4	11.1	18.4	6.5	15.9	4.9	21.7
Private not-for-profit 4-year	41.1	13.5	20.5	13.7	15.3	21.3	12.2	18.6	11.0	32.8
Other	48.2	24.5	20.9	14.9	13.6	8.7	7.3	16.6	10.0	35.4

¹American Indian includes Alaska Native, Black includes African American, Pacific Islander includes Native Hawaiian, and Hispanic includes Latino. Race categories exclude Hispanic origin unless specified.

NOTE: Detail may not sum to totals because of rounding. Includes education loans and loans from family or friends, but not borrowing by parents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

needs. Alternatively or in addition, family or friends may provide the cash needed to enroll but expect students ultimately to be responsible for paying some or all of their educational expenses.

Table 4 shows the percentage of graduates who borrowed from each source and the average amounts computed in two ways: first, using only those who borrowed the specific type of loan as the base (to demonstrate the size of the average loan), and second, using all borrowers as the base (to show the relative contributions of loans from the various sources to the total amount borrowed). Sixty-five percent of all 1999–2000 graduates borrowed during their undergraduate education, 62 percent took out education loans (totaling an average of \$17,800 among those with education loans), and 58 percent took out federal loans (totaling an average of \$16,200 among those with federal loans). Twelve percent borrowed from family or friends, either alone (4 percent) or in combination with student loans (8 percent).⁸ Among those who borrowed from their families (either alone or in combination with student loans), the average amount borrowed from their families was \$13,800.

Considering only graduates who had been dependent students while they were enrolled, borrowing patterns varied with family income. Those from families with incomes in the lower half of the income distribution were more likely than those from families with higher incomes to have taken out education loans. However, among those who were dependent students and had education loans, the average amount borrowed was about \$17,000 at all family income levels. This lack of variation probably reflects program limits for dependent students.

Using all borrowers as the base for computing the average shows the relative importance of each loan source. Of the average total amount borrowed (\$19,300), \$16,800 was in education loans (of which \$14,600 was in federal loans), and \$2,500 was from family and friends.

At each income level, between 11 and 13 percent of graduates who had been dependent students had borrowed from families or friends. However, the amount borrowed reflects the capacity of their families to provide this kind of help, with those from the highest income families borrowing the largest amounts, on average.

Borrowing patterns also varied across types of institutions. For example, graduates of private not-for-profit non-doctoral institutions were the most likely to have taken out federal loans and graduates of private not-for-profit doctoral institutions were the most likely to have borrowed from their families.

⁸The fact that 65.4 percent borrowed and 61.6 percent took out education loans means that 3.8 percent borrowed only from their families. 2000/01 Baccalaureate and Beyond Longitudinal Study (B&B:2000/01), Data Analysis System. Not shown in table.

Table 4. Percentage of 1999–2000 bachelor’s degree recipients who borrowed for their undergraduate education and among those who borrowed, average amount (in 1999 constant dollars), by type of loan and selected student and institutional characteristics

Student and institutional characteristics	Percentage who borrowed						Average amount (borrowers of the specific type of loans)						Average amount (all borrowers ¹)							
	Nonfamily			Family			Nonfamily			Family			Nonfamily			Family				
	Any loans ²	Any ³ education loans	Federal	Any loans ⁴	Any loans ²	Federal	Any loans ²	Any ³ education loans	Federal	Any loans ⁴	Any loans ²	Any ³ education loans	Federal	Any loans ²	Any ³ education loans	Federal	Any loans ²	Any ³ education loans	Federal	
U.S. total (excluding Puerto Rico)	65.5	61.7	57.6	11.9	\$19,400	\$17,800	\$16,200	\$13,900	\$19,400	\$16,900	\$14,700	\$19,400	\$16,900	\$14,700	\$19,400	\$16,900	\$14,700	\$19,400	\$16,900	\$14,700
Total (50 states, D.C., and Puerto Rico)	65.4	61.6	57.5	11.9	19,300	17,800	16,200	13,800	19,300	16,800	14,600	19,300	16,800	14,600	19,300	16,800	14,600	19,300	16,800	14,600
Gender																				
Male	64.7	60.5	56.1	13.5	19,100	17,300	15,600	14,000	19,100	16,200	13,800	19,100	16,200	13,800	19,100	16,200	13,800	19,100	16,200	13,800
Female	65.9	62.5	58.6	10.7	19,500	18,100	16,600	13,600	19,500	17,300	15,200	19,500	17,300	15,200	19,500	17,300	15,200	19,500	17,300	15,200
Race/ethnicity ⁵																				
American Indian	78.4	72.8	64.4	9.9	16,800	17,000	17,400	‡	16,800	15,800	14,500	16,800	15,800	14,500	16,800	15,800	14,500	16,800	15,800	14,500
Asian/Pacific Islander	60.5	54.3	50.1	15.4	17,900	16,100	14,000	13,100	17,900	14,500	11,900	17,900	14,500	11,900	17,900	14,500	11,900	17,900	14,500	11,900
Black	79.8	78.4	74.9	11.2	19,800	19,200	18,100	6,400	19,800	18,900	17,200	19,800	18,900	17,200	19,800	18,900	17,200	19,800	18,900	17,200
White	63.7	60.0	55.9	11.5	19,700	17,900	16,300	15,100	19,700	16,900	14,600	19,700	16,900	14,600	19,700	16,900	14,600	19,700	16,900	14,600
Hispanic	70.6	66.3	62.5	13.0	17,000	16,300	14,800	9,300	17,000	15,200	13,400	17,000	15,200	13,400	17,000	15,200	13,400	17,000	15,200	13,400
Age received bachelor’s degree																				
24 and under	63.3	59.2	55.1	12.3	19,400	17,200	15,200	16,600	19,400	16,200	13,600	19,400	16,200	13,600	19,400	16,200	13,600	19,400	16,200	13,600
25–29	72.4	68.4	65.3	13.7	19,700	18,800	17,400	10,100	19,700	17,800	16,000	19,700	17,800	16,000	19,700	17,800	16,000	19,700	17,800	16,000
30 and above	66.6	64.4	59.2	8.8	18,800	18,700	18,200	5,200	18,800	18,100	16,500	18,800	18,100	16,500	18,800	18,100	16,500	18,800	18,100	16,500
Time from college entry to bachelor’s degree																				
Within 4 years	60.3	56.6	51.9	10.9	20,500	17,600	15,400	21,400	20,500	16,600	13,800	20,500	16,600	13,800	20,500	16,600	13,800	20,500	16,600	13,800
More than 4, up to 6 years	67.8	63.7	59.9	13.5	18,300	17,000	15,300	11,200	18,300	16,000	13,800	18,300	16,000	13,800	18,300	16,000	13,800	18,300	16,000	13,800
More than 6 years	69.9	66.9	62.7	11.0	18,800	18,400	17,600	7,400	18,800	17,600	16,100	18,800	17,600	16,100	18,800	17,600	16,100	18,800	17,600	16,100
Undergraduate major																				
Business and management	60.2	57.0	53.3	9.7	17,200	16,500	15,200	9,300	17,200	15,700	13,900	17,200	15,700	13,900	17,200	15,700	13,900	17,200	15,700	13,900
Education	71.2	68.1	64.4	11.8	18,100	17,300	16,300	8,500	18,100	16,700	15,300	18,100	16,700	15,300	18,100	16,700	15,300	18,100	16,700	15,300
Engineering, mathematics, or science	62.9	58.3	54.9	13.2	19,500	17,800	16,200	14,000	19,500	16,500	14,500	19,500	16,500	14,500	19,500	16,500	14,500	19,500	16,500	14,500
Humanities or social sciences	66.5	62.6	58.4	12.6	20,500	18,200	16,700	17,300	20,500	17,200	15,000	20,500	17,200	15,000	20,500	17,200	15,000	20,500	17,200	15,000
Other	68.0	64.1	59.1	12.1	20,000	18,400	16,400	14,100	20,000	17,500	14,700	20,000	17,500	14,700	20,000	17,500	14,700	20,000	17,500	14,700

See notes at end of table.

Table 4. Percentage of 1999–2000 bachelor's degree recipients who borrowed for their undergraduate education and among those who borrowed, average amount (in 1999 constant dollars), by type of loan and selected student and institutional characteristics—Continued

Student and institutional characteristics	Percentage who borrowed				Average amount (borrowers of the specific type of loans)				Average amount (all borrowers ¹)			
	Nonfamily		Family		Nonfamily		Family		Nonfamily		Family	
	Any loans ²	education loans ³	Federal	loans ⁴	Any loans ²	education loans ³	Federal	loans ⁴	Any loans ²	education loans ³	Federal	loans ⁴
Dependency status and family income												
Dependent, total	62.0	58.0	53.7	12.4	\$19,700	\$17,200	\$15,100	\$17,400	\$19,700	\$16,200	\$13,600	\$3,500
Lowest	72.1	68.9	65.6	12.6	17,800	16,700	14,900	9,800	17,800	16,000	13,900	1,800
Lower middle	68.1	64.8	59.9	12.6	19,100	17,500	15,700	12,700	19,100	16,800	14,200	2,400
Upper middle	61.9	56.6	52.3	13.3	20,100	17,400	15,000	18,000	20,100	16,100	13,200	3,900
Highest	45.6	41.5	37.2	11.2	23,300	17,500	14,700	30,600	23,300	15,800	12,500	7,500
Independent, total	69.8	66.3	62.3	11.3	18,900	18,300	17,300	8,900	18,900	17,400	15,700	1,500
Type of degree-granting institution												
Public 4-year non-doctoral	63.1	60.0	56.0	11.1	15,000	14,400	13,400	7,500	15,000	13,700	12,200	1,300
Public 4-year doctoral	63.6	59.4	55.7	11.7	17,500	16,600	15,500	10,600	17,500	15,600	13,900	2,000
Private not-for-profit 4-year non-doctoral	71.5	68.8	64.2	11.8	20,900	19,400	17,300	13,700	20,900	18,700	16,000	2,300
Private not-for-profit 4-year doctoral	65.4	60.3	55.9	14.8	28,000	23,000	19,300	29,700	28,000	21,300	16,900	6,700
First postsecondary institution attended												
Public 2-year	69.9	66.5	62.7	12.5	17,500	17,100	15,900	6,800	17,500	16,300	14,500	1,200
Public 4-year	61.5	57.9	54.1	10.8	17,300	16,300	15,200	10,200	17,300	15,400	13,700	1,800
Private not-for-profit 4-year	70.7	66.9	62.2	13.2	23,900	20,300	17,500	25,000	23,900	19,300	15,900	4,600
Other	70.1	66.9	62.8	11.1	19,800	20,000	19,300	‡	19,800	19,000	17,600	800

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

¹Includes students who did not borrow the particular type of loans.

²Includes all nonfamily education and family loans.

³Includes all nonfamily education loans, including federal loans.

⁴Money borrowed from family or friends.

⁵American Indian includes Alaska Native, Black includes African American, Pacific Islander includes Native Hawaiian, and Hispanic includes Latino. Race categories exclude Hispanic origin unless specified.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:2000/01).

Graduate and First-Professional Enrollment and Plans

As discussed earlier, some fear that undergraduate debt may discourage bachelor's degree recipients from continuing on to graduate or first-professional degree programs. Therefore, it is useful to examine enrollment in graduate and first-professional programs and plans to enroll for any signs that undergraduate debt discourages graduates from seeking further education.

Previous studies of the relationship between undergraduate debt and either plans to enroll and actual enrollment have not produced entirely consistent results, with findings varying according to the measures, methods, population, and data used (Millet 2003). Among researchers who have controlled for factors other than undergraduate debt that could influence plans or enrollment, some have found undergraduate debt to have a discouraging effect for at least some groups of students (Fox 1992; Millet 2003), while others have found no effect (Ekstrom et al. 1991; Schapiro, O'Malley, and Litten 1991; Weiler 1991), or only a very marginal effect (Heller 2001). Even when a discouraging effect was found, the effect was relatively small, with undergraduate debt less important than other factors, particularly grades.

Enrollment

The 1999–2000 graduates were more likely than their 1992–93 counterparts to have borrowed, and if they had done so, to have borrowed larger amounts, on average, as discussed above. Nevertheless, members of the later cohort were more likely than members of the earlier one to have enrolled in a graduate or first-professional degree program by the time they were interviewed again approximately a year after graduating (21 vs. 16 percent) (table 5).⁹

For both cohorts, several characteristics were associated with a greater likelihood of pursuing graduate or first-professional education, including time to degree, undergraduate major, grades, parents' level of education, and type of institution attended. Graduates were more likely to have enrolled in a graduate or first-professional degree program if they had completed their bachelor's degree within 4 years than if they had taken longer. Compared with graduates with other majors, those who had majored in engineering, mathematics, or science were generally the most likely and those who had majored in business and management the least likely to have enrolled. Graduates were more likely to have enrolled in a graduate or first-professional degree program if they had a grade point average (GPA) of 3.0 or higher in their major than if they had

⁹The 1999–2000 graduates who reported they had been accepted into a graduate program but had not started were considered to have enrolled because the interviews started in June. The same was not true for the 1992–93 graduates. This difference may explain some of the higher enrollment rate of the later cohort, but the number who had been accepted but had not enrolled was small.

Table 5. Percentage of 1992–93 and 1999–2000 bachelor’s degree recipients who had enrolled in a graduate or first-professional program, and among 1999–2000 graduates who had not yet enrolled, percentage expecting to do so in the future, by selected student and institutional characteristics: 1994 and 2001

Student and institutional characteristics	Percent enrolled		Among 1999–2000 graduates not enrolled by 2001, ¹ percent expecting to do so in the future
	1994	2001 ¹	2001
U.S. total (excluding Puerto Rico)	16.2	21.2	67.2
Total (50 states, D.C., and Puerto Rico)	16.1	21.3	67.4
Gender			
Male	17.2	20.6	67.9
Female	15.2	21.8	66.9
Race/ethnicity ²			
American Indian	10.4	25.8	82.7
Asian/Pacific Islander	17.6	23.7	70.6
Black	15.5	26.4	77.7
White	16.1	20.0	64.9
Hispanic	16.4	23.6	75.5
Age received bachelor’s degree			
24 and under	17.4	22.1	69.7
25–29	10.6	17.5	64.2
30 and above	14.9	21.6	62.0
Time from college entry to bachelor’s degree			
Within 4 years	21.7	26.9	72.1
More than 4, up to 6 years	12.1	16.2	66.4
More than 6 years	11.9	19.9	63.7
Undergraduate major			
Business and management	8.8	13.9	62.9
Education	18.4	18.9	78.4
Engineering, mathematics, or science	24.5	29.0	69.9
Humanities or social sciences	19.1	25.7	70.4
Other	12.9	18.7	63.2
Dependency status and family income			
Dependent, total	18.7	22.5	70.7
Lowest	17.0	19.5	72.8
Lower middle	16.3	23.6	71.1
Upper middle	19.7	22.4	67.9
Highest	21.8	24.4	71.2
Independent, total	12.5	19.7	63.1

See notes at end of table.

Table 5. Percentage of 1992–93 and 1999–2000 bachelor’s degree recipients who had enrolled in a graduate or first-professional program, and among 1999–2000 graduates who had not yet enrolled, percentage expecting to do so in the future, by selected student and institutional characteristics: 1994 and 2001—Continued

Student and institutional characteristics	Percent enrolled		Among 1999–2000 graduates not enrolled by 2001, ¹ percent expecting to do so in the future
	1994	2001 ¹	2001
GPA for undergraduate major			
Less than 3.00	9.2	14.9	59.6
3.00 or higher	17.7	24.1	69.1
Missing	12.2	16.8	67.1
Parents’ highest educational attainment			
High school or less	12.8	17.7	66.2
Some postsecondary education ³	16.4	20.3	67.6
Bachelor’s degree	15.3	22.1	65.3
Advanced degree	21.3	26.6	73.4
Type of degree-granting institution			
Public 4-year non-doctoral	12.7	16.6	64.4
Public 4-year doctoral	17.0	20.7	66.5
Private not-for-profit 4-year non-doctoral	14.1	21.6	69.5
Private not-for-profit 4-year doctoral	20.6	28.8	72.5
First postsecondary institution attended			
Public 2-year	11.2	17.5	63.8
Public 4-year	16.2	19.6	66.3
Private not-for-profit 4-year	18.9	25.5	72.3
Other	10.5	22.6	64.1
Total amount borrowed (undergraduate) (in 1999 constant dollars)			
Did not borrow	17.5	24.0	65.4
\$1–9,999	15.0	17.8	67.5
\$10,000–14,999	13.8	20.0	69.5
\$15,000–19,999	14.2	19.1	70.2
\$20,000–24,999	17.0	20.9	68.8
\$25,000 or more	16.0	21.6	68.8

¹Including a few respondents who had been accepted to but had not started a graduate/first-professional program at the time of the interview, which occurred in July–November 2001.

²American Indian includes Alaska Native, Black includes African American, Pacific Islander includes Native Hawaiian, and Hispanic includes Latino. Race categories exclude Hispanic origin unless specified.

³Small sample sizes preclude a more detailed breakdown of this category.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

done less well. Graduates who had at least one parent with an advanced degree were more likely than those whose parents had less education to have enrolled, as were graduates of private not-for-profit doctoral institutions compared with graduates of other types of institutions.

In both 1994 and 2001, nonborrowers were more likely than those who borrowed amounts less than \$20,000 to have enrolled,¹⁰ suggesting that undergraduate debt might discourage graduate enrollment. This finding should not be considered conclusive, however, because it does not take into account the interrelationships between other student and institutional characteristics that could have confounded the effect of borrowing on enrollment detected here. If undergraduate debt were the major barrier to graduate enrollment, one might expect to find declining enrollment rates as debt increased, but this was not the case. No difference was detected between the enrollment rates of those who borrowed \$20,000 or more and those who borrowed \$10,000–19,999; moreover, those who borrowed less than \$10,000 were even less likely to enroll than those who borrowed \$25,000 or more. More complex multivariate analyses (which were beyond the scope of this report) would be needed to understand the relationship between undergraduate debt and graduate enrollment.

Using the 1992–93 B&B data, Heller (2001) constructed a set of logistic regression models to examine the relationship between various factors and graduate school enrollment, controlling for their interrelationships. He found the level of undergraduate borrowing to be only marginally negatively related to graduate school enrollment by 1994.¹¹ Degree expectations were the most influential factor, with undergraduate major and grade point average also important. Race/ethnicity, income, and parents' education were not statistically significant when other factors were taken into account.

A number of other factors not measured here (or in other studies) might also affect graduates' decisions to pursue graduate education. These include, for example, aspects of their undergraduate experience, actions taken by graduate schools to attract students, and the availability of grants and loans for graduate study (Schapiro, O'Malley, and Litten 1991).

Plans to Enroll in the Future

The 1999–2000 graduates who had not enrolled in a graduate or first-professional degree program by 2001 were asked if they expected to enroll in the future, and 67 percent reported that they did (table 5). Some of the characteristics associated with enrolling within a year of

¹⁰The apparent differences between nonborrowers and those who borrowed \$20,000 or more were not statistically significant.

¹¹A \$1,000 increase in the amount borrowed decreased the likelihood of enrolling in graduate school by 0.1 percent. This result was significant only at the .10 level.

graduation were also associated with expecting to enroll in the future. For example, graduates with a GPA of at least 3.00 in their major were more likely than those with lower grades to have enrolled within a year (24 vs. 15 percent) and also, if they had not enrolled, to be considering doing so in the future (69 vs. 60 percent). Some characteristics, however, were related differently to immediate enrollment and future plans. For example, education majors were less likely than engineering, mathematics, or science majors to have enrolled within a year (19 vs. 29 percent) but were more likely to be considering enrolling in the future (78 vs. 70 percent). This pattern is consistent with findings from a previous study indicating that among graduate students enrolled in master's and doctoral degree programs, those in education were more likely than those in other fields to delay enrolling in graduate school (Choy and Geis 2002).

Primary Reason for Postponing Graduate Education

The 1999–2000 graduates who had not enrolled in or completed a graduate or first-professional degree program but expected to do so in the future were asked the main or primary reason why they had decided to postpone their plans. The most frequently reported primary reason for postponing further education was that they wanted work experience first or had a good job opportunity (37 percent) (table 6). Another 17 percent gave financial reasons unrelated to undergraduate debt as the primary reason, 17 percent wanted a break from school, and 9 percent cited family responsibilities. Five percent reported that undergraduate debt was the primary reason. Thus, undergraduate debt was less likely than other factors to be the primary reason graduates gave for postponing graduate studies. However, for those who borrowed \$15,000 or more, it was more likely to be the primary reason than it was for those who had borrowed less than \$10,000 (9 vs. 3 percent).

Careers

Teaching at K–12 Schools

One often expressed concern is that heavy undergraduate debt might discourage college graduates from entering K–12 teaching or other professions that are important to society but traditionally have lower salaries than other jobs open to bachelor's degree recipients (Davis and Merisotis 1998). This does not appear to be the case. Despite having borrowed larger average amounts, 1999–2000 bachelor's degree recipients were slightly more likely than their 1992–93 counterparts to have taught at a K–12 school within a year of graduating (12 vs. 10 percent) (table 7). Among nonborrowers and at each level of borrowing up to \$20,000, no statistically significant differences were detected in the rates at which the two cohorts entered teaching, but

Table 6. Among 1999–2000 bachelor’s degree recipients who had considered graduate or first-professional education but had not yet enrolled, percentage distribution of their primary reason for postponing enrollment, by selected student and institutional characteristics: 2001

Student and institutional characteristics	Wanted work experience/had a good job opportunity	Wanted a break from school	Family responsibility	Undergraduate debt	Other financial reasons	Other
U.S. total (excluding Puerto Rico)	37.5	16.6	9.0	5.1	17.5	14.3
Total (50 states, D.C., and Puerto Rico)	37.4	16.6	9.1	5.1	17.4	14.4
Gender						
Male	41.8	16.5	6.1	4.9	16.1	14.6
Female	34.0	16.6	11.4	5.2	18.5	14.3
Race/ethnicity¹						
American Indian	25.0	9.3	16.0	#	22.2	27.5
Asian/Pacific Islander	49.7	11.8	2.6	8.7	15.4	11.8
Black	32.1	19.9	10.1	5.1	16.6	16.2
White	37.6	17.0	8.7	4.8	17.8	14.2
Hispanic	33.0	14.5	17.0	6.1	14.0	15.4
Age received bachelor’s degree						
24 and under	43.1	15.6	5.1	4.9	17.2	14.2
25–29	31.1	19.0	14.8	6.2	19.7	9.2
30 and above	20.5	18.1	20.0	4.6	16.2	20.7
Time from college entry to bachelor’s degree						
Within 4 years	45.1	16.0	5.0	5.1	16.0	12.9
More than 4, up to 6 years	39.5	15.0	6.1	5.5	18.5	15.6
More than 6 years	24.4	19.2	18.9	4.9	18.0	14.5
Undergraduate major						
Business and management	45.5	15.9	9.4	5.9	11.4	11.9
Education	34.5	14.5	15.5	4.9	21.5	9.1
Engineering, mathematics, or science	38.7	19.7	6.0	3.1	16.4	16.2
Humanities or social sciences	33.5	17.4	7.0	6.1	20.5	15.5
Other	36.0	15.6	10.4	4.3	18.8	14.9
Dependency status and family income						
Dependent, total	44.9	15.5	3.3	4.8	17.6	13.9
Lowest	42.0	18.3	4.2	5.1	18.4	12.0
Lower middle	41.3	13.6	3.1	8.2	19.8	14.0
Upper middle	45.5	16.1	3.3	3.3	16.7	15.2
Highest	51.2	13.7	2.6	2.6	15.5	14.4
Independent, total	26.9	18.0	17.2	5.4	17.2	15.2

See notes at end of table.

Table 6. Among 1999–2000 bachelor’s degree recipients who had considered graduate or first-professional education but had not yet enrolled, percentage distribution of their primary reason for postponing enrollment, by selected student and institutional characteristics: 2001—Continued

Student and institutional characteristics	Wanted work experience/had a good job opportunity	Wanted a break from school	Family responsibility	Undergraduate debt	Other financial reasons	Other
Type of degree-granting institution						
Public 4-year non-doctoral	33.6	18.3	11.5	4.8	18.2	13.6
Public 4-year doctoral	39.1	17.0	7.9	4.2	16.9	14.8
Private not-for-profit 4-year non-doctoral	32.3	14.2	10.7	6.8	20.5	15.5
Private not-for-profit 4-year doctoral	46.4	16.3	6.3	4.5	14.8	11.6
First postsecondary institution attended						
Public 2-year	33.7	17.0	11.0	6.6	16.6	15.1
Public 4-year	37.7	16.2	10.3	4.5	17.4	14.0
Private not-for-profit 4-year	40.5	16.5	5.3	5.2	18.4	14.2
Other	26.4	18.7	15.7	5.7	15.8	17.8
Total amount borrowed (undergraduate) (in 1999 constant dollars)						
Did not borrow	42.9	18.7	9.0	†	12.3	16.2
\$1–9,999	32.4	18.0	14.1	3.4	16.8	15.3
\$10,000–14,999	42.7	17.9	8.7	5.4	14.2	11.2
\$15,000–19,999	36.5	15.6	8.3	8.7	18.6	12.3
\$20,000–24,999	31.5	13.0	7.2	9.4	23.2	15.7
\$25,000 or more	32.2	12.7	7.1	8.8	26.1	13.1

†Not applicable.

#Rounds to zero.

¹American Indian includes Alaska Native, Black includes African American, Pacific Islander includes Native Hawaiian, and Hispanic includes Latino. Race categories exclude Hispanic origin unless specified.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:2000/01).

among those who had borrowed \$20,000 or more, 1999–2000 graduates were actually more likely than their 1992–93 counterparts to have taught. Among 1999–2000 graduates who had borrowed for their undergraduate education and taught by 2001, 8 percent reported participating in a loan forgiveness program in which a portion of their education loan was repaid in return for a commitment to teach. The sample size was too small to determine whether participation varied with the amount borrowed.¹²

¹² 1993/94 Baccalaureate and Beyond Longitudinal Study (B&B:93/94), Data Analysis System. Not shown in table.

Table 7. Percentage of 1992–93 and 1999–2000 bachelor’s degree recipients who had taught at any K–12 school, by total amount borrowed (in 1999 constant dollars): 1994 and 2001

Total amount borrowed	1994	2001
U.S. total (excluding Puerto Rico)	10.1	12.2
Total (50 states, D.C., and Puerto Rico)	10.1	12.2
Total amount borrowed (undergraduate) (in 1999 constant dollars)		
Did not borrow	9.5	10.5
\$1–9,999	10.6	12.7
\$10,000–14,999	11.0	12.9
\$15,000–19,999	11.8	13.9
\$20,000–24,999	9.0	13.7
\$25,000 or more	8.3	12.9

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

Relationship of Current Job to Career

Also of interest is whether undergraduate debt leads students to defer looking for a job consistent with their career goals and steers them instead toward jobs with high pay. In 2001, some 29 percent of 1999–2000 bachelor’s degree recipients did not consider their current job to be the start of a career in that occupation or industry (table 8). The most commonly provided reason for taking the job was that they were “just paying the bills” (38 percent). No differences could be detected in the likelihood of taking a job that was not the start of a career related to the total amount borrowed, but it is important to keep in mind that many factors other than undergraduate debt contribute to job choices. Controlling for these other factors might lead to a different conclusion. Among graduates in jobs not considered the start of a career, those who had borrowed \$25,000 or more were more likely than nonborrowers to report that they took the job to pay their bills (45 vs. 32 percent).

Amounts Owed a Year Later

The questions about the amounts still owed a year after graduating differed for the two cohorts. The 1992–93 bachelor’s degree recipients, who were asked only about borrowing from all sources, were also asked only about how much they owed on all loans (i.e., without distinguishing among the sources). Among these graduates, 16 percent of borrowers no longer

Table 8. Percentage of 1999–2000 bachelor’s degree recipients who did not consider their current job to be the start of a career in that occupation or industry and, among those with jobs, percentage distribution of their primary reason for taking the job, by total amount borrowed: 2001

Total amount borrowed	Percentage whose job was not start of career	Primary reason for taking the job						Other
		Just paying bills	Working while deciding	Working to pre-prepare for graduate school	Doing what want to do	Exploring career options		
U.S. total (excluding Puerto Rico)	28.6	37.7	18.6	3.8	4.8	9.7	25.5	
Total (50 states, D.C., and Puerto Rico)	28.6	37.6	18.7	3.7	4.9	9.7	25.4	
Total amount borrowed (undergraduate) (in 1999 constant dollars)								
Did not borrow	30.7	31.8	19.8	3.3	5.9	10.8	28.4	
\$1–9,999	26.5	40.2	19.2	3.0	6.4	11.5	19.7	
\$10,000–14,999	28.2	36.2	19.1	4.2	6.0	10.2	24.2	
\$15,000–19,999	26.9	39.0	18.2	5.5	3.9	5.3	28.2	
\$20,000–24,999	27.2	40.3	20.8	4.1	3.6	12.3	19.0	
\$25,000 or more	28.4	45.0	14.7	3.6	3.1	6.9	26.7	

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:2000/01).

owed any money a year after graduating; the remaining 84 percent who still owed money had an average debt of \$10,800 (in 2001 constant dollars).¹³

The 1999–2000 graduates, in contrast, were asked how much they owed on federal loans and to family and friends (but not how much they owed on other education loans). Although they were not asked about these other education loans, most nonfamily borrowing was through federal loan programs (87 percent of the average amount borrowed in education loans was in federal loans) (table 4). Therefore, their debt status with respect to federal loans is a good indicator of their overall debt status with respect to education loans, even though the amounts cannot be directly compared with those borrowed by the earlier cohort.

Federal Loans

Among 1999–2000 graduates with federal loans, 93 percent still owed on these loans a year later. Among these borrowers, the average amount still owed on their federal loans was \$15,100

¹³1999–2000 National Postsecondary Student Aid Study (NPSAS:2000), Data Analysis System. Not shown in table.

(table 9). The 7 percent who no longer owed may have repaid their loans while still enrolled, after graduation, or a combination of the two. A few may have had their loans forgiven.¹⁴

The likelihood of owing money in 2001 was related to the total amount borrowed. Those who had borrowed less than \$10,000 from all sources, including loan programs and family or friends, were the least likely to still owe on federal loans (79 vs. 92 percent of those who had borrowed \$10,000 to \$14,999 and about 97 percent of those who had borrowed \$15,000 or more).

Family Loans

Among 1999–2000 graduates who had borrowed from family or friends (either solely from this source or in addition to taking out education loans), 46 percent reported that they still owed money to family or friends a year after graduation. The fact that less than one-half still owed this money could mean that some of the loans were forgiven (i.e., became gifts). Alternatively, or in addition, some loans may have been short term and paid back while the student was still enrolled or once the student was employed after graduation. Those who had borrowed \$25,000 or more from all sources were more likely than those who had borrowed less than \$10,000 to still owe on family loans in 2001 (53 vs. 34 percent).

Among those who still owed money to family and friends, the average amount was \$11,900. The amount owed varied with family income, the type of institution attended, and the total amount borrowed for undergraduate education. Owing the most were graduates who had been dependent students from families in the upper middle and highest income groups (vs. independent students or dependent students from lower income families), those who had attended private not-for-profit doctoral institutions (vs. other types of institutions), and those who had borrowed \$25,000 or more (vs. smaller amounts).

¹⁴Under loan forgiveness programs, a portion of a student's loan is repaid in return for a commitment to work in a certain occupation, such as teaching, or to perform volunteer work. However, the whole balance is not usually forgiven. Among federal loan borrowers, 3 percent participated in loan forgiveness programs.

Table 9. Among 1999–2000 bachelor’s degree recipients who had borrowed federal loans or from family or friends, percentage who still owed, and if still owed, average amount owed (in 2001 constant dollars), by type of loan and selected student and institutional characteristics: 2001

Student and institutional characteristics	Owed on federal loans ¹		Owed on loans from family or friends ²	
	Percent	Average amount	Percent	Average amount
U.S. total (excluding Puerto Rico)	92.9	\$15,200	45.5	\$11,900
Total (50 states, D.C., and Puerto Rico)	92.8	15,100	45.6	11,900
Gender				
Male	91.8	14,500	44.9	12,700
Female	93.5	15,500	46.3	11,200
Race/ethnicity ³				
American Indian	100.0	15,500	‡	‡
Asian/Pacific Islander	90.0	13,000	49.7	12,200
Black	96.4	17,700	41.3	5,000
White	92.7	15,000	45.2	12,500
Hispanic	91.5	14,200	50.1	8,400
Undergraduate major				
Business and management	92.1	13,800	37.6	8,200
Education	93.5	15,900	45.9	6,800
Engineering, mathematics, or science	91.8	15,100	47.6	17,500
Humanities or social sciences	94.2	15,500	48.3	12,300
Other	92.9	15,400	45.3	10,800
Dependency status and family income				
Dependent, total	93.7	13,800	46.8	14,000
Lowest	95.1	13,600	45.5	7,700
Lower middle	93.4	14,600	44.1	11,000
Upper middle	93.6	13,800	47.0	18,500
Highest	91.9	13,100	51.0	18,600
Independent, total	91.8	16,500	44.0	8,700
Type of degree-granting institution				
Public 4-year non-doctoral	91.7	12,700	47.3	6,100
Public 4-year doctoral	92.9	14,500	42.7	9,200
Private not-for-profit 4-year non-doctoral	93.0	16,400	47.5	11,300
Private not-for-profit 4-year doctoral	93.7	17,700	52.6	23,900
Total amount borrowed (undergraduate) (in 1999 constant dollars)				
\$1–9,999	78.7	4,000	34.0	2,500
\$10,000–14,999	92.3	9,200	42.2	3,200
\$15,000–19,999	97.4	13,600	43.4	5,000
\$20,000–24,999	97.5	16,900	45.3	7,300
\$25,000 or more	97.3	25,800	53.0	20,300

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

¹Limited to graduates with federal loans.

²Limited to graduates with loans from family or friends.

³American Indian includes Alaska Native, Black includes African American, Pacific Islander includes Native Hawaiian, and Hispanic includes Latino. Race categories exclude Hispanic origin unless specified.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:2000/01).

Loan Repayment

Federal loan borrowers usually must begin repaying their education loans 6 months after they graduate, although they may be able to postpone repaying if they are enrolled in postsecondary education at least half time, are unemployed, are participating in a qualifying service program (e.g., volunteering in the Peace Corps), or have an approved medical or economic hardship. The standard period for repaying Stafford loans is 10 years, but alternative repayment options—graduated, extended, income-contingent, or income-sensitive—are available under some circumstances, depending on the specific loan program and amount borrowed. These alternatives reduce the monthly payment in the early years but increase total interest charges. Repayment terms for loans from family or friends are negotiated by the parties involved and are likely to be informal rather than specifying regular monthly payments. Borrowers were not asked about their repayment agreements with their families or friends.

Some data comparability issues exist between the two cohorts. The 1992–93 graduates were asked simply how much they had borrowed from all sources (including education loans and family and friends) and what their monthly payment on this amount was. No distinction was made between education loans and loans from family and friends. The 1999–2000 graduates also were asked how much they had borrowed in education loans and from family and friends but were asked about their monthly payments only for their education loans (i.e., ignoring any monthly payments to family). Thus, to the extent that family loans are repaid using monthly payments, the reported payments of the later cohort would be underestimates of total payments. However, the percentage who owed on family loans in 2001 was relatively low (12 percent had borrowed from family and friends and less than half of these borrowers [46 percent] still owed on these loans in 2001; tables 4 and 9). In addition, it is likely that family loans would have informal repayment plans rather than a monthly obligation. Finally, the sizes of the average monthly payments in 1994 and 2001 (as discussed below) were consistent with the size of the total undergraduate debt and prevailing interest rates. Thus, the reported monthly payments appear to be a reasonably good approximation of payments on education loans for both cohorts.

Repayment Status

Just under two-thirds of the borrowers in each cohort were repaying their loans a year after graduating (table 10). Whether they were repaying their loans was related to whether they

Table 10. Among 1992–93 and 1999–2000 bachelor’s degree recipients who borrowed for their undergraduate education, percentage repaying their loans, by total amount borrowed and student enrollment status: 1994 and 2001

Total amount borrowed and enrollment status	1994	2001
U.S. total (excluding Puerto Rico)	64.5	63.9
Total (50 states, D.C., and Puerto Rico)	64.5	63.8
Total amount borrowed (undergraduate) (in 1999 constant dollars)		
\$1–9,999	59.3	54.8
\$10,000–14,999	71.4	63.8
\$15,000–19,999	74.8	69.1
\$20,000–24,999	66.7	68.1
\$25,000 or more	63.3	64.6
Enrollment status at follow-up		
Not enrolled	71.5	72.1
Enrolled part time	53.4	51.2
Enrolled full time	16.3	18.8

NOTE: In 1992–93, refers to repayment of loans from all sources (including family or friends); in 1999–2000, refers to repayment of education loans only (excluding loans from family or friends).

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

enrolled for further education, which governs whether they are required to begin repaying their loans. In both 1994 and 2001, 72 percent of borrowers who were not enrolled were making payments. The remaining 28 percent who were not making payments may have already repaid their loans, had deferments, or, in the case of the earlier cohort, borrowed only from their families or friends and were not required to make monthly payments. It is also possible that some were failing to make payments that were due. For both cohorts, about 52 percent of borrowers who were enrolled part time were making payments. Some of the remaining 48 percent who were not making payments may have been enrolled at least half time and thus were not required to do so.

Although full-time enrollment allows borrowers to postpone repayment, 16 percent of 1992–93 graduates and 19 percent of 1999–2000 graduates who had borrowed but were enrolled full time nevertheless reported that they were repaying their loans.¹⁵ These graduates presumably had the resources necessary to begin repayment (e.g., from working while enrolled, as discussed later) and wanted to get rid of the debt sooner rather than later even though they were not required to do so. Assuming they had the resources, borrowers with unsubsidized loans may have

¹⁵The difference between the two cohorts is not statistically significant, however.

wanted to make payments to cover at least the interest, because interest is charged on unsubsidized Stafford loans during the grace period and is capitalized if not paid.

Monthly Payments

The monthly payment required depends on the amount borrowed, interest rates,¹⁶ and the length of the repayment term. The 1992–93 graduates were borrowing primarily in the late 1980s and early 1990s, at which time interest rates on Stafford loans were around 8 percent (fixed rate). Interest rates are now variable; they are adjusted annually on July 1, but cannot exceed 8.25 percent. In 2001, when the 1999–2000 graduates were interviewed, interest rates were between 6 and 7 percent, depending on the date of the loan. Since then, interest rates have continued to fall, and by 2003–04, had dropped to 4–5 percent for most borrowers, depending on the date the loans were disbursed. Therefore, the required payments for borrowers with variable interest rates are lower now than they were in 2001. However, interest rates may rise before these graduates' loans are repaid, in which case their payments would increase.

Students have various options to reduce their monthly payments. Stafford loans normally have a 10-year repayment period, with fixed payments. However, depending on the type and amount of the loan, borrowers may be able to elect a graduated, extended, or income-based repayment option.¹⁷ While the number of 1992–93 and 1999–2000 graduates electing these options is unknown, approximately one-quarter of all borrowers in the federal Direct Loan program did so in 1999–2000, especially those with large loan amounts (U.S. Department of Education and General Accounting Office 2001).¹⁸ One option is for borrowers to consolidate their loans and obtain a fixed rate as well as extend the repayment period. When interest rates are low, as they are now, students who exercise this option can save substantial amounts over the life of the loan. Increasing numbers of borrowers are consolidating their loans (U.S. General Accounting Office 2003).

Reflecting the larger amounts borrowed, 1999–2000 graduates were making larger monthly payments a year later, on average, than 1992–93 graduates (\$210 vs. \$160) after controlling for inflation (table 11). In 2001, the average monthly payment ranged from \$100 per month for graduates who had borrowed less than \$10,000 to \$310 for those who had borrowed \$25,000 or

¹⁶Information on the history of Stafford loan interest rates is available at <http://www.nchelp.org/elibrary11/main/10-refmaterial/10A-rateinfo/default.htm>.

¹⁷The graduated and income-based repayment plans were introduced in 1992. The extended payment option was available only to new borrowers after 1998, and only to those whose accumulated loans totaled more than \$30,000 after that date (U.S. General Accounting Office 2003).

¹⁸Federal Direct Loan borrowers are a subset of all federal loan borrowers. In this analysis, it is not possible to identify which type of federal loans students had.

Table 11. Among 1992–93 and 1999–2000 bachelor’s degree recipients who were repaying their loans, percentage distribution of the amount of their monthly payment (in constant 2001 dollars) and average monthly payment, by selected student and institutional characteristics: 1994 and 2001

Student and institutional characteristics	\$1–99		\$100–149		\$150–199		\$200–249		\$250–299		\$300 or more		Average monthly payment	
	1994	2001	1994	2001	1994	2001	1994	2001	1994	2001	1994	2001	1994	2001
U.S. total (excluding Puerto Rico)	32.4	16.9	24.6	16.8	15.0	16.6	11.4	19.5	7.0	9.8	9.7	20.4	\$170	\$210
Total (50 states, D.C., and Puerto Rico)	32.6	17.2	24.6	16.7	14.9	16.6	11.4	19.5	6.9	9.8	9.7	20.3	160	210
Gender														
Male	33.5	17.6	23.3	14.5	13.0	15.8	11.5	19.2	8.4	10.6	10.3	22.5	170	220
Female	31.9	16.9	25.7	18.5	16.5	17.2	11.0	19.7	5.8	9.2	9.1	18.6	160	210
Race/ethnicity ¹														
American Indian	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Asian/Pacific Islander	26.4	8.4	34.5	21.6	14.1	23.7	12.9	19.7	6.2	4.5	5.9	22.1	170	230
Black	30.2	22.1	22.9	17.0	18.5	16.2	14.5	19.3	3.6	6.7	10.3	18.7	170	190
White	32.2	16.9	24.1	15.7	15.2	16.6	11.3	19.5	7.2	10.6	10.0	20.8	170	210
Hispanic	41.1	20.2	27.3	22.7	8.9	12.9	8.2	17.6	7.7	8.9	6.8	17.7	150	190
Undergraduate major														
Business and management	31.9	22.0	28.3	13.7	15.7	18.2	8.7	21.0	6.0	9.5	9.5	15.6	160	200
Education	33.6	17.1	25.2	20.8	16.5	13.0	12.1	19.8	5.4	10.7	7.3	18.6	150	210
Engineering, mathematics, or science	32.9	15.2	21.7	16.1	13.3	15.5	13.4	20.7	9.0	9.9	9.8	22.7	170	220
Humanities or social sciences	36.1	16.6	20.5	18.1	15.0	17.9	12.7	16.9	5.8	10.3	9.9	20.2	170	200
Other	29.4	15.9	26.6	15.9	14.4	17.2	10.5	20.2	8.1	8.2	11.0	22.6	170	210
Dependency status and family income														
Dependent, total	31.8	15.0	22.1	15.8	14.8	17.9	13.8	22.0	6.8	10.0	10.8	19.4	170	210
Lowest	29.3	18.7	23.5	18.6	15.7	18.8	17.6	21.1	5.5	7.5	8.5	15.2	160	190
Lower middle	34.8	9.8	21.1	15.3	15.4	20.8	11.5	21.5	7.4	10.9	9.7	21.7	160	220
Upper middle	34.6	14.1	24.1	16.3	13.5	14.7	9.8	22.4	4.2	11.2	13.9	21.4	170	220
Highest	29.5	17.8	16.7	10.9	12.0	16.3	11.4	23.6	13.8	11.5	16.6	19.9	230	220
Independent, total	33.3	19.9	27.1	17.9	15.1	15.0	8.9	16.3	7.0	9.4	8.6	21.5	160	210

See notes at end of table.

Table 11. Among 1992–93 and 1999–2000 bachelor’s degree recipients who were repaying their loans, percentage distribution of the amount of their monthly payment (in constant 2001 dollars) and average monthly payment, by selected student and institutional characteristics: 1994 and 2001—Continued

Student and institutional characteristics	\$1–99		\$100–149		\$150–199		\$200–249		\$250–299		\$300 or more		Average monthly payment	
	1994	2001	1994	2001	1994	2001	1994	2001	1994	2001	1994	2001	1994	2001
Type of degree-granting institution														
Public 4-year non-doctoral	40.5	24.1	25.6	23.2	15.3	16.4	8.9	18.8	3.7	5.9	6.0	11.5	\$140	\$170
Public 4-year doctoral	37.9	17.8	22.9	16.5	15.0	17.8	10.6	18.9	6.1	11.7	7.5	17.3	150	200
Private not-for-profit 4-year non-doctoral	23.5	14.5	25.3	15.8	17.1	14.5	13.2	22.4	9.8	7.9	11.2	25.0	180	230
Private not-for-profit 4-year doctoral	19.0	8.8	22.1	10.6	13.8	16.3	14.4	19.8	10.2	11.1	20.6	33.5	220	260
Total amount borrowed (undergraduate) (in 1999 constant dollars)														
\$1–9,999	57.0	60.0	27.4	26.7	8.0	4.8	3.7	4.7	1.5	0.9	2.4	2.9	110	100
\$10,000–14,999	12.2	15.3	34.7	33.9	31.1	28.2	13.2	13.4	3.8	3.0	5.1	6.3	170	160
\$15,000–19,999	6.6	5.8	15.0	14.5	18.8	24.4	28.9	32.4	17.7	11.6	13.1	11.3	220	210
\$20,000–24,999	8.2	6.1	8.6	10.3	11.1	15.8	18.5	30.1	24.5	17.9	29.2	19.8	260	230
\$25,000 or more	8.9	6.6	10.7	5.5	6.5	9.4	14.1	15.7	13.0	13.7	46.9	49.2	330	310
Enrollment status at follow-up														
Not enrolled	31.6	16.4	25.0	16.7	14.9	16.7	11.5	19.6	7.1	9.8	10.0	20.9	170	210
Enrolled full time	53.2	28.1	30.4	21.6	5.7	13.8	7.6	13.9	#	9.8	3.2	12.8	110	170
Enrolled part time	44.8	24.7	13.6	13.9	18.2	16.5	11.1	19.5	6.2	9.5	6.1	15.8	150	190

#Rounds to zero.

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

^American Indian includes Alaska Native, Black includes African American, Pacific Islander includes Native Hawaiian, and Hispanic includes Latino. Race categories exclude Hispanic origin unless specified.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

more.¹⁹ A comparison of the payments relative to the amounts borrowed for the two cohorts suggests that the later cohort had more favorable repayment terms a year after they graduated: the average amount borrowed increased by 60 percent (from \$12,100 to \$19,300, table 2), while the average monthly payment increased by about 30 percent (from \$160 to \$210, table 11).²⁰

While both the cumulative amounts borrowed and the monthly loan payments were student reported in a telephone interview and therefore subject to recall error, the average payments appear reasonable for the average amounts borrowed. Assuming the standard 10-year repayment option, amortization tables show that the monthly payment on a \$12,100 loan (the average borrowed by 1992–93 graduates) at 8–10 percent interest would be \$147–160; the payment on a \$19,300 loan (the average for 1999–2000 graduates) at 6–7 percent interest would be \$214–224.

In 1994, about 58 percent of 1992–93 bachelor’s degree recipients who were repaying their loans were paying less than \$150 per month (in 2001 constant dollars): 33 percent were paying less than \$100, and 25 percent were paying \$100–149 per month (figure 6). In the later cohort, about 34 percent were making payments of less than \$150 per month (17 percent were paying less than \$100 and 17 percent were paying \$100–149). The later graduates were more likely than the earlier ones to be paying \$200 or more per month (about 50 vs. about 28 percent).

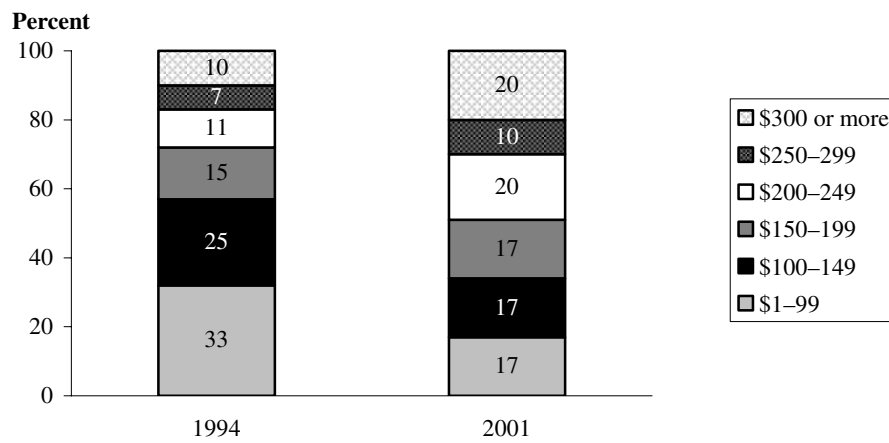
For both cohorts, graduates of public 4-year institutions were generally more likely than graduates of private not-for-profit institutions to have a monthly loan payment of less than \$100²¹ and were less likely to be paying more than \$300 (table 11). They paid less on average as well.

¹⁹It may seem counterintuitive that the average monthly payment at each level of borrowing was lower in 2001 than in 1994. This reflects the fact that the later borrowers faced lower interest rates for a given amount borrowed. The overall average monthly payment was higher for the later cohort than the earlier one because there were more graduates who had borrowed at the higher levels. For example, 25 percent of the later borrowers had borrowed \$25,000 or more, compared with 7 percent of the earlier borrowers (table 3).

²⁰While not based on a nationally representative sample of students, a similar pattern of discrepancy was reported by Baum and O’Malley (2003) in the growth rate of undergraduate debt level and monthly repayments based on data from the 2002 National Student Loan Survey conducted by the Nellie Mae Corporation.

²¹However, the difference between public doctoral and private not-for-profit non-doctoral institutions was not statistically significant among 1999–2000 graduates.

Figure 6. Among 1992–93 and 1999–2000 bachelor’s degree recipients repaying their loans, percentage distribution by the amount of their monthly payment (in constant 2001 dollars): 1994 and 2001



NOTE: Detail may not sum to totals because of rounding. Estimates include data from 50 states, D.C., and Puerto Rico.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

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Debt Burden

Understanding the extent to which the payments just described were burdensome requires knowing something about the financial circumstances of the individuals making the payments. It is important to know their employment status (table 12), earnings (table 13), the relationship between their earnings and payments (table 14), and whether they were receiving help from their parents in repaying their loans (table 15).

Employment Status and Salaries

Employment Status

Employment status is a key indicator of graduates' ability to meet their repayment obligations. Among bachelor's degree recipients who were repaying their loans a year after graduation, 83 percent of 1992–93 cohort and 87 percent of 1999–2000 cohort were employed full time (table 12). Why members of the later cohort were more likely to be employed full time is unclear. Possibilities include, for example, more favorable economic conditions for bachelor's degree recipients, a greater need to work full time to meet loan payments, or simply that a greater number of graduates chose to work full time for personal reasons. Among those repaying their loans, 11 percent of the earlier cohort and 6 percent of the later one were employed part time a year later. For both cohorts, approximately 6 percent of those making payments were unemployed or out of the labor force. Presumably, these graduates had other financial resources or were receiving help in making the payments. It is also possible that their unemployment was short term and did not prevent them from making payments. No clear association was observed for either cohort between the amount borrowed for undergraduate education and the likelihood of being employed full time or part time a year later.

Earlier it was noted that some 19 percent of graduates who were enrolled full time were repaying their loans despite the fact that they would not have been required to do so. Among 1999–2000 graduates who were enrolled full time and repaying their loans in 2001, 60 percent were working full time and another 23 percent were working part time. Thus, they presumably had the financial resources to begin repaying their loans.

Table 12. Among 1992–93 and 1999–2000 bachelor's degree recipients who were repaying their undergraduate loans, percentage distribution of their employment status, by selected student and institutional characteristics: 1994 and 2001

Student and institutional characteristics	Employed full time		Employed part time		Unemployed		Out of the labor force	
	1994	2001	1994	2001	1994	2001	1994	2001
U.S. total (excluding Puerto Rico)	82.9	86.9	10.9	6.4	3.1	4.6	3.1	2.1
Total (50 states, D.C., and Puerto Rico)	82.9	86.9	10.9	6.4	3.1	4.6	3.1	2.1
Gender								
Male	85.3	89.5	8.2	5.0	3.6	4.3	2.9	1.2
Female	80.7	84.9	13.2	7.5	2.8	4.9	3.4	2.8
Race/ethnicity ¹								
American Indian	‡	‡	‡	‡	‡	‡	‡	‡
Asian/Pacific Islander	82.3	85.5	7.9	7.0	5.2	6.3	4.7	1.1
Black	81.1	88.7	10.7	5.7	4.4	5.2	3.9	0.5
White	83.3	86.7	11.1	6.7	2.8	4.3	2.9	2.3
Hispanic	79.6	88.3	12.2	3.6	5.9	6.2	2.3	1.9
Undergraduate major								
Business and management	89.7	90.4	6.6	5.0	2.0	3.8	1.7	0.8
Education	75.2	88.6	19.5	6.3	2.6	2.8	2.7	2.3
Engineering, mathematics, or science	83.1	88.4	9.1	5.2	4.1	4.8	3.8	1.7
Humanities or social sciences	80.4	81.3	11.7	9.6	3.9	6.1	3.9	3.0
Other	83.4	88.1	10.1	5.2	3.1	4.3	3.4	2.4
Dependency status and family income								
Dependent, total	83.5	88.0	10.7	5.8	2.6	4.4	3.2	1.8
Lowest	84.8	89.9	10.8	5.8	2.1	2.7	2.4	1.5
Lower middle	81.4	88.5	11.7	5.7	4.0	4.8	3.0	1.1
Upper middle	84.4	86.1	8.3	5.8	2.7	6.1	4.7	2.1
Highest	82.3	86.7	12.2	5.7	1.4	4.4	4.0	3.2
Independent, total	82.0	85.5	11.2	7.2	3.6	4.9	3.1	2.5
Type of degree-granting institution								
Public 4-year non-doctoral	80.2	85.9	13.5	7.6	3.3	4.4	3.0	2.1
Public 4-year doctoral	85.5	88.0	8.5	5.0	3.6	4.7	2.5	2.4
Private not-for-profit 4-year non-doctoral	79.6	86.3	12.6	8.3	3.9	3.7	4.0	1.7
Private not-for-profit 4-year doctoral	84.3	83.6	10.9	7.5	0.8	6.9	4.0	2.1
Total amount borrowed (undergraduate) (in 1999 constant dollars)								
\$1–9,999	82.7	84.6	10.4	7.1	3.6	4.2	3.3	4.2
\$10,000–14,999	83.4	86.3	11.2	8.1	2.8	3.7	2.6	2.0
\$15,000–19,999	81.5	89.4	12.2	5.5	3.2	2.8	3.1	2.2
\$20,000–24,999	83.6	87.2	12.0	6.3	1.2	5.5	3.3	1.0
\$25,000 or more	83.2	86.2	9.7	5.7	3.8	6.5	3.4	1.6
Enrollment status at follow-up								
Not enrolled	84.8	87.6	9.8	5.9	3.0	4.6	2.5	1.9
Enrolled part time	76.9	94.4	19.0	3.3	2.0	2.3	2.2	0.0
Enrolled full time	26.8	59.7	36.5	22.5	10.1	7.4	26.7	10.4

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

¹American Indian includes Alaska Native, Black includes African American, Pacific Islander includes Native Hawaiian, and Hispanic includes Latino. Race categories exclude Hispanic origin unless specified.

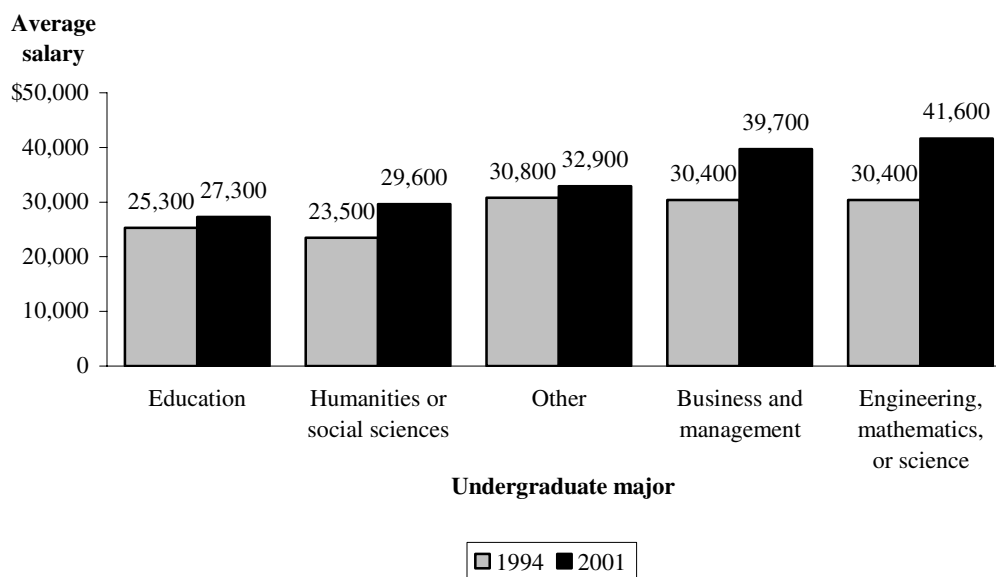
NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

Salaries

A key indicator of graduates' ability to repay their loans is their earnings. After adjusting for inflation, 1999–2000 bachelor's degree recipients who were repaying their loans a year after graduating earned more than their 1992–93 counterparts. Among those who were employed and repaying their loans, the average salary for 1999–2000 graduates in 2001 was \$34,100, compared with \$28,300 (in constant 2001 dollars) for 1992–93 graduates in 1994 (table 13). Adjusting for inflation, the later graduates were more likely than the earlier ones to have an annual salary of \$30,000 or more and less likely to have a salary under \$25,000. Average salaries ranged from \$25,300 to \$30,800 in 1994, depending on the undergraduate major, and from \$27,300 to \$41,600 in 2001 (figure 7).

Figure 7. Among 1992–93 and 1999–2000 bachelor's degree recipients who were employed and repaying their undergraduate loans, average annual salary (in constant 2001 dollars), by undergraduate major: 1994 and 2001



NOTE: Estimates include data from 50 states, D.C., and Puerto Rico. Employment could be full time or part time.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

Salaries varied in similar ways within each cohort. For example, females were more likely than males to be in the lowest salary range (i.e., under \$25,000 in 2001 constant dollars) and were less likely to earn \$35,000 or more (table 13). Additionally, education and humanities

Table 13. Among 1992–93 and 1999–2000 bachelor’s degree recipients who were employed and repaying their undergraduate loans, percentage distribution of their annual salary (in constant 2001 dollars) and average annual salary, by selected student and institutional characteristics: 1994 and 2001

Student and institutional characteristics	\$1–24,999		\$25,000–29,999		\$30,000–34,999		\$35,000–44,999		\$45,000 or more		Average annual salary	
	1994	2001	1994	2001	1994	2001	1994	2001	1994	2001	1994	2001
U.S. total (excluding Puerto Rico)	50.6	21.8	19.5	17.8	11.3	20.0	11.2	21.3	7.4	19.0	\$28,300	\$34,100
Total (50 states, D.C., and Puerto Rico)	50.8	21.9	19.4	17.9	11.3	19.9	11.2	21.3	7.4	19.0	28,300	34,100
Gender												
Male	41.3	14.9	19.7	13.8	14.0	19.7	15.0	23.6	10.0	28.0	32,600	37,600
Female	58.6	27.3	19.2	21.0	9.1	20.1	8.0	19.5	5.2	12.1	24,800	31,400
Race/ethnicity ¹												
American Indian	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Asian/Pacific Islander	54.6	12.1	27.7	4.6	6.0	20.0	4.6	32.4	7.1	30.9	26,300	38,600
Black	55.3	18.7	21.1	20.3	11.5	23.1	7.0	23.6	5.1	14.4	24,900	33,000
White	50.2	22.9	18.7	19.1	11.6	19.3	11.9	20.3	7.7	18.4	28,800	33,400
Hispanic	50.2	21.2	23.1	15.1	10.4	20.5	10.8	23.8	5.6	19.3	26,200	38,100
Undergraduate major												
Business and management	44.4	10.4	21.6	11.8	9.8	20.1	14.2	29.4	9.9	28.3	30,400	39,700
Education	65.8	28.0	21.5	35.2	8.1	26.5	1.8	8.6	2.7	1.6	25,300	27,300
Engineering, mathematics, or science	35.1	12.8	16.1	7.2	17.2	13.3	22.1	21.8	9.5	45.0	30,400	41,600
Humanities or social sciences	60.6	29.7	21.9	22.0	9.1	22.1	5.2	17.0	3.2	9.2	23,500	29,600
Other	49.7	25.0	16.8	16.6	12.2	20.1	11.6	24.0	9.9	14.4	30,800	32,900
Dependency status and family income												
Dependent, total	54.2	24.1	21.0	17.9	11.0	22.2	9.4	20.6	4.3	15.3	25,600	32,400
Lowest	58.8	27.9	18.6	14.5	10.3	19.7	7.6	20.4	4.7	17.4	25,900	32,700
Lower middle	53.5	25.8	22.0	21.0	9.6	22.7	11.3	17.6	3.7	13.0	24,700	31,300
Upper middle	52.1	22.6	21.4	17.9	12.0	25.5	10.0	24.1	4.5	10.0	25,600	31,700
Highest	42.8	16.6	27.0	19.1	15.3	21.0	10.7	20.4	4.3	22.9	26,700	34,900
Independent, total	47.4	19.3	17.7	17.8	11.5	17.0	13.0	22.2	10.4	23.7	30,900	36,200

See notes at end of table.

Table 13. Among 1992–93 and 1999–2000 bachelor’s degree recipients who were employed and repaying their undergraduate loans, percentage distribution of their annual salary (in constant 2001 dollars) and average annual salary, by selected student and institutional characteristics: 1994 and 2001—Continued

Student and institutional characteristics	\$1–24,999		\$25,000–29,999		\$30,000–34,999		\$35,000–44,999		\$45,000 or more		Average annual salary	
	1994	2001	1994	2001	1994	2001	1994	2001	1994	2001	1994	2001
Type of degree-granting institution												
Public 4-year non-doctoral	58.8	24.0	18.8	19.7	10.1	21.3	8.5	19.2	3.8	15.7	\$25,000	\$32,500
Public 4-year doctoral	45.8	19.2	20.5	18.0	14.0	20.6	12.4	21.8	7.3	20.4	29,400	34,300
Private not-for-profit 4-year non-doctoral	52.9	27.1	19.2	20.8	9.0	20.8	10.5	20.3	8.4	11.0	27,300	32,300
Private not-for-profit 4-year doctoral	43.6	19.8	19.0	11.6	10.5	14.9	14.2	23.9	12.7	29.8	28,900	37,500
Total amount borrowed (undergraduate) (in 1999 constant dollars)												
\$1–9,999	51.7	24.1	19.6	20.8	10.7	17.8	11.6	18.9	6.4	18.4	26,600	32,800
\$10,000–14,999	58.1	23.9	18.4	18.7	9.3	21.4	7.7	18.7	6.5	17.4	31,300	32,600
\$15,000–19,999	46.6	23.5	20.6	18.7	16.0	20.2	10.5	21.1	6.3	16.5	26,600	34,100
\$20,000–24,999	47.6	21.1	19.9	14.9	8.8	21.5	15.0	22.6	8.7	19.9	27,800	34,300
\$25,000 or more	32.4	18.3	19.3	16.5	13.5	17.9	17.4	23.6	17.4	23.8	34,500	36,300
Enrollment status at follow-up												
Not enrolled	49.7	21.4	20.0	18.0	11.6	19.8	11.4	21.7	7.4	19.2	28,600	34,300
Enrolled part-time	62.6	16.3	14.0	23.7	6.5	24.1	8.0	16.4	9.0	19.5	26,000	34,600
Enrolled full-time	78.9	45.7	6.5	5.9	3.2	16.6	9.7	18.8	1.7	13.1	18,400	27,200
Employment status												
Employed full time	45.9	18.5	21.0	18.3	12.3	20.9	12.6	22.4	8.2	19.9	29,900	35,000
Employed part time	89.0	76.4	6.8	11.5	2.9	4.1	0.5	4.4	0.8	3.7	15,300	19,200

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

†American Indian includes Alaska Native, Black includes African American, Pacific Islander includes Native Hawaiian, and Hispanic includes Latino. Race categories exclude Hispanic origin unless specified.

NOTE: Detail may not sum to totals because of rounding. Employment could be full time or part time.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

majors were more likely than those who majored in business or engineering, mathematics, or science to earn less than \$25,000 and were less likely to earn \$45,000 or more. Finally, graduates who were employed part time a year later were earning only about one-half the amount of their peers with full-time employment.

Monthly Payments as a Percentage of Monthly Salary

Debt burden is defined here as the monthly loan payment as a percentage of monthly income. While this is a commonly used indicator, there is no widely recognized standard of what constitutes an acceptable level of debt burden (Greiner 1996). Scherschel (1998) noted that mortgage lenders frequently recommend that student loan payments should not exceed 8 percent of their pre-tax income. Baum and O'Malley (2003) pointed out that the payment-to-income ratios associated with the federal income-contingent option for repayment provide a useful benchmark and that they increase with income. The repayment schedule provides for a ratio of 6 percent at the \$10,000 income level, rising to 13 percent at \$20,000, 15 percent at \$30,000, and 18 percent at \$70,000.

As already indicated, the average monthly payment was higher in 2001 than in 1994 (adjusted for inflation) (table 11), but the average income was higher as well (table 13). The net result was that median debt burden did not increase. For both 1992–93 and 1999–2000 bachelor's degree recipients who were employed and repaying their loans a year after they had graduated, the median debt burden was about 7 percent (table 14). Goldenberg (2004) estimated comparable levels of debt burden (6 to 7 percent) for all borrowers (not just bachelor's degree recipients) in their first year of repayment for all years from 1997 through 2001 using loan data from a random sample of borrowers in the National Student Loan Data System and income data from the Internal Revenue Service.

Among 1999–2000 graduates, 28 percent had a debt burden of less than 5 percent, and about 85 percent had a debt burden of 12 percent or less (figure 8). Another 7 percent had a debt burden of 13–16 percent, and 9 percent had one of 17 percent or more. Graduates in the earlier cohort were more likely than graduates in the later cohort to have a debt burden greater than 12 percent and were less likely to have one in the 9–12 percent range.

Low salaries understandably make repaying loans more burdensome. For both cohorts, the lower the income category, the greater the median debt burden (table 14) was. Those with the lowest salaries had a median debt burden of 18 percent in 1994 and 15 percent in 2001, and those with higher incomes had median debt burdens in the 4–9 percent range. In addition, 61 percent of the earlier cohort and 47 percent of the later one who had salaries in the lowest quarter of the

Table 14. Among 1992–93 and 1999–2000 bachelor's degree recipients who were employed and repaying their undergraduate loans, percentage distribution of their debt burden and their median debt burden, by selected student and institutional characteristics: 1994 and 2001

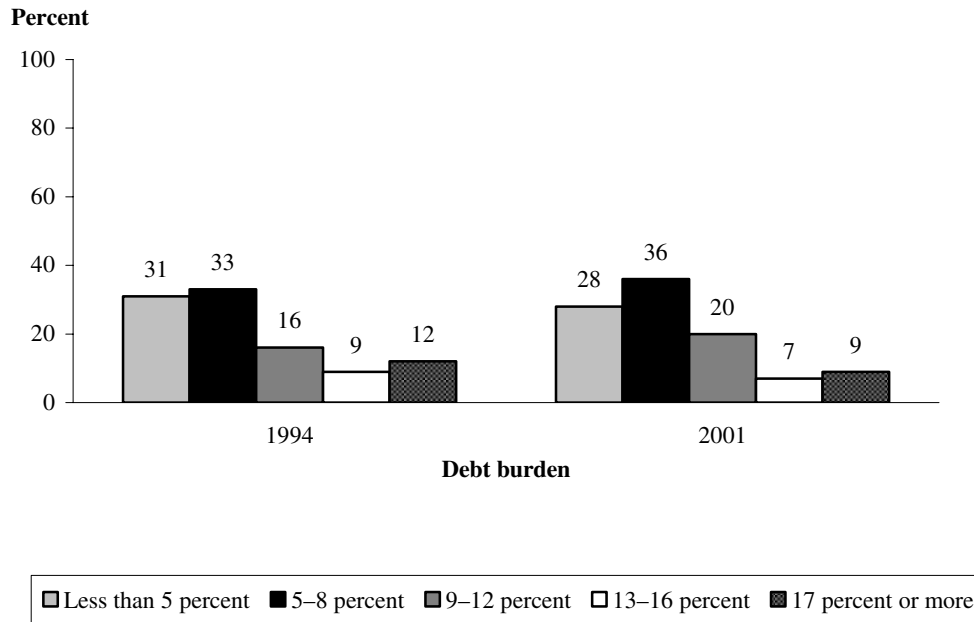
Student and institutional characteristics	Less than 5 percent		5–8 percent		9–12 percent		13–16 percent		17 percent or more		Median debt burden ¹	
	1994	2001	1994	2001	1994	2001	1994	2001	1994	2001	1994	2001
U.S. total (excluding Puerto Rico)	30.6	27.4	32.7	36.3	15.8	19.9	8.7	7.2	12.2	9.3	6.7	6.9
Total (50 states, D.C., and Puerto Rico)	30.5	27.6	32.8	36.2	15.8	19.9	8.7	7.1	12.2	9.3	6.7	6.9
Gender												
Male	35.9	30.2	31.4	37.7	14.2	19.0	7.7	5.4	10.8	7.8	6.3	6.4
Female	26.2	25.6	34.0	35.1	17.0	20.5	9.5	8.4	13.4	10.4	7.0	7.3
Undergraduate major												
Business and management	39.2	34.7	30.3	41.8	14.6	13.8	7.1	5.4	8.8	4.3	5.9	5.6
Education	22.8	23.0	32.9	33.6	18.7	20.5	10.2	11.3	15.5	11.6	7.7	7.7
Engineering, mathematics, or science	35.3	36.0	34.7	35.2	13.7	19.0	6.1	3.3	10.2	6.5	5.8	5.8
Humanities or social sciences	28.2	21.8	26.1	35.5	16.9	21.3	11.5	8.4	17.3	13.0	7.7	7.6
Other	26.6	25.3	39.0	34.8	15.8	23.8	8.6	7.6	10.1	8.5	7.0	7.4
Type of degree-granting institution												
Public 4-year non-doctoral	32.1	36.6	35.0	37.1	15.3	15.7	7.8	5.6	9.9	4.9	6.6	5.8
Public 4-year doctoral	37.5	28.7	32.5	37.3	14.1	20.6	5.6	6.4	10.3	7.1	5.9	6.7
Private not-for-profit 4-year non-doctoral	23.5	20.4	30.9	34.3	16.4	21.4	12.7	9.6	16.5	14.3	7.8	8.0
Private not-for-profit 4-year doctoral	23.1	19.5	25.7	36.7	19.4	22.5	14.0	9.0	17.7	12.4	8.5	7.7
Total amount borrowed (undergraduate)												
(in 1999 constant dollars)												
\$1–9,999	50.1	72.7	32.2	18.9	8.6	5.4	4.0	0.9	5.1	2.1	4.5	3.2
\$10,000–14,999	14.9	33.3	42.6	45.8	21.6	13.0	9.0	2.9	11.9	5.1	7.8	5.7
\$15,000–19,999	6.3	15.8	33.9	47.5	27.4	21.9	12.4	7.8	19.9	7.1	9.4	7.5
\$20,000–24,999	11.2	15.4	20.0	43.2	22.1	26.6	20.3	7.1	26.5	7.7	11.5	8.0
\$25,000 or more	15.9	12.2	18.2	27.3	15.7	27.1	19.8	13.9	30.5	19.6	12.0	9.9
Employment status												
Employed full time	33.4	28.4	33.7	36.9	16.1	20.0	8.2	6.8	8.6	7.9	6.4	6.8
Employed part time	8.6	12.3	26.6	25.1	13.8	19.0	12.2	13.1	38.9	30.6	12.2	11.3
Salary												
Lowest	1.0	5.0	16.7	13.9	10.4	18.0	10.8	16.6	61.1	46.5	17.8	15.4
Lower middle	15.3	21.3	31.6	27.2	20.4	28.4	13.5	10.2	19.2	12.8	8.7	8.6
Upper middle	30.9	24.5	37.7	44.0	17.5	19.4	8.7	6.8	5.3	5.4	6.1	7.0
Highest	51.9	42.6	31.4	41.1	10.3	11.9	3.4	2.3	2.9	2.3	4.3	5.0

¹Debt burden is monthly payment as a percentage of monthly salary.

NOTE: Detail may not sum to totals because of rounding. Employment could be full time or part time.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

Figure 8. Among 1992–93 and 1999–2000 bachelor’s degree recipients who were employed and repaying their undergraduate loans, percentage distribution of debt burden: 1994 and 2001



NOTE: Debt burden is monthly payment as a percentage of monthly salary income. Estimates include data from 50 states, D.C., and Puerto Rico. Employment could be full time or part time.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

salary distribution had debt burdens of 17 percent or more, compared with 2–3 percent of those with the highest earnings.

Part-time employment (with its corresponding lower salaries) was associated with greater debt burden. For example, members of the 1999–2000 cohort who were employed part time had a median debt burden of 11 percent, compared with 7 percent for those employed full time.

Large amounts borrowed necessitate larger payments and therefore a greater debt burden. For example, graduates in the later cohort who had borrowed \$25,000 or more had a median debt burden of 10 percent, compared with 3 percent for those who had borrowed less than \$10,000. Reflecting smaller amounts borrowed, graduates of public 4-year institutions were more likely than graduates of private not-for-profit colleges/universities to have a debt burden of less than 5 percent and were less likely to have one of 17 percent or more.

Parental Help With Payments

Parents sometimes help their children repay their student loans. Among 1999–2000 graduates who were repaying their loans, were under 30 years old, and had living parents, 12 percent reported that their parents were helping them with their payments in 2001 (table 15). Note that this may not represent all parents who will ever help. Some graduates who can meet their repayment obligations initially might later run into trouble and receive help.

Help from parents was related to parents' income, the amount borrowed, and graduates' salaries. Certain graduates were more likely than others to receive help from their parents, including those who had been dependent students from upper middle- and high-income families while enrolled (vs. those who had been independent students or were from families in the lowest income group); those who had borrowed \$25,000 or more (vs. those who had borrowed less than \$10,000); and those with the lowest salaries (vs. those with the highest salaries).

Help from parents was also related to graduates' employment status and debt burden. Graduates who were employed part time or unemployed were about twice as likely as those employed full time or out of the labor force to have parents who helped them repay their undergraduate education loans (22 vs. about 10 percent). Some 18 percent of graduates who had a debt burden of 17 percent or higher had parents helping them with repayment, in contrast to about 10 percent of graduates who had a debt burden below 17 percent.

Other Indicators of Debt Burden

The relationship between loan payments and earnings is probably the most important indicator of debt burden. However, it does not take into account other types of debts such as credit card balances (which may increase repayment stress) or budgeting skills (which may reduce it) (Scherschel 2000). Therefore, it is useful to look at other details of graduates' financial circumstances and life choices for any signs that undergraduate debt may be creating hardships for them. This section looks at graduates who were not enrolled for further education and compares those who borrowed various amounts with those who had not borrowed in terms of their living arrangements, other financial obligations, propensity to marry, and spouse's debt for undergraduate education. The findings cannot be considered conclusive because, of course, many factors other than undergraduate loan obligations affect lifestyle choices and financial circumstances.

Table 15. Among 1999–2000 bachelor’s degree recipients who were repaying their undergraduate loans, percentage distribution of whether parents were helping with repayment, by selected student and institutional characteristics: 2001

Student and institutional characteristics	Parents helping with repayment	
	Yes	No
U.S. total (excluding Puerto Rico)	12.0	88.1
Total (50 states, D.C., and Puerto Rico)	11.9	88.1
Gender		
Male	10.9	89.1
Female	12.7	87.3
Race/ethnicity ¹		
American Indian	‡	‡
Asian/Pacific Islander	11.7	88.3
Black	8.6	91.4
White	12.4	87.6
Hispanic	9.6	90.4
Undergraduate major		
Business and management	12.9	87.1
Education	8.5	91.5
Engineering, mathematics, or science	9.5	90.5
Humanities or social sciences	12.9	87.1
Other	13.2	86.8
Dependency status and family income		
Dependent, total	14.8	85.2
Lowest	9.7	90.3
Lower middle	14.1	85.9
Upper middle	17.1	82.9
Highest	21.5	78.5
Independent, total	6.1	93.9
Type of degree-granting institution		
Public 4-year non-doctoral	9.9	90.2
Public 4-year doctoral	10.7	89.3
Private not-for-profit 4-year non-doctoral	13.5	86.6
Private not-for-profit 4-year doctoral	17.4	82.6
Total amount borrowed (undergraduate) (in 1999 constant dollars)		
\$1–9,999	7.6	92.5
\$10,000–14,999	12.9	87.1
\$15,000–19,999	8.1	91.9
\$20,000–24,999	11.0	89.0
\$25,000 or more	14.1	85.9

See notes at end of table.

Table 15. Among 1999–2000 bachelor’s degree recipients who were repaying their undergraduate loans, percentage distribution of whether parents were helping with repayment, by selected student and institutional characteristics: 2001—Continued

Student and institutional characteristics	Parents helping with repayment	
	Yes	No
Salary		
Lowest	18.5	81.5
Lower middle	11.6	88.4
Upper middle	11.8	88.2
Highest	7.9	92.1
Employment status		
Employed full time	10.8	89.2
Employed part time	21.9	78.1
Unemployed	22.2	77.8
Out of the labor force	9.1	90.9
Enrollment status at follow-up		
Not enrolled	11.6	88.4
Enrolled part time	14.7	85.3
Enrolled full time	16.2	83.8
Debt burden ²		
Less than 5 percent	8.2	91.8
5–8 percent	10.4	89.6
9–12 percent	8.9	91.1
13–16 percent	11.8	88.2
17 percent or more	18.4	81.6
Family/friends loans		
Did not borrow	10.8	89.2
Borrowed	16.8	83.2

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

¹American Indian includes Alaska Native, Black includes African American, Pacific Islander includes Native Hawaiian, and Hispanic includes Latino. Race categories exclude Hispanic origin unless specified.

²Debt burden is monthly payment as a percentage of monthly salary.

NOTE: Detail may not sum to totals because of rounding. Includes graduates who were repaying their loans, were under 30 years old, and had living parents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:2000/01).

Living Arrangements

If graduates were having difficulty repaying their loans, one might expect them to be more likely to live with their parents. Among 1999–2000 bachelor’s degree recipients who were not enrolled for further study, 82 percent had their own house or apartment, 16 percent lived with parents or relatives, and 2 percent had other living arrangements a year after graduation (table

16). Compared with 1992–93 graduates, 1999–2000 graduates were more likely to live on their own and were less likely to live with parents or relatives even though they were more likely to have borrowed and to have borrowed larger amounts (table 2).

Table 16. Among 1992–93 and 1999–2000 bachelor’s degree recipients who were not enrolled, percentage distribution of their living arrangement, by selected student characteristics: 1994 and 2001

Student characteristics	Own house or apartment		With parents or relatives		Other arrangement	
	1994	2001	1994	2001	1994	2001
U.S. total (excluding Puerto Rico)	70.0	82.4	26.8	15.9	3.3	1.7
Total (50 states, D.C., and Puerto Rico)	69.8	82.0	27.0	16.3	3.2	1.7
Age received bachelor’s degree						
24 and under	63.0	77.5	33.5	20.9	3.5	1.6
25–29	77.1	86.0	20.1	12.1	2.8	1.9
30 and above	93.8	94.9	4.0	3.4	2.2	1.8
Salary						
Lowest	58.0	67.9	34.2	28.1	7.9	4.0
Lower middle	61.0	81.7	35.9	16.8	3.1	1.5
Upper middle	71.6	82.8	25.9	16.1	2.6	1.1
Highest	81.5	89.1	16.7	9.8	1.8	1.1
Total amount borrowed (undergraduate) (in 1999 constant dollars)						
Did not borrow	69.3	82.2	27.9	16.1	2.8	1.8
\$1–9,999	71.9	83.1	25.0	14.8	3.2	2.1
\$10,000–14,999	67.7	81.8	28.1	16.8	4.2	1.4
\$15,000–19,999	74.6	82.3	22.1	16.7	3.3	1.1
\$20,000–24,999	71.3	85.1	24.0	13.2	4.7	1.8
\$25,000 or more	65.8	83.5	29.3	14.2	4.9	2.3
Debt burden ¹						
No repayment	70.6	82.9	26.6	15.2	2.8	1.9
Less than 5 percent	75.8	88.6	22.6	10.5	1.7	0.9
5–8 percent	72.0	83.9	25.5	15.2	2.5	0.9
9–12 percent	68.8	81.8	28.9	16.5	2.4	1.7
13–16 percent	64.3	81.1	33.6	16.7	2.1	2.2
17 percent or more	55.5	76.7	35.0	20.7	9.5	2.5

¹Debt burden is monthly payment as a percentage of monthly salary.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

Age was a major factor related to the living arrangements of the 1999–2000 graduates. For example, 21 percent of those age 24 and under when they graduated were living with parents or relatives in 2001, compared with 3 percent of those age 30 and above (table 16).

Salary level was another major factor. Graduates with the highest salaries were more likely than others to have their own house or apartment and were less likely to be living with parents or other relatives. Among 1999–2000 graduates not enrolled a year later, 89 percent of those with the highest salaries lived in their own house or apartment and 10 percent lived with parents or relatives. In contrast, among their counterparts with lower incomes, 68–83 percent lived on their own and 16–28 percent lived with parents or relatives.

For both cohorts, the likelihood of living in their own house or apartment did not appear to be systematically related to the amount borrowed. However, debt burden was a factor. For example, 1999–2000 graduates with a debt burden of less than 5 percent were more likely than those with greater debt burdens to live on their own (89 vs. 77–84 percent) and were generally less likely to live with parents or other relatives (11 vs. 15–21 percent).²²

Other Financial Obligations

Detailed information on graduates' financial circumstances are not available, but graduates did report on their payments for mortgage or rent and auto loans. Among bachelor's degree recipients in each cohort who were not enrolled for further education, about 78 percent had a mortgage loan or rent payment (table 17). Of 1999–2000 graduates who had such payments, the average amount was \$690, which was greater than the average amount paid by 1992–93 graduates (\$570, in 2001 constant dollars). The percentage with auto loan payments declined (from 54 to 51 percent), even though the responses for the later cohort may have included payments for a spouse's auto loan as well.²³

The likelihood of having such payments and their size were related to graduates' salaries. The relationships were not linear, but there was always a difference between graduates with the highest and lowest salaries. For example, among 1999–2000 graduates, those with the highest salaries were more likely than those with the lowest salaries to be making mortgage or rent payments (87 vs. 62 percent) and to be paying more, on average (\$830 vs. \$640). Similarly, the

²²The apparent difference between those with debt burdens of less than 5 percent and 13–16 percent was not statistically significant.

²³In B&B:2000/01, the auto loan payment question referred to spouses' payments as well; in B&B:93/94, it referred only to respondents' payments. Auto loan data are difficult to interpret because not having a payment could mean either that they did not have a car or that they already owned a car outright.

Table 17. Among 1992–93 and 1999–2000 bachelor’s degree recipients who were not enrolled, percentage with monthly payments for mortgage or rent and auto loans and among those with payments, average amounts (in constant 2001 dollars), by selected student characteristics: 1994 and 2001

Student characteristics	Percentage with mortgage/rent loan payment		Average monthly mortgage/rent payment		Percentage with auto loan payment ¹		Average monthly auto loan payment	
	1994	2001	1994	2001	1994	2001	1994	2001
U.S. total (excluding Puerto Rico)	76.7	78.5	\$570	\$690	53.9	50.7	\$350	\$370
Total (50 states, D.C., and Puerto Rico)	76.6	78.0	570	690	53.9	50.6	350	370
Age received bachelor’s degree								
24 and under	73.1	74.7	500	640	55.4	48.3	330	350
25–29	83.4	83.1	610	690	52.0	56.7	380	370
30 and above	86.6	86.6	790	860	49.6	53.4	390	420
Time from college entry to bachelor’s degree								
Within 4 years	70.8	74.1	500	640	50.5	42.2	320	340
More than 4, up to 6 years	75.8	79.2	500	640	58.4	55.2	340	360
More than 6 years	84.7	85.4	720	780	50.9	56.2	390	390
Total amount borrowed (undergraduate) (in 1999 constant dollars)								
Did not borrow	74.7	77.2	600	750	48.7	40.8	350	390
\$1–9,999	79.7	79.4	560	680	59.1	55.9	350	390
\$10,000–14,999	78.3	78.9	510	660	61.3	53.1	340	360
\$15,000–19,999	77.6	80.6	480	630	57.7	57.8	320	360
\$20,000–24,999	78.1	83.8	570	640	57.1	61.0	360	330
\$25,000 or more	79.8	81.8	550	680	56.1	56.2	330	360
Salary								
Lowest	62.5	62.1	550	640	38.1	32.7	320	340
Lower middle	71.4	78.5	460	550	48.4	51.2	290	340
Upper middle	81.1	80.6	540	670	59.5	56.4	340	370
Highest	85.1	86.8	680	830	61.4	59.1	400	400
Debt burden ²								
No repayment	76.7	80.5	590	710	51.8	47.3	350	380
Less than 5 percent	87.8	87.0	590	710	67.2	63.2	350	380
5–8 percent	81.0	82.3	530	650	65.6	62.8	350	350
9–12 percent	79.9	79.9	490	620	60.6	61.8	330	340
13–16 percent	67.6	79.6	430	570	59.9	58.0	320	340
17 percent or more	70.3	75.5	440	600	52.1	48.6	310	350

¹In B&B:2000/01, the auto loan payment question refers to spouses’ payments as well, while in B&B:93/94 it refers only to the respondents’ payments. This would tend to bias the 2001 percentage upward. Among 1999–2000 graduates, 48 percent were making auto loan payments (either for themselves or spouses or both) in 2001; 42 percent of their counterparts who graduated in 1992–93 were doing so in 1994.

²Debt burden is monthly payment as a percentage of monthly salary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

likelihood of having an auto loan payment was greater for those with the highest salaries than for those with the lowest salaries (59 vs. 33 percent), as was the average amount of the payment (\$400 vs. \$340).

As debt burden increased (i.e., as student loan payments used up an increasing proportion of their salaries) graduates' ability or willingness to take on other financial obligations was affected. For example, among 1999–2000 graduates repaying their loans, those with a debt burden of less than 5 percent were generally more likely than those greater debt burdens to have a mortgage or rent payment,²⁴ and when they did, the average amount they paid was larger. In addition, those with a debt burden of less than 5 percent tended to have a larger average auto loan payment than those with greater debt burdens.²⁵

There was some relationship between other financial obligations and age, reflecting the fact that the passage of time provides more opportunity to take on such obligations and to have earned enough money to take them on. For example, for both cohorts, graduates who had finished college when they were age 25 or older were more likely than those who had finished at age 24 or younger to have mortgage loan or rent payments and if they did, to have larger payments.

Marriage

Among both 1992–93 and 1999–2000 bachelor's degree recipients who were not enrolled for further education a year later, about 27 percent were married when they graduated (table 18). Despite the already mentioned fears that heavy borrowing for undergraduate education may affect borrowers' lifestyle choices, there was no meaningful difference between the two cohorts in the percentage who married after graduation (6 percent of 1992–93 graduates and 7 percent of 1999–2000 graduates). The likelihood of getting married within a year of graduation did not appear to be related to either the level of borrowing or debt burden for either cohort.²⁶

²⁴The apparent difference between those with debt burdens of less than 5 percent and 13–16 percent was not statistically significant.

²⁵The apparent difference between those with debt burdens of less than 5 percent and 17 percent or more was not statistically significant.

²⁶The only exception was that borrowers of \$20,000 or more in the 1992–93 cohort were less likely than nonborrowers to marry after graduation.

Table 18. Among 1992–93 and 1999–2000 bachelor’s degree recipients who were not enrolled, percentage who were married as of and after graduation, by selected student characteristics: 1994 and 2001

Student characteristics	Percentage who were married as of graduation		Percentage who married after graduation		Percentage who were married at time of follow-up	
	1992–93	1999–2000	1994	2001	1994	2001
U.S. total (excluding Puerto Rico)	27.2	26.6	5.7	7.4	32.3	30.9
Total (50 states, D.C., and Puerto Rico)	27.2	26.6	5.7	7.4	32.2	30.9
Total amount borrowed (undergraduate) (in 1999 constant dollars)						
Did not borrow	25.9	29.0	6.0	7.7	31.4	32.0
\$1–9,999	31.8	32.1	5.9	8.7	36.9	38.9
\$10,000–14,999	26.9	28.4	4.6	9.2	30.7	34.5
\$15,000–19,999	26.5	22.4	5.5	8.7	31.6	29.8
\$20,000–24,999	26.4	23.9	3.7	6.3	29.8	27.5
\$25,000 or more	20.7	24.9	3.2	6.5	22.8	27.9
Salary						
Lowest	26.7	27.6	4.8	6.2	30.7	30.7
Lower middle	21.6	23.6	5.8	9.2	26.8	29.8
Upper middle	25.0	22.6	6.4	7.5	30.8	27.6
Highest	34.4	30.1	5.4	6.5	39.1	33.1
Debt burden ¹						
No repayment	26.2	27.2	5.8	7.2	31.3	30.7
Less than 5 percent	33.0	27.6	6.8	9.4	38.8	34.0
5–8 percent	29.1	19.0	6.2	8.3	34.5	26.0
9–12 percent	27.4	24.8	5.2	8.3	32.4	28.3
13–16 percent	22.0	26.5	5.0	8.6	26.5	32.3
17 percent or more	20.3	22.8	6.3	6.6	26.6	28.4

¹Debt burden is monthly payment as a percentage of monthly salary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

Spouses With Debt

Among 1999–2000 graduates who were not enrolled but who were married and repaying their loans in 2001, 23 percent had a spouse who was also making payments on undergraduate loans (table 19). The average household payment when both were making payments was \$410 per month. Graduates whose monthly repayment was \$300 or more had spouses with higher average payments. As would be expected, the more that married graduates were repaying on their own undergraduate education loans, the greater their combined household repayment amount.

Table 19. Among 1999–2000 bachelor’s degree recipients who were repaying loans, married, and not enrolled, percentage whose spouse also was repaying, average payment amount by such spouse, and average monthly payment by household, by respondents’ monthly repayment amount: 2001

Respondents’ monthly payment	Percentage whose spouse also repaying	Average payment by spouse, if repaying	Average monthly payment by household ¹
U.S. total (excluding Puerto Rico)	22.8	\$180	\$410
Total (50 states, D.C., and Puerto Rico)	22.7	180	\$410
Respondents’ monthly payment			
\$1–99	16.9	150	\$220
\$100–199	22.6	160	\$300
\$200–299	25.4	180	\$400
\$300 or more	26.6	250	\$660

¹If spouse was making payments.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2000/01 Baccalaureate and Beyond Longitudinal Study (B&B:2000/01).

Graduates With High Levels of Debt or Debt Burden

While the median debt burden of 7 percent appears to be reasonable by generally accepted standards, undergraduate debt is clearly burdensome for some graduates. This final part of the discussion of debt burden describes graduates who borrowed \$25,000 or more and those who had a debt burden greater than 12 percent and compares them with other graduates.

Graduates Who Borrowed \$25,000 or More

Among 1999–2000 bachelor’s degree recipients who had borrowed, 26 percent had borrowed \$25,000 or more to help pay for their undergraduate education, compared with 7 percent of 1992–93 graduates (table 3). Graduates from both cohorts who had borrowed \$25,000 or more were more likely than other graduates to have earned their degree from a private institution (table 20). Reflecting the large amount borrowed, they were also more likely than other graduates to have a debt burden of 9 percent or more. Among 1999–2000 graduates, those who borrowed \$25,000 or more were also more likely than other graduates to have been independent students and were less likely to be out of the labor force. They were, however, more likely to be unemployed.

Table 20. Percentage distribution of selected student characteristics and institutional characteristics, by borrowing status: 1992–93 and 1999–2000

Student and institutional characteristics	Borrowed \$25,000 or more		All other graduates	
	1992–93	1999–2000	1992–93	1999–2000
Total	100.0	100.0	100.0	100.0
Gender				
Male	47.9	41.0	45.6	43.3
Female	52.1	59.0	54.4	56.8
Race/ethnicity ¹				
American Indian	2.0	0.7	0.5	0.8
Asian/Pacific Islander	5.2	4.6	4.7	7.1
Black	5.8	11.0	6.0	7.5
White	82.9	75.5	83.6	75.9
Hispanic	4.1	8.2	5.2	8.8
Age				
24 and under	67.1	57.5	71.8	67.1
25–29	12.7	22.2	12.4	15.4
30 and above	20.2	20.3	15.8	17.5
Undergraduate major				
Business and management	21.3	14.6	21.9	21.4
Education	14.0	8.4	12.7	8.2
Engineering, mathematics, or science	18.4	15.0	16.4	16.3
Humanities or social science	18.5	31.5	24.4	28.7
Other	27.8	30.6	24.6	25.4
Dependency status and family income				
Dependent, total	53.4	48.4	59.0	57.4
Lowest	15.7	12.8	14.7	14.4
Lower middle	10.4	13.2	15.2	14.2
Upper middle	13.3	12.3	14.3	14.1
Highest	14.0	10.1	14.8	14.7
Independent, total	46.6	51.6	41.0	42.6
Type of degree-granting institution				
Public 4-year non-doctoral	9.5	13.4	24.5	21.6
Public 4-year doctoral	28.3	40.4	44.3	47.7
Private not-for-profit 4-year non-doctoral	30.1	22.4	18.2	18.5
Private not-for-profit 4-year doctoral	32.2	23.7	13.1	12.3
Debt burden ²				
No repayment	32.5	36.1	67.2	61.2
Less than 5 percent	10.7	7.7	10.3	12.8
5–8 percent	12.2	17.2	11.1	15.2
9–12 percent	10.5	17.1	5.2	6.5
13–16 percent	13.3	8.8	2.6	1.9
17 percent or more	20.9	13.2	3.6	2.4

See notes at end of table.

Table 20. Percentage distribution of selected student characteristics and institutional characteristics, by borrowing status: 1992–93 and 1999–2000—Continued

Student and institutional characteristics	Borrowed \$25,000 or more		All other graduates	
	1992–93	1999–2000	1992–93	1999–2000
Salary				
Lowest	19.3	23.8	24.1	24.2
Lower middle	18.2	24.0	23.8	25.4
Upper middle	27.2	26.3	27.7	26.2
Highest	35.4	25.9	24.4	24.2
Employment status				
Employed full-time	75.4	77.4	73.2	76.7
Employed part-time	12.5	10.7	13.8	11.2
Unemployed	4.9	7.7	4.4	5.7
Out of the labor force	7.2	4.2	8.6	6.4

¹American Indian includes Alaska Native, Black includes African American, Pacific Islander includes Native Hawaiian, and Hispanic includes Latino. Race categories exclude Hispanic origin unless specified.

²Debt burden is monthly payment as a percentage of monthly salary.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

Graduates With a Debt Burden of More Than 12 Percent

Among those who were employed and repaying their loans a year after graduating, 21 percent of 1992–93 graduates and 16 percent of 1999–2000 graduates had a debt burden of more than 12 percent (table 14). High debt burden can be the result of either borrowing a large amount or having a low salary. Among 1999–2000 graduates, 52 percent of those with debt burdens of more than 12 percent had borrowed \$25,000 or more, and 27 percent had salaries in the lowest quarter of the salary distribution (table 21).

Table 21. Among 1992–93 and 1999–2000 bachelor’s degree recipients, percentage distribution of selected student and institutional characteristics, by debt burden status: 1994 and 2001

Student and institutional characteristics	Debt burden more than 12 percent		All other graduates	
	1994	2001	1994	2001
Total	100.0	100.0	100.0	100.0
Gender				
Male	40.2	35.2	45.7	43.1
Female	59.8	64.9	54.3	56.9
Race/ethnicity ¹				
American Indian	0.7	0.2	0.6	0.7
Asian/Pacific Islander	2.7	5.8	5.0	6.9
Black	7.0	5.4	6.1	8.4
White	84.5	82.2	83.3	74.8
Hispanic	5.2	6.4	5.1	9.2
Age				
24 and under	76.8	70.9	71.4	65.6
25–29	14.3	16.6	12.3	16.2
30 and above	8.9	12.5	16.3	18.1
Undergraduate major				
Business and management	16.1	11.4	22.3	20.7
Education	17.8	14.4	12.5	7.9
Engineering, mathematics, or science	13.3	9.3	16.6	16.0
Humanities or social science	29.6	37.8	24.0	28.9
Other	23.2	27.2	24.6	26.5
Dependency status and family income				
Dependent, total	60.2	59.2	58.8	56.2
Lowest	24.3	15.4	14.2	14.0
Lower middle	16.9	18.0	14.9	13.9
Upper middle	10.1	16.7	14.7	13.9
Highest	9.0	9.1	15.0	14.4
Independent, total	39.8	40.8	41.2	43.8
Type of degree-granting institution				
Public 4-year non-doctoral	19.0	13.9	24.3	20.2
Public 4-year doctoral	30.5	36.1	44.3	46.7
Private not-for-profit 4-year non-doctoral	30.1	31.5	17.9	19.1
Private not-for-profit 4-year doctoral	20.4	18.4	13.6	14.0
Total amount borrowed (undergraduate) (in 1999 constant dollars)				
Did not borrow	†	†	53.6	36.7
\$1–9,999	21.1	3.6	28.3	15.4
\$10,000–14,999	22.5	8.5	9.1	11.3
\$15,000–19,999	22.5	19.5	4.5	11.9
\$20,000–24,999	17.3	15.9	2.4	9.9
\$25,000 or more	16.6	52.5	2.2	14.7

See notes at end of table.

Table 21. Among 1992–93 and 1999–2000 bachelor’s degree recipients, percentage distribution of selected student and institutional characteristics, by debt burden status: 1994 and 2001—Continued

Student and institutional characteristics	Debt burden more than 12 percent		All other graduates	
	1994	2001	1994	2001
Salary				
Lowest	22.0	26.9	25.1	24.6
Lower middle	45.3	41.0	21.8	24.3
Upper middle	24.1	24.5	27.5	25.9
Highest	8.7	7.6	25.5	25.2
Employment status				
Employed full time	71.2	82.3	73.2	76.2
Employed part time	28.3	17.7	13.0	10.5
Unemployed	0.5	#	4.8	6.5
Out of the labor force	#	#	9.0	6.8

†Not applicable.

#Rounds to zero.

¹American Indian includes Alaska Native, Black includes African American, Pacific Islander includes Native Hawaiian, and Hispanic includes Latino. Race categories exclude Hispanic origin unless specified.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

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Summary and Conclusions

This report uses the 1994 and 2001 Baccalaureate and Beyond Longitudinal Studies (B&B) to compare the borrowing patterns of 1992–93 and 1999–2000 bachelor’s degree recipients, their repayment situations, and their resulting debt burdens a year after they graduated. *Debt burden* is defined as monthly loan payments divided by monthly salary income. Members of the earlier cohort finished their undergraduate borrowing before the changes in the Stafford loan program introduced by the 1992 Reauthorization of the Higher Education Act were implemented, and most members of the later cohort would have done all of their borrowing under the new rules.

The major finding of the analysis was that although both the percentage of graduates who had borrowed for their undergraduate education and the average total amount borrowed (adjusting for inflation) increased, the median debt burden a year after graduating was about the same for both cohorts (7 percent). Higher salaries (after adjusting for inflation) and lower payments relative to the amount borrowed for the later cohort appear to be the major reasons why there was no increase in the later cohort’s debt burden. The payments of the later cohort were kept down by declining interest rates. Various alternative payment options also could have lowered the payments for some members of either cohort, but comparable data on how the cohorts used them are not available.

Higher debt did not seem to discourage the graduates from enrolling in further education in any major way. Among 1999–2000 graduates who had not yet applied or enrolled but were expecting to attend graduate school later, 5 percent cited undergraduate debt as the primary reason for postponing further education. Higher debt appeared neither to discourage the later cohort from entering teaching, nor to encourage graduates to take jobs that they did not consider to be the start of a career in that occupation or industry.

It is important to understand that these data represent debt burden a year after graduation but that debt burden can change during the repayment period. Interest rates on federal loans are variable and therefore may go up or down, and both income and employment status can change because of personal circumstances or shifts in economic conditions. Thus, the extent to which any group of borrowers will have difficulty repaying their loans depends not only on the size of their loans but also on conditions during the repayment period that are difficult to predict when students and their families make decisions about borrowing. Students whose academic success is

uncertain or whose families lack the financial resources to help them repay their loans if they run into difficulty are especially vulnerable to these uncertainties.

Finally, it is important to note that although median debt burden a year after graduating did not increase, the amount that the average bachelor's degree recipient borrowed, and thus will have to repay, has increased. Although loans help students gain access to undergraduate education by reducing the necessary immediate outlay, they do not decrease the total price of attending; they simply postpone paying the bill. When students first consider enrolling and must make decisions about borrowing, they often do not know what career they will choose or how much they will need to borrow in total, both of which have implications for their ability to repay their debt.

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POST-BACCALAUREATE ENROLLMENT

Enrolled in graduate or
first-professional degree program..... GRPROG
Expecting to enroll in the
future GRDFUT (B&B:2000/01)
Primary reason for post-
poning graduate or first-
professional enrollment ... CDDELY1 (B&B:2000/01)
Enrollment status at
follow-up ENRCUR (B&B:2000/01)
B2EN9404 (B&B:93/97)

EMPLOYMENT

Taught at any K–12 schools STATUS
Job status relative to
career CECURL (B&B:2000/01)
Primary reason for
unrelated job CECURJOB (B&B:2000/01)
Employment status EMPOLF (B&B:2000/01)
B2EM9404 (B&B:93/97)
Annual salary income CEANNERN (B&B:2000/01)
APRANSAL (B&B:93/97)
SALPCT (B&B:93/97)

*DAS Variable****Age received bachelor's degree*****AGENBA (B&B:2000/01)
AGEATBA (B&B:93/97)**

Indicates the respondent's age at the time the bachelor's degree was received. This variable was derived slightly differently for the two cohorts; additional months beyond the whole year were ignored for the 1992–93 graduates, but converted to an extra year for the 1999–2000 graduates. This may partially explain why the average age of the 1999–2000 graduates is close to 1 year older than that of the 1992–93 graduates. The age categories used in this report are the following:

24 and under
25–29
30 and above

Federal loans**CBDUGL (B&B:2000/01)**

Response to the question: “How much money have you borrowed in federal loans to pay for your undergraduate education?” Asked in 2001 only.

Family loans (borrowed from family and friends)**CBFAMLN (B&B:2000/01)**

Response to the question: “How much money have you borrowed from family and friends to pay for your undergraduate education?” Asked in 2001 only.

Owed on loans from family or friends**CBFAMO (B&B:2000/01)**

Response to a question about how much of the amount borrowed from family and friends for undergraduate education was still owed in 2001. Asked in 2001 only.

Owed on federal loans**CBFEDUGO (B&B:2000/01)**

Response to a question about how much of the amount borrowed in federal loans for undergraduate education was still owed in 2001. Asked in 2001 only.

Monthly payment**CBRPYAMT (B&B:2000/01)
ALLOWER (B&B:93/97)**

Indicates how much respondents were paying monthly on education loans taken out during their undergraduate years, as reported in 1994 and 2001. For the 1999–2000 graduates, this variable refers to payments made only on loans from sources other than family or friends. For the 1992–93 graduates, the variable refers to payments on all types of loans, including those from family and friends. For the 1992–93 graduates, this variable has a weighted item response rate below 85 percent, thus requiring a bias analysis according to NCES publication standards; see appendix B for details on how this report's relevant findings might have been biased due to missing data on ALLOWER.

Parents helping with repayment**CBRPYPAR (B&B:2000/01)**

Response to the question: “Are your parents helping you to repay your education loans?” Asked in 2001 only.

Education loans

CBUGLN (B&B:2000/01)

Response 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?” Asked in 2001 only.

Auto loan payment

**CCCARPMT (B&B:2000/01)
AUTOPAY (B&B:93/97)**

Response to a question on their monthly auto loan payment amount. In 2001 (but not in 1994), respondents were asked to include a spouse’s payments as well. This could bias the 2001 estimates upward.

Married

**CCMAR (B&B:2000/01)
RMARCURR (B&B:93/97)**

Indicates respondents’ marital status as of the 1994 or 2001 interview. In 1994 (but not 2001), the possible responses included “living together in a marriage-like relationship,” which was considered “not married” in this report.

Married

Married.

Not married

Divorced; widowed; single, never married; or (for 1992–93 graduates) living together in a marriage-like relationship.

Mortgage/rent payment

**CCMTGAMT (B&B:2000/01)
HOUSEPAY (B&B:93/97)**

In 2001, response to the question: “How much is your monthly mortgage/rent payment?” In 1994, this variable was derived from the responses to two questions: “How much do you pay monthly on your mortgage?” and “What are your monthly payments for rent?”

Primary reason for postponing graduate or first-professional enrollment

CDDELY1 (B&B:2000/01)

First response to the question: “Why did you decide to postpone your continued education?” Asked in 2001 only. Up to three responses were collected. The interviewer coded the responses into 14 categories, which were collapsed into 6 categories for this report as follows:

Wanted work experience/
had good job opportunity

Want/need work experience; had good job opportunity.

Wanted a break from school

Want a break from school.

Family responsibility

Raising children; other family responsibilities or constraints.

Undergraduate debt

Undergraduate debt.

Other financial reasons

Could not get financial aid; other financial reasons.

Other

Failed to meet application deadline; not admitted to school of choice; military commitment; career plans indefinite; moving/relocating; other.

*DAS Variable****Annual salary income*****CEANNERN (B&B:2000/01)****APRANSAL (B&B:93/97)****SALPCT (B&B:93/97)**

Annual income based on reported annual salary or rate of pay. In 1994, the annualized salary was based on the job held in April 1994. In 2001, it was based on the job held at the time of the interview. Where this variable appears as a row variable in this report, respondents are divided into four categories based on their annual salary. Each group represents one-quarter of the salary distribution, and the lowest category includes respondents who were unemployed. Respondents who were unemployed were coded as zero for CEANNERN in 2001 but were assigned a negative value for APRANSAL in 1994. Because missing cases were also assigned a negative value, it was impossible to distinguish between zero and missing values for APRANSAL. Therefore, instead of using APRANSAL, SALPCT was derived to be comparable to CEANNERN. In SALPCT, unemployed cases have a zero value. B2EM9404 was used to identify unemployed cases. In current dollars, the ranges for each group are as follows:

	Year	
	2001	1994
Lowest	<=\$15,840	<=\$9,594
Lower middle	\$15,841–\$28,947	\$9,595–\$17,992
Upper middle	\$28,948–\$37,970	\$17,993–\$25,771
Highest	>\$37,970	>\$25,771

Job status relative to career**CECURL (B&B:2000/01)**

Response (yes/no) to the question: “Would you consider your current job to be the start of your career in this occupation or industry?” Asked in 2001 only.

Primary reason for unrelated job**CECURJOB (B&B:2000/01)**

Response to the question: “Since it isn’t the start of your career, how would you describe your current job?” Asked in 2001 only. The interviewer coded the responses into one of nine categories, which were collapsed into six for this report as follows:

Just paying bills	Just paying the bills.
Working while deciding	Working while deciding future plans for education or career.
Working to prepare for graduate school	Working to prepare for graduate school.
Doing what want to do	Doing what want to do.
Exploring career options	Exploring career options.
Other	Continuing in the job already held while in school; continuing in career already in; is the only job available; other.

Debt burden**EDPCTR**

Monthly loan repayment as a percentage of monthly salary income as reported in 1994 and 2001. Created by dividing the monthly student loan repayment amount by monthly income and multiplying by 100. Cases with student loan payments greater than monthly income have a value greater than 100 percent on EDPCTR. Respondents with unrealistically high values (i.e., more than 50 percent) were excluded in calculating the percentage distribution and median debt burden used in this report; fewer than 1 percent were excluded for this reason. In the DAS, the percentages have been multiplied by 100 in order to achieve higher precision (i.e., to be able to show median debt burden to one decimal place rather than an integer).

Employment status**EMPOLF (B&B:2000/01)
B2EM9404 (B&B:93/97)**

In 2001, refers to respondents' employment status as of the 2001 interview. In 1994, refers to respondents' employment status in April 1994. Four categories were used in 1994: working full time, working part time, unemployed, and out of the labor force. In 2001, more detailed information was collected about why a respondent was not working, including whether he or she was waiting to report to work, laid off, a homemaker, or disabled. The distinction between working full or part time was self-reported in both years. In 2001, the remaining categories were constructed to approximate as closely as possible definitions used by the Bureau of Labor Statistics (BLS). BLS defines persons as "unemployed" only if they are also looking for work; other unemployed persons are considered "out of the labor force." (More information about the BLS definitions of these concepts are available at: http://stats.bls.gov/cps/cps_htgm.htm.) Respondents in 2001 who reported that they were waiting to report to work or had been laid off were not asked whether they were looking for work; they were coded as "unemployed" (i.e., it was assumed that they were looking for work). Those who reported that they were homemakers or disabled also were not asked whether they were currently looking for work; they were categorized as being "out of the labor force" (i.e., it was assumed that they were not looking for work). The four categories used for each year were as follows:

- Working full time
- Working part time
- Unemployed
- Out of the labor force

Enrollment status at follow-up**ENRCUR (B&B:2000/01)
B2EN9404 (B&B:93/97)**

This derived variable indicates respondents' enrollment status as of the interview in 2001 or in April 1994. Respondents enrolled in one program were categorized as enrolled full or part time based on their self-report. The few respondents who were enrolled in more than one program were put in a separate category. In 2001, only a very small number of respondents were enrolled in more than one program, and the majority of them were enrolled full time in at least one program; therefore, they were considered enrolled full time in this report. In 1994, respondents who were enrolled in more than one program were considered "full time" if their enrollment was full time at least for one of the programs enrolled; otherwise, they were considered "part time." Three categories were used in this report:

- Not currently enrolled
- Enrolled part time
- Enrolled full time

	<i>DAS Variable</i>
<i>Gender</i>	GENDER
Respondent's gender.	
Male	
Female	
<i>GPA for undergraduate major</i>	GPAMAJ
Student-reported grade point average in their undergraduate major on a 4.0 scale (collected in 1992–93 and 1999–2000). If students indicated a grading scale other than a 4-point scale (GPASCAL), 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. For the 1999–2000 graduates, this variable has a weighted item response rate below 85 percent, thus, requiring a bias analysis according to NCES publication standards; see appendix B for details on how this report's relevant findings might have been biased due to missing data on GPAMAJ.	
<i>Expecting to enroll in the future</i>	GRDFUT (B&B:2000/01)
Identifies respondents' expectations regarding further education in the future. Asked in 2001 only. Asked of graduates who had not yet enrolled in or been accepted to any post-baccalaureate degree program at the time of the interview. The report indicates the percentage of this group who were expecting to enroll in a graduate or first-professional degree program in the future.	
<i>Enrolled in graduate or first-professional degree program</i>	GRPROG
This derived variable indicates the highest level of program respondents had enrolled in since graduation. Respondents in 2001 were asked: "Since completing your bachelor's degree, have you enrolled in, or recently completed, an undergraduate, graduate, or professional degree or certificate program?" If they had, they were asked to identify the specific type of program. A few respondents had been accepted but had not yet started the program; they were included in the "enrolled" category. The interviews were conducted between June and November; this strategy was intended to pick up all students who would be enrolled in the fall. In 1994, the "enrolled" category refers only to respondents who had enrolled by the time of the interview. This difference might partially explain why the enrollment rate was higher in 2001 than in 1994. The report indicates the percentage of graduates who had enrolled in a graduate or first-professional degree program, which includes those who were enrolled in master's, doctoral, and first-professional programs. This percentage does not include graduates who had enrolled in other types of programs (e.g., for an associate's degree, second bachelor's degree, or other program).	
<i>Dependency status and family income</i>	INCQUTIL
Identifies respondents' family income category, determined separately for dependent and independent students. Independent students are those who are 24 years or older; 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 who 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 the spouse's income for a married student) for independent students. For this report, graduates were divided into eight groups based on their family income and their dependency status in 1992–93 and 1999–2000. Each group represents one-quarter of the family income distribution for each dependency status. In current dollars, the ranges covered by each of the family income groups are as follows:	

	Year	
	1999–2000	1992–93
Dependent, lowest	<=\$39,442	<=\$37,517
Dependent, lower middle	\$39,443–\$64,126	\$37,518–\$55,000
Dependent, upper middle	\$64,127–\$95,036	\$55,001–\$74,036
Dependent, highest	>\$95,036	>\$74,036
Independent, lowest	<=\$8,371	<=\$6,500
Independent, lower middle	\$8,372–\$20,123	\$6,501–\$15,289
Independent, upper middle	\$20,124–\$43,000	\$15,290–\$33,000
Independent, highest	>\$43,000	>\$33,000

First postsecondary institution attended**IISECT9 (B&B:2000/01)
FSCTYPE1 (B&B:93/97)**

Indicates the type of institution first attended, combining level (less-than-2-year, 2-year, and 4-year) and control (public, private not-for-profit, and private for-profit). Less-than-2-year institutions offer at least one program that lasts 3 months or longer and produces a terminal award or certificate; no program lasts longer than 2 years. Two-year institutions do not confer bachelor's degrees but provide 2-year programs that result in a certificate or an associate's degree or 2-year programs that fulfill part of the requirements for a bachelor's degree or higher at a 4-year institution. Four-year institutions can award bachelor's or higher degrees. Public institutions are supported primarily by public funds and operated by publicly elected or appointed officials who control the programs and activities. Private not-for-profit institutions are controlled by an independent governing board and incorporated under Section 501(c)(3) of the Internal Revenue Code. Private for-profit institutions are privately owned and operated as profit-making enterprises (includes career colleges and proprietary institutions). The detailed categories of these variables differ for the two cohorts, but no differences remain at the level of aggregation used in this report, which is as follows:

- Public 2-year
- Public 4-year
- Private not-for-profit 4-year
- Other

Undergraduate major**MAJORS4 (B&B:2000/01)
BAMAJOR (B&B:93/97)**

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

Business and management	Business and management.
Education	Education.
Engineering/mathematics/science	Engineering, mathematics and physical science, biological sciences.

DAS Variable

Humanities and social sciences	Humanities, history, psychology, and social science.
Other	Health professions, public affairs/social services, and other.

Married after graduation**MARICHNG**

This variable indicates whether there was a change in marital status between the graduation date (in 1992–93 or 1999–2000) and the interview in 1994 or 2001. The report indicates the percentage of graduates who were married after they graduated. The categories for the 1999–2000 graduates include “married after graduation but questionable” for respondents who were married in 2001 and whose marriage date was later than their graduation date, but who reported themselves as “married” in the NPSAS interview. In this report, these graduates were not considered to have married after they graduated. The 1992–93 graduates who were “living together in a marriage-like relationship” were not considered married.

Married at graduation**NBMARR (B&B:2000/01)
RMARITST (B&B:93/97)**

Indicates marital status at the time of graduation in 1992–93 or 1999–2000. The report indicates the percentage of graduates who were married at the time of graduation. Graduates who were divorced, separated, widowed, or single, never married were considered “not married.” The 1992–93 graduates who reported “living together in a marriage-like relationship” were considered “not married.” For the 1999–2000 graduates, this variable has a weighted item response rate below 85 percent, thus requiring a bias analysis according to NCES publication standards; see appendix B for details on how this report’s relevant findings might have been biased due to missing data on NBMARR.

Parents’ highest educational attainment**NPARED (B&B:2000/01)
PAREDUC (B&B:93/97)**

For 1999–2000 graduates, this variable indicates the highest level of education attained by either parent using nine categories, which were then collapsed into four categories as shown below. For the 1992–93 graduates, more detail was provided on “some postsecondary education,” but this makes no difference in the aggregated categories.

High school or less	Did not complete high school; high school diploma or equivalent.
Some postsecondary education	Vocational/technical training; less than 2 years of college; 2 or more years of college/associate’s degree.
Bachelor’s degree	Bachelor’s degree.
Advanced degree	Master’s degree or equivalent; MD, LLB, JD, or other advanced degree; PhD or equivalent.

DAS Variable

Time from college entry to bachelor’s degree

**PSE_BA (B&B:2000/01)
BATIME2 (B&B:93/97)**

Number of months elapsed between first entry into postsecondary education and bachelor’s degree completion. This variable was calculated only for those respondents who did not have a prior bachelor’s degree (about 2 percent of the 1999–2000 graduates had a prior bachelor’s degree, as did about 7 percent of the 1992–93 graduates, as estimated based on the number in the “missing, legitimate skip” category).

Race/ethnicity

**RACE1 (B&B:2000/01)
RETHNIC (B&B:93/97)**

Respondents’ race/ethnicity, including Hispanic/Latino. For both cohorts, the value gives priority to Hispanic/Latino regardless of race. Following the census 2000 model, 1999–2000 respondents were given the option of choosing more than one race. Those who chose more than one race were then asked to identify the single race that best described them. The 1992–93 respondents were not given the option of choosing more than one race. To make the categories comparable, the 1999–2000 graduates who selected more than one race were categorized according to the race they chose in the follow-up question about their race.

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.
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.

Repayment status 1 year later

RPYSTAT

Indicates respondents’ repayment status a year after bachelor’s degree receipt on loans borrowed for their undergraduate education. In 2001, the question referred to education loans only; in 1994, it referred to all loans, including those from family and friends. This report indicates the percentage who were repaying their loans.

Monthly payment by household

RSEDURPY(B&B:2000/01)

Amount of monthly payment on education loans for both the respondent and spouse at the time of the 2001 interview. Households that did not owe or were not repaying education loans were coded as zero for this variable.

*DAS Variable****Type of degree-granting institution*****SECTOR9 (B&B:2000/01)
SECTOR_B (B&B:93/97)**

Indicates the type of the institution (level and control) granting the bachelor's degree. See the entry for I1SECT9 (B&B:2000/01) for a description of level and control. This variable differentiates between non-doctoral and doctoral 4-year institutions. Non-doctoral 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. Doctoral institutions offer baccalaureate programs and graduate education through the doctoral degree. Institutions that offer first-professional degrees are considered doctoral institutions. The categories used in this report are as follows:

- Public 4-year non-doctoral
- Public 4-year doctoral
- Private not-for-profit 4-year non-doctoral
- Private not-for-profit 4-year doctoral

Spouse's monthly payment**SPAMT (B&B:2000/01)**

Indicates the amount of spouse's monthly education loan payment as of the time of the interview in 2001. Those without spouses or whose spouses were not repaying their loans were coded as zero.

Taught at any K–12 schools**STATUS**

This derived variable indicates whether a respondent had taught after bachelor's degree completion. The report indicates the percentage of graduates who had taught at a K–12 school, regardless of whether they were certified. Graduates who had been a substitute teacher or teacher's aide were identified separately in 2001 and not included in the percentage who taught. In 1994, graduates who had been a substitute teacher or teacher's aide were coded as not having taught.

Amount borrowed for undergraduate education**TOTDEBT**

Total amount respondent borrowed for undergraduate education from all sources, including amounts borrowed from family and friends.

Living arrangement**WHERELIV**

Indicates the living arrangement in 1994 or 2001. In 2001, respondents were grouped into three categories based on their responses to two questions. First, they were asked if they owned a house or were paying rent; if neither, they were asked to choose from a list of other living arrangements. In 1994, respondents indicated which of seven arrangements applied. The following categories were used for both years:

- | | |
|---------------------------|---|
| Own house or apartment | Owned house or paying rent (2001); in own home or apartment (1994). |
| With parents or relatives | With parents or relatives (2001); in parents' or guardians' residence or with other relatives (1994). |

DAS Variable

Other arrangements

Military; housing from job (nonmilitary), religious housing, or other (2001); school-owned housing, employer-provided residence, sorority/fraternity house, or other type of housing (1994).

Appendix B—Technical Notes and Methodology

The Baccalaureate and Beyond Longitudinal Study

The estimates and statistics reported in the tables and figures of this report are based on data from the Baccalaureate and Beyond Longitudinal Studies (B&B): B&B:93/94 and B&B:2000/01. The two B&B studies conducted by the U.S. Department of Education’s National Center for Education Statistics provide information on the education and work experiences of bachelor’s degree recipients. The B&B:93/94 and B&B:2000/01 studies were a 1-year follow-up of bachelor’s degree recipients who completed their degree between July 1, 1992 and June 30, 1993 and between July 1, 1999 and June 30, 2000, respectively, and who were first interviewed as part of the 1992–93 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS), respectively. The 1992–93 graduates were followed up again in 1997 and 2003, but no data from these later follow-ups are used in this report. Data from all components of NPSAS (including the institutional record abstract, the student interview, matches with U.S. Department of Education financial aid records and SAT/ACT scores) are used as base-year data for the B&B studies.

The NPSAS studies included about 1,100 institutions and were based on a nationally representative sample of all students enrolled in postsecondary education institutions, including undergraduate, graduate, and first-professional students; each NPSAS study represents more than 16 million undergraduates who were enrolled at some time between July 1 and June 30 of the respective survey year. The survey frames for the NPSAS data collections used in this report were built from the Integrated Postsecondary Education Data Systems Institutional Characteristics file (IPEDS-IC) for 1990–91 and 1998–99. The estimates presented in this report are based on the results of interviews with approximately 10,000 bachelor’s degree recipients each year from sampling frames of about 12,500 in 1992–93 and 11,600 in 1999–2000. These bachelor’s degree recipients represent the approximately 1.2 million bachelor’s degree completers in each of the 2 years.¹ Excluded from the final sample were students who were determined during the B&B interview or from transcripts not to have earned a bachelor’s degree during the relevant academic year (760 in 1992–93 and 70 in 1999–2000). The smaller number of exclusions in the later study reflects better methods to identify bachelor’s degree recipients.

¹U.S. Department of Education, National Center for Education Statistics. *Digest of Education Statistics, 2001* (NCES 2002–130) (Washington, DC: 2002).

The NPSAS sampling design was a two-stage design in which eligible institutions were selected at the first stage and eligible students were selected at the second stage within eligible, responding sample institutions. At both stages, sampling was stratified and implemented with probabilities proportional to the corresponding sizes in order to make the sample be representative of the relevant population in the United States and Puerto Rico. For sampling purposes, institutions were stratified according to type of control (public, private not-for-profit, and private for-profit) and level (less-than-2-year, 2-year, and 4-year).

The B&B interviews were done between June and October in 1994 and between July and November in 2001. Efforts were made both during and after data collection to ensure data quality (e.g., data cleaning, resolving possible discrepancies among different data sources—including situations in which a composite variable is derived from several item variables—and applying logical imputations for respondents missing data on one item while known for other items). For more information about the NPSAS studies, consult their respective methodology reports: U.S. Department of Education, National Center for Education Statistics, *National Postsecondary Student Aid Study, 1999–2000 (NPSAS:2000), Methodology Report* (NCES 2002–152) (Washington, DC: 2002) and *Methodology Report for the National Postsecondary Student Aid Study, 1992–93* (NCES 95–211) (Washington, DC: 1995). For more information on the B&B surveys, consult their respective methodology reports: U.S. Department of Education, National Center for Education Statistics, *Methodology Report for the 2001 Baccalaureate and Beyond Longitudinal Study* (NCES 2003–156) (Washington, DC: 2003); and *Baccalaureate and Beyond Longitudinal Study: 1993/94 First Follow-up Methodology Report* (NCES 96–149) (Washington, DC: 1996).

Overall Response Rates

The weighted overall response rate for the B&B:2000/01 interview was 74 percent, reflecting an institution response rate of 90 percent from NPSAS:2000 and a weighted student response rate of 82 percent from B&B:2000/01. The weighted institution response rate for NPSAS:1993 was 88 percent, and the student response rate for the B&B:93/94 interview was 92 percent, resulting in a weighted overall response rate of 81 percent for B&B:93/94.

Weight Variables

All estimates in this report are weighted to compensate for unequal probability of selection into the B&B sample and to adjust for nonresponse. The weight variables used are WTA00 for B&B:2000/01 and WTB00 for B&B:93/94. Both are post-stratified; each represents the population of bachelor's degree recipients for the respective academic years in the 50 U.S. states and Puerto Rico as of 1994 and 2001, respectively.

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.

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 below 90 percent are shown in table B-1. Five variables had weighted item response rates below 85 percent. In one of these cases (CECURJOB, the primary reason that the respondent did not consider his or her current job the start of a career), the low weighted response rate is due largely to the fact that the variable was applicable to a small proportion of the sample population, yet that proportion included a relatively high percentage of respondents with incomplete interviews. Such respondents 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 incomplete interviews 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 CECURJOB changed from 81.8 to 97.5 percent. Therefore, for this variable, it is unlikely that reported differences are biased because of missing data.

Table B-1. Lowest weighted item response rates for variables used in this report: 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01)

Variable name	Variable label	Item response rate	
		Incomplete interviews assumed applicable	Incomplete interviews excluded ¹
Variables with response rates between 85 percent and 90 percent:			
B&B:93/94			
FSCTYPE1	First postsecondary institution attended	89.2	—
B&B:2000/01			
CBDUGL	Total amount borrowed on federal loans	88.1	—
CBFEDUGO	Undergraduate debt still owed on federal loans	86.5	—
CDDELY1	Reason for delaying further education	90.0	—
EDPCTR	Debt burden (monthly repayment as percentage of monthly income)	84.8	—
NPARED	Parents' educational attainment	89.5	—
Variables with response rates lower than 85 percent:			
B&B:93/94			
ALLOWER	Monthly repayment on undergraduate loans a year later	84.0	—
B&B:2000/01			
CECURJOB	Reason current job not start of career	81.8	97.5
GPAMAJ	Grade-point average in undergraduate major	75.8	—
NBMARR	Marital status at NPSAS interview	77.1	—

—Not available because they were not calculated.

¹Only if the variable has a nonapplicable proportion of 70 percent or above.

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.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

GPAMAJ (grade point average in undergraduate major) from B&B:2000/01 is one of the remaining four variables that has an item response rate below 85 percent. Because this variable was used only once in this report and was presented as a row variable for table 5 on graduate school enrollment a year later, respondents who were missing on GPAMAJ could actually be examined directly and separately (as already done in the table). Respondents missing on GPAMAJ had a graduate school enrollment rate similar to the rate of respondents with a GPA less than 3.0 (17 vs. 15 percent), both of which were lower than the rate for respondents with a GPA of 3.0 or higher (24 percent). However, the reverse was observed when considering the

likelihood of attending graduate school in the future if respondents had not yet done so (67, 60, and 69 percent, respectively). Because respondents missing GPA information appear to differ from those with this information, “missing” is shown as a response category.

One of the three remaining variables with an item response rate below 85 percent, ALLOWER (monthly payment on undergraduate loans) from B&B:93/94, had a response rate of 84 percent. This variable was used as a column variable (table 11) and to compute EDPCTR. A bias analysis was conducted to determine whether the cases missing values for this variable differed from those with positive values. Cases with missing and positive responses were compared with each other for all the row variables in table 11: GENDER (gender), RETHNIC (race/ethnicity), BAMAJOR (undergraduate major), INCQUTIL (dependency and family income), SECTOR_B (degree-granting institution type), TOTDEBT (total undergraduate debt), and B2EN9404 (enrollment status in 1994). Each of these comparison variables had a response rate of 96.6 percent or higher.

Results show that compared with respondents who had positive values on ALLOWER, those with missing values for this variable were less likely to be dependent students from the lowest family income group (14 vs. 21 percent), more likely to have been dependent students in the two highest family income groups (15 and 11 percent vs. 9 and 6 percent), and more likely to have graduated from private not-for-profit doctoral institutions (17 vs. 13 percent). These characteristics were associated with higher monthly payments (table 11). This suggests the possibility that the average reported in the table might have been underestimated—that is, the average would have been higher if the response rate for ALLOWER had been higher. However, respondents with unknown values for ALLOWER were less likely than those with known values not to be enrolled (85 vs. 93 percent), but they were more likely to be enrolled full time (9 vs. 3 percent), which would likely lead to a lower monthly payment (table 11). Nonetheless, in neither possibility 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 limited effect on the overall sample. When combining this with the fact that among all applicable cases for ALLOWER, only 16 percent of them had a missing value, it is unlikely that the estimates reported in table 11 would be seriously biased.

For EDPCTR from B&B:2000/01, which measures debt burden (monthly payment as a percentage of monthly income), cases with missing and valid responses were compared with each other for all the row variables in table 14: GENDER (sex), MAJORS4 (undergraduate major), SECTOR9 (degree-granting institution type), TOTDEBT (total undergraduate debt), EMPOLF (employment status in 2001), and CEANNERN (income quarters of salary in 2001).

Results show that compared with respondents who had valid values on EDPCTR, those with missing values for this variable were more likely to be male (47 vs. 43 percent) and to have majored in business and management (28 vs. 20 percent) and conversely, they were less likely to be female (53 vs. 57 percent), and to have majored in education or humanities (7 vs. 9 percent and 23 vs. 29 percent, respectively). Since males had lower median debt burden than females did, as did business management majors in comparison to their education or humanities counterparts (table 14), it is possible that by excluding cases that were missing on EDPCTR, data presented in table 14 could have been overestimated. Furthermore, respondents missing on EDPCTR were less likely than their counterparts to have borrowed \$25,000 or more (19 vs. 26 percent); thus, they logically could potentially bring down the numbers reported in table 14, had their true values been captured by EDPCTR. However, this possibility of overestimating might have been more or less offset by the fact that respondents with missing values for EDPCTR were more likely than those with known values to have graduated from private, not-for-profit, non-doctoral institutions (24 vs. 19 percent) and less likely to have finished up their bachelor's degree at public non-doctoral institutions (17 vs. 20 percent), which means a possible downward bias since the former had higher median debt burden than the latter did (8 vs. 6 percent, table 14).

Because EDPCTR is a critical variable, to further illustrate the potential impact of the missing cases on the statistics reported in table 14, the upper and lower bounds of the possible bias were examined. First, if one assumes that all missing cases happened to be males who had majored in business and management, had borrowed less than \$25,000 in total for their undergraduate education, and had graduated from public non-doctoral institutions, then by assigning them each the average value on EDPCTR among respondents with those same characteristics and recalculating the median for the entire sample, one would get the lower bound of the estimate for the true median debt burden in 2001 among all bachelor's degree recipients of year 1999–2000 who were in repayment at the time. Likewise, the upper bound could be obtained by defining all missing cases as females who had majored in education or humanities, had a total undergraduate debt of \$25,000 or above, and had completed their bachelor's degree at a private, not-for-profit non-doctoral institution. Using these projections, the lowest and highest bounds for the median estimate of 6.9 reported in table 14 are 5.0 and 9.8. That is, the maximum possible bias could produce estimates between 5 and 9.8 for the median debt burden.

The final variable requiring a bias analysis is NBMARR (marital status at NPSAS interview) from B&B:2000/01, which had an item response rate of 77 percent. Like ALLOWER, NBMARR was used only once in the report; it was presented as a column variable in table 18. Therefore, a bias analysis identical to that for ALLOWER was done by comparing nonrespondents with respondents for all the row variables used in the table (table 18): TOTDEBT (total amount borrowed for undergraduate education), CEANNERN (annual salary

income), and EDPCTR (debt burden). Nonrespondents differed from respondents only in two respects. First, respondents with missing values for NBMARR were slightly more likely to have borrowed a total of \$15,000–19,999 (13 vs. 11 percent). However, borrowers at this level were as likely as the average students in the cohort to be married at the time of the NPSAS interview (22 vs. 27 percent). Second, nonrespondents were more likely than respondents to have a debt burden averaging between 13 and 16 percent of their monthly income. Nonetheless, as shown in table 18, debt burden was not associated with the likelihood of being married at the time of bachelor's degree receipt. Thus, it is unlikely that those with missing values on NBMARR would have caused much, if any, bias on the relevant statistics reported in this study.

Data Analysis System

The estimates presented in this report were produced using the B&B:93/97 and B&B:2000/01 Data Analysis Systems (DAS). (The data from the 1994 and 1997 interviews were combined into one DAS, but no data from 1997 were used in this report.) 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 errors² and weighted sample sizes for these estimates. For example, table B-2 contains standard errors that correspond 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/tables_listings/2005170.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.

²The 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 and 1999–2000 bachelor’s degree recipients who borrowed for their undergraduate education and among those who borrowed, average amount (in 1999 constant dollars), by selected student and institutional characteristics

Student and institutional characteristics	Percent		Among borrowers, average amount borrowed	
	1992–93	1999–2000	1992–93	1999–2000
U.S. total (excluding Puerto Rico)	0.79	0.53	\$180	\$262
Total (50 states, D.C., and Puerto Rico)	0.78	0.54	178	263
Sex				
Male	1.12	1.10	286	420
Female	1.00	0.77	234	300
Race/ethnicity				
American Indian	9.96	6.27	2,380	1,650
Asian/Pacific Islander	3.79	3.47	1,147	771
Black	3.50	2.10	688	724
White	0.76	0.70	213	277
Hispanic	2.85	2.15	778	940
Age received bachelor’s degree				
24 and under	0.89	0.68	249	327
25–29	2.03	1.53	287	557
30 and above	1.81	1.56	443	613
Time from college entry to bachelor’s degree				
Within 4 years	1.31	0.79	461	481
More than 4, up to 6 years	1.37	0.96	350	358
More than 6 years	1.38	1.37	227	463
Undergraduate major				
Business and management	1.38	1.86	498	552
Education	1.55	1.88	520	537
Engineering, mathematics, or science	1.78	1.45	421	726
Humanities or social sciences	1.34	1.07	416	584
Other	1.66	1.18	404	403
Dependency status and family income				
Dependent, total	0.86	0.76	274	380
Lowest	1.66	1.37	398	521
Lower middle	1.31	1.63	456	569
Upper middle	1.38	1.95	734	713
Highest	1.30	1.55	968	958
Independent, total	1.32	0.99	202	378
Type of degree-granting institution				
Public 4-year non-doctoral	1.64	1.63	414	454
Public 4-year doctoral	1.03	0.85	269	361
Private not-for-profit 4-year non-doctoral	1.94	1.54	552	569
Private not-for-profit 4-year doctoral	1.65	1.50	639	968
First postsecondary institution attended				
Public 2-year	1.58	1.42	425	494
Public 4-year	1.24	0.80	247	324
Private not-for-profit 4-year	1.37	1.27	461	584
Other	5.10	4.64	1,228	1,205

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993/94 and 2000/01 Baccalaureate and Beyond Longitudinal Studies (B&B:93/94 and B&B:2000/01).

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,³ 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 ($p < 0.05$).

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:

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

³A 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.⁴ 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:

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

where p is the proportion of the total group contained in the subgroup.⁵ 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.

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

⁵Ibid.