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ABSTRACT

As debate continues over who should get what kinds of aid to attend college, it is important to know what students and their families are actually paying for college, where the money is coming from, and how students' methods of paying vary with their family income and the type of institution they attend. To inform these debates, this report uses data from the 1999-2000 National Postsecondary Student Aid Study (NPSAS:2000) to describe how the families of dependent students used financial aid and their own resources to pay for college, emphasizing variation by family income and type of institution. The study covers students were dependent undergraduates who were full-time at 2-year or 4-year colleges. Approximately one-quarter of all undergraduates met these criteria. For low-income students at each type of institution, the expected family contribution fell short of the price students had to pay, even after financial aid. At public 2-year institutions, students appeared to cover their educational expenses by receiving aid (primarily grants), living at home, and working while enrolled. At public 4-year institutions, they appeared to depend primarily on aid (both grants and loans), and their own earnings, with some help from their parents. It is difficult to see how low income students at private not-for-profit institutions covered their educational expenses, given the gap between the net price and expected family contribution and the amount these students reported earning on their own. It may be that these students reduced their standard of living below the institutionally determined budget, acquired gift or loan funds, or used more of their income or savings than required by the expected family contribution. At public institutions and private not-for-profit nondoctoral institutions, middle income students and their families were in a better position than their low-income counterparts to cover their expenses. With access to student loans and grants at private institutions, these students were generally able to bring the net price into line with the expected family contribution. At private not-for-profit doctoral

institutions, there remained a relatively large unexplained amount of the net price to cover beyond the expected family contribution. Two appendixes contain a glossary and technical notes. (Contains 23 tables, 10 figures, and 15 references.) (SLD)

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Susan P. Choy
Ali M. Berker
MPR Associates, Inc.

C. Dennis Carroll
Project Officer
National Center for Education Statistics

U.S. Department of Education
Rod Paige
Secretary

Institute of Education Sciences
Grover J. Whitehurst
Director

National Center for Education Statistics
Val Plisko
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Content Contact:
Aurora D'Amico
(202) 502-7334
Aurora.D'Amico@ed.gov

Executive Summary

Paying for College

Paying for college has always been considered primarily a family responsibility, to be met to the extent possible through some combination of income, savings, and borrowing. However, a variety of government, institutional, and private programs exist to help students who lack the necessary financial resources or whose academic or other achievements qualify them for scholarships. This aid may take the form of grants or scholarships, which do not have to be repaid; loans, which must be repaid; or work-study, which provides aid in exchange for work, usually in the form of campus-based employment. In 1999–2000, more than half (55 percent) of all undergraduates received some type of financial aid to help pay for college (Berkner et al. 2002).

Originally, the goal of federal student aid policy was to increase college access for students from low-income families, but as tuition increased, this objective was expanded to make college more affordable for students from middle-income families as well (Spencer 1999). Federal grant aid is targeted to low-income students, while subsidized loans are available to both low- and middle-income students. In the 1992 Amendments to the Higher Education Act of 1965, Congress made it easier for students to qualify for financial aid, raised loan limits, and made unsubsidized loans available to students regardless of need. In the past decade, the federal government has increasingly relied on the tax code as a tool to assist students. The Taxpayer Relief Act of 1997 and the 2001 Economic Growth and Tax Relief Reconciliation Act include a number of provisions designed to help individuals and families to save for, repay, or meet current higher education expenses by reducing their federal income tax liability. Some of these benefits phase out as income increases, but they are broadly available (U.S. General Accounting Office 2002). In addition to federal aid, students may have access to state- or institution-sponsored aid (Berkner et al. 2002). Income restrictions for these programs vary. Finally, most states offer prepaid tuition or college savings plans to help students at all income levels pay for college (The College Board 2003).

As debates continue over who should get what kinds of aid and how much, it is important to know what students and their families are actually paying for college, where the money is coming from, and how students' methods of paying vary with their family income and the type of institution they attend. To inform these debates, this report uses data from the 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000) to describe how the families of dependent students[1] used financial aid and their own resources to pay for college, emphasizing variation by family income and type of institution attended. The study covers students who were dependent undergraduates attending a public 2-

[1]Undergraduates under 24 years of age are generally considered financially dependent for the purposes of determining financial aid eligibility unless they are married, have legal dependents, are veterans, or are orphans or wards of the court. However, financial aid officers are permitted to use their professional judgment to declare students to be independent under unusual circumstances.

year college or a public or private not-for-profit 4-year institution full time, full year during the 1999–2000 academic year.[2] Approximately one-quarter of all undergraduates met the criteria for inclusion in the analysis.[3]

The tables in this report show many aspects of student financing at five types of institutions, and within each type, at five levels of family income. The categories of institutions were chosen to group institutions that are similar in terms of mission, characteristics of students, and, especially, levels of price and availability of institutionally funded student aid. They include public 2-year; public 4-year nondoctoral; public 4-year doctoral; private not-for-profit 4-year nondoctoral (except liberal arts); and private not-for-profit 4-year doctoral and liberal arts institutions.[4] The family income levels were chosen to correspond roughly to levels of financial need and eligibility for certain types of federal grants and loans.

Low-income students have a greater need for financial aid than middle-income students within each type of institution, and students at both income levels need more financial aid at higher priced institutions than at lower priced ones. By reporting data by income within type of institution, the tables show both of these patterns. Differences between public and private not-for-profit institutions reflect their different prices of attending. Although data are presented separately in the tables for the five income groups, the discussion focuses on students from low-income (less than $30,000) or middle-income ($45,000–$74,999) families.

Financial Need

For aid purposes, a student's financial need is defined as the difference between the price of attending and the expected family contribution (EFC). A student budget, which represents the price of attending the institution selected, is calculated for each student. It takes into account the amounts needed to cover tuition and fees, books and materials, and reasonable living expenses in that area. The amount allocated for living expenses depends on whether the student lives on campus, independently off campus, or with parents or relatives. The EFC is calculated using a formula based primarily on family income and assets (with some adjustments for circumstances such as the number of siblings in college), and is not related to the price of attending. Thus, a student would be expected to contribute the same amount regardless of the institution selected but would have greater financial need at an institution with a high price of attending than at an institution with a low one.

In 1999–2000, average tuition and fees for full-time dependent students ranged from $1,600 at public 2-year institutions to $19,900 at private not-for-profit doctoral and liberal arts institutions, and the average student budget (i.e., price of attending) ranged from $8,600 to $28,800. The

[2]Students who attended more than one institution were excluded from the analysis because of the confounding effects of attending different-priced institutions and receiving different financial aid awards at each institution. Students who were not U.S. citizens or permanent residents were also excluded because they are not eligible for federal financial aid. Students who attended private for-profit institutions or less-than-4-year institutions other than public 2-year were excluded because there were not enough full-time dependent students at those types of institutions to make meaningful comparisons.

[3]About one-half of all undergraduates are independent, and about one-half of dependent students do not enroll full time, full year at one institution.

[4]On several key measures related to paying for college, including tuition, institutional and other forms of aid, and students' highest degree expectations, students at private not-for-profit liberal arts institutions appear to be more like their counterparts at doctoral than at nondoctoral institutions. Therefore, they were grouped with doctoral institutions for this analysis.

average EFC for low-income students (calculated including those with a zero EFC) was between $1,000 and $1,500, but many low-income students (between 31 and 45 percent, depending on the type of institution attended), had a zero EFC. Because EFC depends on the families' financial circumstances and is not affected by where students enroll, variation across institution types reflects variation in the financial circumstances of the students who chose those types of institutions. Virtually all middle-income students had a positive EFC (at least 99 percent at each type of institution), which averaged between $8,300 and $9,000.

Virtually all low-income students (99 percent or more) had financial need, regardless of where they enrolled. Among those with need, the average amount ranged from $7,400 at public 2-year institutions to $26,000 at private not-for-profit doctoral and liberal arts institutions. The percentage of middle-income students with financial need varied, depending on where they enrolled. At public 2-year institutions, 48 percent of middle-income students had financial need, but at private not-for-profit doctoral and liberal arts institutions, 97 percent had need. The average amount for middle-income students with need ranged from $2,600 at public 2-year institutions to $20,900 at private not-for-profit doctoral and liberal arts institutions.

Financial Aid

Most low-income students received financial aid: 78 percent at public 2-year institutions, and 86 to 98 percent at 4-year institutions. Among middle-income students, less than half received aid at public 2-year institutions (40 percent), but 71 to 93 percent did so at 4-year institutions. Students from both income groups were more likely to receive aid at private not-for-profit nondoctoral institutions than at any other type of institution.

Types and Amounts of Aid

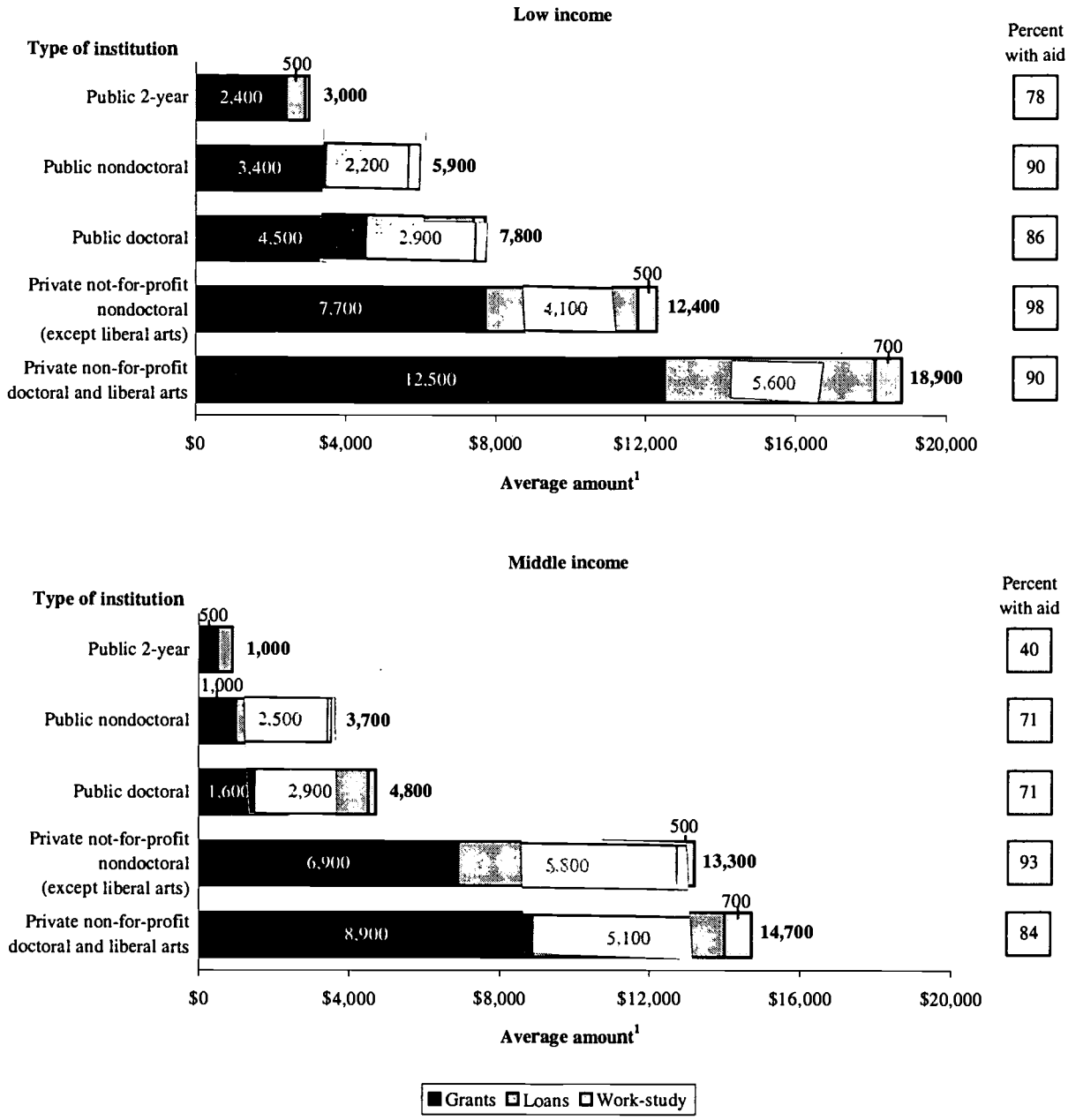
To illustrate the relative importance of the different types of aid for low- and middle-income students across institution types, figure A shows the average amounts of each type of aid computed using all students as the base (i.e., including unaided students). It shows several patterns: more aid for low-income students, more aid as price goes up, more grant aid for low-income students than middle-income students at most types of institutions, and more loans than grants for middle-income students at public institutions.

Relative Importance of Grants and Loans

For aided low-income students, aid covered almost half (48 percent) of the student budget, on average, at public 2-year institutions. At both types of public 4-year institutions and at private not-for-profit nondoctoral institutions, aid covered 64 to 68 percent of the student budget, and at private not-for-profit doctoral and liberal arts institutions, it covered 75 percent. For aided middle-income students, aid covered 29 percent of the student budget, on average, at public 2-year institutions, 46 to 50 percent at public 4-year institutions, and 62 to 63 percent at private not-for-profit 4-year institutions.

At each type of institution, low-income students had more of their budget covered by financial aid than middle-income students, on average, and a greater proportion was covered by grants. For low-income students, 39 to 49 percent of their student budget was covered by grants, on average, depending on the type of institution they attended. For middle-income students, the percentage of their student budget covered by

Figure A. Average amount of aid received by all full-time, full-year dependent low- and middle-income undergraduates, by type of aid, type of institution, and percentage with aid: 1999–2000



[1]Averages computed using both aided and unaided students.

NOTE: Limited to undergraduates who attended only one institution and who were U.S. citizens or permanent residents. Detail may not sum to totals because types of aid other than grants, loans, and work-study are not shown. Average "other" aid did not exceed $200 at any institution type. Due to space limitations, components less than $500 are not labeled. See table 6 for amounts.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

grants did not exceed 16 percent at public institutions, but in the private not-for-profit sector, it was higher: 32 percent at nondoctoral institutions and 37 percent at doctoral and liberal arts institutions. The percentage of the total student budget covered by loans was greater for middle-income students than for low-income students except at private not-for-profit doctoral and liberal arts institutions, where no difference was detected.

Sources of Aid

For low-income students who received financial aid, federal aid (including grants and loans) constituted from 46 to 73 percent of total aid, on average, depending on the type of institution attended. For aided middle-income students, it ranged from 30 to 61 percent. The relative contribution of state grants to total aid was also higher, on average, for low-income students than for middle-income students except at public 2-year institutions, where no difference was detected. At each type of institution, institutional aid made up a greater proportion of total aid, on average, for middle-income students than for low-income students.

Remaining (Unmet) Need

Remaining, or unmet, need represents the amount of the total budget not covered by either the EFC or financial aid. In 1999–2000, about one-half of all full-time dependent students had a calculated unmet need. Depending on the type of the institution attended, 74 to 92 percent of low-income students and 38 to 65 percent of middle-income students had unmet need. At each type of institution, low-income students were more likely than middle-income students to have unmet need. Among students with unmet need, the average amount ranged from $4,000 to $9,300 for low-income students, and from $2,100 to $10,700 for middle-income students. At public institutions, low-income students with unmet need averaged higher amounts than their middle-income counterparts. At private not-for-profit 4-year nondoctoral institutions, no difference was detected between the two groups, and at private not-for-profit doctoral and liberal arts institutions, the apparent difference was not statistically significant.

After Financial Aid

The amount of money that students and their families have to pay (after financial aid) during a given year to allow the students to enroll is called the "net price." For this analysis, net price was computed as total price minus all financial aid *except* work-study (i.e., total price minus grants and loans).[5] Because work-study programs provide wage subsidies to institutions and other employers, they help students obtain jobs. From the perspective of students, however, work-study earnings are still earnings from work and therefore they would have reported them in the telephone interview when asked about work. If work-study earnings were included in aid, they would be double-counted later in this analysis when the relative contributions of aid and work are examined.

Among low-income students, those at public nondoctoral institutions appeared to have the lowest average net price ($4,600). No differences were detected in the average net prices of low-income students at public 2-year, public doctoral, and private not-for-profit nondoctoral institutions ($5,400 to $6,000). Because there were

[5]The calculation of net price does not include the future cost of repaying loans. For students with loans as part of their financial aid package, the total amount they pay for their education includes the amounts they borrow, plus interest, in addition to the amounts paid while enrolled.

differences in the average prices paid at these types of institutions (as discussed earlier), more financial aid compensated for the higher prices. Low-income students at private not-for-profit doctoral and liberal arts institutions had the highest average net price ($9,100).

Among middle-income students, those at public 2-year and public 4-year nondoctoral institutions had the lowest net prices ($7,700 and $7,400, respectively). Their counterparts at public doctoral and private not-for-profit nondoctoral institutions had the next highest net prices ($8,700 and $9,400, respectively). Middle-income students at private not-for-profit doctoral and liberal arts institutions had the highest average net price ($14,600).

Work

Working during the school year is the norm, even for full-time students. In 1999–2000, 76 percent of all full-time dependent students worked while enrolled (including students with work-study jobs). Those who worked put in an average of 22 hours per week and earned an average of $5,100, including hours and earnings from work-study programs. At each institution type, no difference was detected between the percentages of low-income and middle-income students who worked, the amount they worked, and the average amount they earned.

Help From Parents

Reflecting the greater financial resources of their families, middle-income students were more likely than their low-income peers to report that they received help from parents paying their tuition at each type of institution. With respect to nontuition expenses, middle-income students were more likely than low-income students to report receiving help at public doctoral institutions (34 percent vs. 28 percent), but no differences between the two groups were detected at other types of institutions.

Paying for College: A Summary

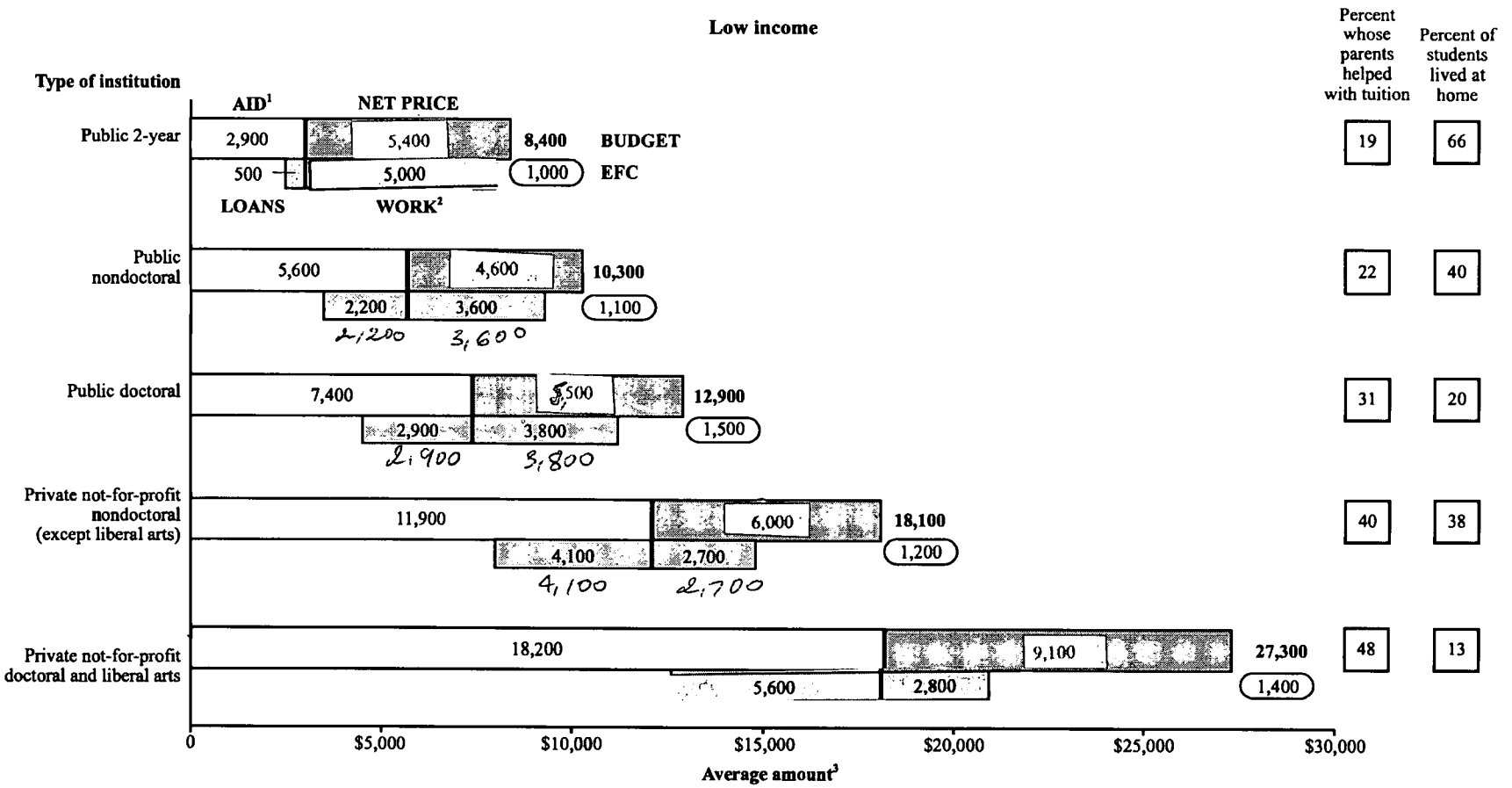
Figure B shows data for low- and middle-income students separately, with two horizontal bars for each institution type. The top bar in each set represents the average student budget and its two components: financial aid (excluding work-study) and what students and their families must pay (net price). The lower bar shows the known family effort: loans (including PLUS loans) and student earnings from work while enrolled (assuming that these earnings are used entirely for educational expenses). The averages shown include both aided and unaided students in order to indicate the relative contributions of the different amounts to the totals.

The circled numbers represent the expected family contribution (EFC). When the net price is greater than the EFC—that is, when the amount students and their families must pay is greater than the amount they are expected to pay—students have unmet financial need. A comparison of the EFC to work specifies how much of the family contribution theoretically could have come from student work while enrolled.[6] The boxes on the right show the percentages of students whose parents (or others) helped pay their tuition and the percentages who lived at home.

For low-income students at each type of institution, the EFC fell short of the price students had to pay, even after financial aid. At public 2-year institutions, low-income students appeared to cover their educational expenses by receiving aid

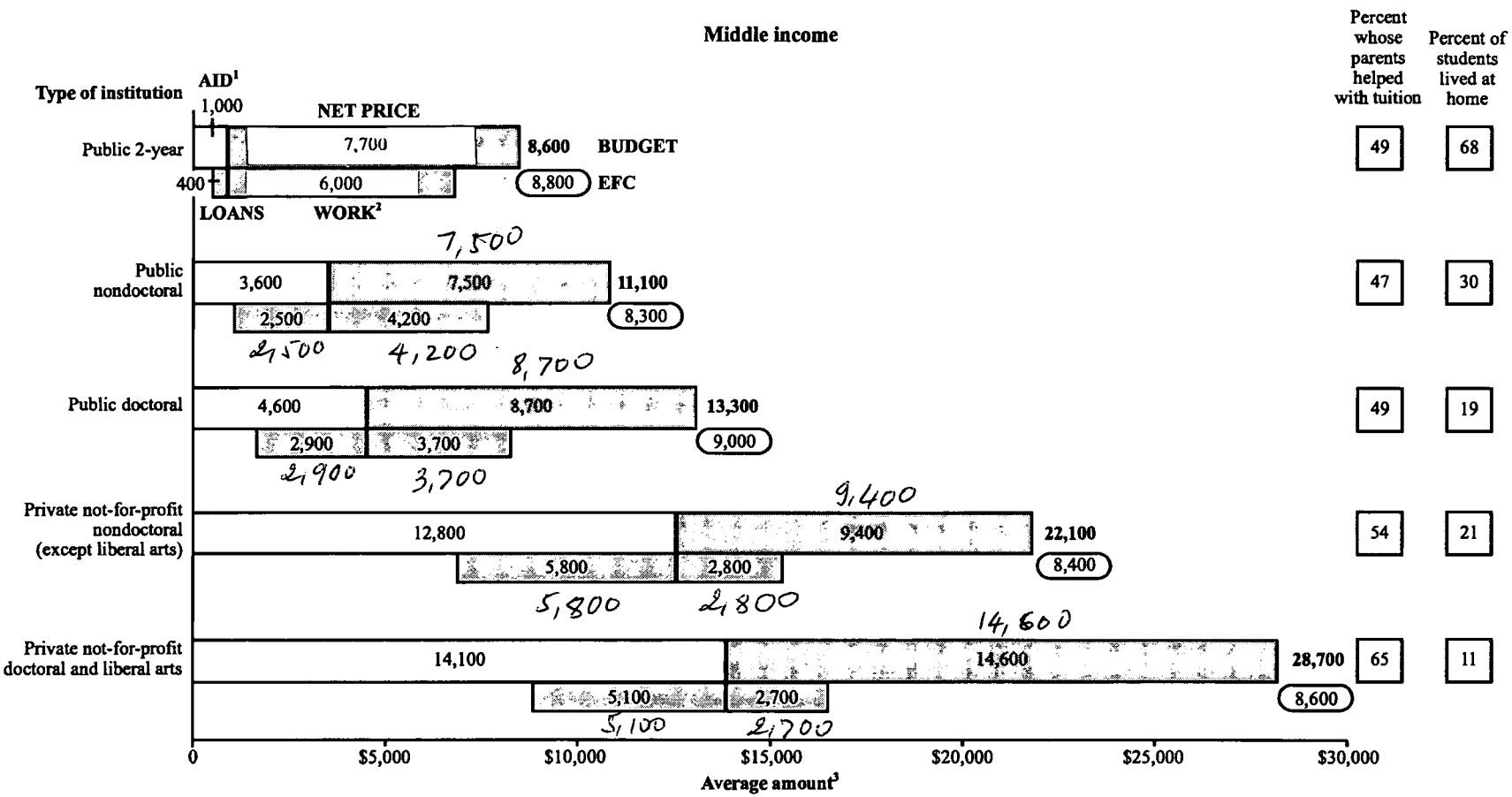
[6]There is no way of knowing what sources of funds families actually use.

Figure B. **Average amounts for selected components of the average student budget for full-time, full-year dependent low- and middle-income undergraduates, sources of funds, and percentage of students who received support from their parents, by type of institution: 1999–2000**



See notes at end of figure.

Figure B. Average amounts for selected components of the average student budget for full-time, full-year dependent low- and middle-income undergraduates, sources of funds, and percentage of students who received support from their parents, by type of institution: 1999–2000—Continued



HOW TO READ: The top bar in each set represents the average student budget with its two components: financial aid (excluding work-study) and what students and their families must pay (net price). The lower bar shows the known family effort: loans and student earnings from work while enrolled (assuming that these earnings are used entirely for educational expenses). The circled numbers represent the expected family contribution (EFC). When the net price is greater than the EFC—that is, when the amount students and their families must pay is greater than the amount they are expected to pay—students have unmet financial need.

[1]Aid includes grants/scholarships, loans, and "other" aid (such as ROTC, aid for veterans' dependents and survivors, and other unidentified types of aid), but excludes work-study aid. Earnings from work-study participation are included in "work." Therefore, this average amount of aid differs from the total shown in table 6.

[2]Includes work-study earnings.

[3]Average amounts include unaided as well as aided students.

NOTE: Limited to undergraduates who attended only one institution and who were U.S. citizens or permanent residents. Detail may not sum to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

(primarily grants), living at home, and working while enrolled. At public 4-year institutions, they appeared to depend primarily on aid (both grants and loans) and their own earnings, with some help from their parents. While low-income students at private not-for-profit 4-year institutions received substantial amounts of aid, it is difficult to understand how they covered their educational expenses given the gap between the net price and EFC and the amount these students reported earning on their own, especially at private not-for-profit doctoral and liberal arts institutions where relatively few students lived at home. To meet their expenses, low-income students at private not-for-profit 4-year institutions may have reduced their standard of living below the institutionally determined budget; acquired additional funds through gifts or loans from grandparents, noncustodial parents, or others whose financial resources are not considered in the EFC formula; or used more of their income or savings than required by the EFC formula, to name some possible strategies.

At public institutions and private not-for-profit nondoctoral institutions, middle-income students and their families were in a better position than their low-income counterparts to cover their expenses. With access to student loans (and substantial grants at private not-for-profit nondoctoral institutions), these families, on average, generally appeared able to bring the net price into line with the EFC. At private not-for-profit doctoral institutions, however, despite grants and loans, there remained a relatively large unexplained amount of the net price to cover beyond the EFC.

Foreword

This report describes how the families of dependent, full-time undergraduates use financial aid and their own resources to pay for college, emphasizing variation by family income and type of institution attended. Most students under 24 years of age who do not have spouses or children are considered financially dependent for the purposes of determining financial aid awards. The tables present data for five income groups at five types of institutions: public 2-year; public 4-year nondoctoral; public 4-year doctoral; private not-for-profit 4-year nondoctoral (except liberal arts); and private not-for-profit 4-year doctoral and liberal arts. The text, however, discusses only two income groups—low- and middle-income students.

The data used in this report are drawn from the 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000), which is the fifth in a series of large-scale data collections sponsored by the National Center for Education Statistics. These studies, which were also conducted in 1986–87, 1989–90, 1992–93, and 1995–96, are based on nationally representative samples of students enrolled in postsecondary institutions. They are designed to provide detailed information on how students and their families pay for postsecondary education.

The estimates presented in this report were produced using the NPSAS:2000 Data Analysis System (DAS). The DAS is a microcomputer 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 shown in these tables. It is available for public use on the NCES web site at *http://nces.ed.gov/das*. Appendix B of this report contains additional information on the DAS.

Acknowledgments

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At NCES, Dennis Carroll, Paula Knepper, and Marilyn Seastrom conducted careful reviews and made many helpful comments prior to adjudication. The final report was reviewed by Stephen Broughman and Patrick Rooney of NCES; Daniel Goldenberg of the Policy and Program Studies Service; Daniel Madzelan of the Office of Postsecondary Education; Cynthia Hammond of the Office of Legislation and Congressional Affairs; Jon Oberg and Ann Mullen of the Institute of Education Sciences; and Kenneth Redd of the National Association of Student Financial Aid Administrators. Karen O'Conor chaired the adjudication panel and provided a final methodological and substantive review.

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Introduction

Paying for College

"How will we pay for college?" is one of the crucial questions that today's students and their parents face. Even when high school students have prepared academically, submitted applications, and been accepted, their access to college ultimately depends on their ability to assemble enough funds to cover their tuition and living expenses for the duration of their studies. While college affordability has always been an issue for many families, public anxiety increased after prices started to rise faster than the consumer price index (CPI) in the early 1980s (Harvey and Immerwahr 1994; Immerwahr 2002). Although growth in tuition (adjusted for inflation) slowed for awhile during the 1990s, tuition increases in the past few years have been high by historical standards (The College Board 2002a).

Paying for college has always been considered primarily a family responsibility, to be met to the extent possible through some combination of income, savings, and borrowing. However, a variety of government, institutional, and private programs exist to help students who lack the necessary financial resources or whose academic or other achievements qualify them for scholarships. This aid may take the form of grants or scholarships, which do not have to be repaid; loans, which must be repaid; or work-study, which provides aid in exchange for work, usually in the form of campus-based employment.

In 2001–02, a total of $90 billion was awarded in student aid, about 70 percent of which came from federal programs (The College Board 2002b). In 1999–2000, more than half (55 percent) of the 16.5 million undergraduates enrolled in postsecondary education received some type of financial aid: 44 percent received grants, 29 percent took out loans, and 5 percent held work-study jobs (Berkner et al. 2002). Those who were awarded grants received an average of $3,500, and those who borrowed took out an average of $5,100 in loans. Average work-study earnings for students participating in these programs totaled $1,700.

Originally, the goal of federal student aid policy was to make it easier for low-income students to attend college, but as tuition increased, this objective was expanded to make college more affordable for students from middle-income families as well (Spencer 1999). Federal grant aid is targeted to low-income students, while subsidized loans are also available to middle-

income students. The federal government pays the interest on subsidized loans until students are required to start repaying them (6 months after they leave school). In the 1992 Amendments to the Higher Education Act of 1965, Congress made it easier for dependent students to qualify for financial aid, raised loan limits, and made unsubsidized loans available to students regardless of need. With these changes, more students from middle- and high-income families qualified for federal loans and the grant/loan balance began to shift. In 2001–02, 54 percent of all aid was awarded in the form of loans, up from 47 percent a decade earlier (The College Board 2002b). In the past decade, the federal government has begun to use the tax code as a tool to assist students. The Tax Payer Relief Act of 1997 (PL 105-34) created tax credits for postsecondary educational expenses, and the Small Business and Job Protection Act of 1996 (PL 104-188) established section 529 in the Internal Revenue Code, thereby providing tax incentives for saving for college. These benefits are available to families with incomes up to $100,000, but those with incomes less than $20,000 typically do not have sufficient tax liability to benefit (U.S. General Accounting Office 2002). The 2001 Economic Growth and Tax Relief Reconciliation Act created a new tax deduction for tuition expenses (for families with incomes up to $130,000) and expanded other tax provisions.

States have used both financial need and student achievement (merit) as criteria for eligibility for state aid. During the late 1990s, a number of states implemented merit-based programs, resulting in faster growth in state merit-based aid than in need-based aid (The College Board 2002b). Although states provide some financial aid directly to students, they still provide the bulk of their support for postsecondary education through operating support for public institutions, which keeps prices down for all students regardless of income. Finally, most states offer prepaid tuition or college savings plans to help students at all income levels pay for college (The College Board 2003).

Institutions, especially private ones, have considerable freedom to devise their own criteria for awarding institutional aid. They may use this aid to support a variety of goals, such as assisting financially needy students who would not otherwise be able to attend college, attracting students with high academic ability, achieving diversity in their student bodies, or meeting institutional enrollment goals (Redd 2000). Finally, a variety of private organizations offer grants and scholarships to students using their own criteria.

The goals of the financial aid system and questions about who should be eligible for how much and what kinds of aid are continually being debated and adjusted at the federal, state, and institutional levels. To inform these debates, it is important to have information on what students and their families are actually paying for college, where the money is coming from, and how students' methods of paying vary with their family income and type of institution they attend. It

is also important for students and their families to have this information because high school seniors and their parents are not generally well informed about college tuition and fees (U.S. Department of Education 2001).

To contribute to a better understanding of what and how students pay for their education, this report describes where low- and middle-income dependent students who attended full time enrolled and how they used financial aid and their own resources to pay for college. Specifically, it addresses the following questions about paying for college:

- What prices do low- and middle-income students pay to attend different types of institutions, and how much financial help do they need to attend each type?
- What types and amounts of financial aid do students receive to help cover their expenses at different types of institutions?
- How much of their expense is not covered by financial aid, and what is known about how students cover that amount?

It is important to point out that while this report describes how those students who do enroll use financial aid, it does not address the extent to which financial aid is adequate to provide access to college. The population studied is limited to students who actually enrolled in college, which means that the analysis includes only students who somehow found the necessary financial resources to do so. It does not include students who may have been discouraged from even considering going to college because of the price, did not think they could manage on the amount of aid offered, or were unwilling to borrow what they needed to enroll.

While the report provides useful insights into how students pay for college, the picture is unavoidably incomplete. Institutions are required to maintain accurate records on financial aid awards and consequently can provide detailed and reliable data on what students receive. However, information on other sources of support, such as parental contributions and earnings from work, can be collected only through telephone interviews with students. Obtaining detailed information in this way is difficult because the amount of time available to discuss students' situations is limited, and respondents may not recall the amounts they earned or other specifics of their financial situations. Telephone interviews with students have not proved to be a reliable way to gather information on their parents' use of the various tax credits or college savings plans either.

Approach and Key Variables

Providing a meaningful description of how students pay for college requires taking into account where they enroll, their income, whether they are considered financially dependent on

their parents for determining aid eligibility, and whether they enroll full or part time. The postsecondary education system consists of many types of institutions, from less-than-2-year institutions providing occupational training to students in their own geographic area to internationally renowned research-oriented universities with extensive graduate programs drawing students from all over the world. The prices associated with attending these different types of institutions vary widely, as do the types and amounts of financial aid the institutions can provide for their students. A useful description of what students pay and what sources of funds they use must also take income into account because income affects what families can afford to pay and also their eligibility for financial aid. Students' financial dependency status must also be considered because parents' financial circumstances are taken into account for dependent students but not independent ones. Finally, any description of paying for college must control for attendance status because attendance status affects both price and financial aid eligibility. Descriptions of the study population, institution types, and family income categories used in this analysis and the rationales for choosing them follow.

Study Population

To keep the analysis manageable, the study was limited to undergraduates who were considered financially dependent on their parents (i.e., most students under 24 years of age[1]) and who were enrolled full time for the full 1999–2000 academic year. The study population was further restricted in several ways. First, students who attended private for-profit, public less-than-2-year, or private not-for-profit less-than-4-year institutions were excluded because there were not enough full-time dependent students at those types of institutions to make meaningful comparisons. Consequently, the study population includes only students who attended public 2-year, public 4-year, or private not-for-profit 4-year institutions. Second, students who attended more than one institution during 1999–2000 were excluded because of the confounding effects of attending different-priced institutions and receiving different financial aid awards at each institution. Finally, students who were not U.S. citizens or permanent residents were excluded because they are not eligible for federal financial aid.

Approximately one-quarter of all undergraduates met all the criteria for inclusion in the analysis. About one-half of all undergraduates at the institutions included in the study were dependent, and about one half of these students were enrolled full time, full year at one institution (table 1). Unless otherwise specified, all references to "students" or "undergraduates"

[1]Undergraduates under 24 years of age are generally considered financially dependent for the purposes of determining financial aid eligibility unless they are married, have legal dependents, are veterans, or are orphans or wards of the court. However, financial aid officers are permitted to use their professional judgment to declare students to be independent under unusual circumstances.

Table 1. Percentage of undergraduates with selected enrollment characteristics, by institution type: 1999–2000

Institution type	Percent of all students who were dependent	Percent of dependent students who enrolled full time, full year at one institution	Percent of full-time, full-year dependent students enrolled at one institution who		
			Lived on campus	Lived independently off campus	Lived with parents
Total	50.6	53.7	38.7	30.0	31.3
Institution type					
Public 2-year	37.4	30.0	7.5	24.5	68.0
Public nondoctoral	57.2	61.2	35.3	32.5	32.3
Public doctoral	68.1	66.3	40.7	41.2	18.1
Private not-for-profit nondoctoral (except liberal arts)	57.1	72.2	59.1	17.7	23.2
Private not-for-profit doctoral and liberal arts	79.2	79.3	68.8	20.0	11.2

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who were U.S. citizens or permanent residents. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

in the text of this report refer to this population, and all references to "full time" mean full time for the full 1999–2000 academic year.

Institution Types and Family Income

The tables in this report show many aspects of student financing at five types of institutions, and within each type, at five levels of family income. The categories of institutions were chosen to group institutions that are similar in terms of mission, characteristics of students, and, especially, levels of price and availability of institutionally funded student aid. The family income levels were chosen to correspond roughly to levels of financial need and eligibility for certain types of federal grants and loans.

Low-income students have a greater need for financial aid than middle-income students within each type of institution, and students at both income levels need more financial aid at higher priced institutions than at lower priced ones. By reporting data by family income within type of institution, the tables show both of these patterns.

Institution Types

The analysis used an aggregation of the Carnegie categories established in 2000. The Carnegie Classification of Institutions of Higher Education is a taxonomy of institutions developed for analytical purposes. Originally developed in the 1970s and modified most recently in 2000, its purpose is to identify categories of colleges and universities that are relatively homogeneous with respect to their functions and the characteristics of the students and faculty members (The Carnegie Foundation 2000). For the 2000 classification, the categories are based on the types and numbers of degrees awarded. The major categories include associate's colleges (which offer almost exclusively associate's degrees and certificates); baccalaureate colleges (liberal arts colleges, general baccalaureate colleges, and baccalaureate colleges that award associate's as well as bachelor's degrees); master's colleges and universities (committed to graduate education through the master's degree); and doctorate-granting institutions (committed to graduate education through the doctorate).[2] For this report, institutions were aggregated into five categories, based on the Carnegie categories and institutional control: public 2-year, public 4-year nondoctoral, public 4-year doctoral, private not-for-profit 4-year nondoctoral (except liberal arts), and private not-for-profit 4-year doctoral and liberal arts.

Public 2-year institutions typically serve students from their own geographic area and enroll many older and part-time students. Compared with students at 4-year institutions in 1999–2000, students at public 2-year institutions were less likely to be dependent (37 percent vs. 57 to 79 percent), and if they were dependent, less likely to enroll full time (30 percent vs. 61 to 79 percent) (table 1). Most public 2-year students (68 percent) lived with their parents, while relatively few (8 percent) lived on campus.

Nondoctoral institutions include many state colleges and small private not-for-profit colleges. Doctoral institutions put a greater emphasis on research and tend to include the larger state universities and private not-for-profit institutions. For this analysis, private not-for-profit colleges with a "liberal arts" Carnegie Code were grouped with private not-for-profit doctoral institutions. Liberal arts colleges emphasize baccalaureate programs, particularly in liberal arts fields, and therefore are properly identified as nondoctoral institutions. However, in the private not-for-profit sector, the liberal arts category includes many of the nation's most selective and highest priced colleges. On several key measures related to paying for college, including tuition, institutional and other forms of financial aid, and students' highest degree expectations, students at private not-for-profit liberal arts institutions appear to be more like their counterparts at doctoral than at nondoctoral institutions. For this reason, private not-for-profit liberal arts colleges were grouped with private not-for-profit doctoral institutions. (See table B-4 in appendix

[2]See the glossary in appendix A for more detailed definitions of these categories.

B for the comparisons among institution types.) Because the public sector does not have a comparable set of institutions, the few public liberal arts colleges in the analysis were left in the public nondoctoral category.

In 1999–2000, undergraduates at doctoral institutions were more likely than those at nondoctoral institutions to be financially dependent, and if so, more likely to attend full time (table 1). The highest proportion of students living on campus was found at private not-for-profit doctoral and liberal arts institutions, followed by private not-for-profit nondoctoral institutions, and then public doctoral and nondoctoral institutions.

Of key importance for examining how the students in this study pay for college are the differences among types of institutions in terms of tuition and fees and the availability of grants from institutional sources:

Institution type	Average annual tuition and fees	Percent with institutional grants
Public 2-year	$1,600	16.2
Public 4-year nondoctoral	3,500	20.4
Public 4-year doctoral	4,900	26.5
Private not-for-profit 4-year nondoctoral (except liberal arts)	13,300	72.3
Private not-for-profit 4-year doctoral and liberal arts	19,900	60.4

Family Income Categories

Students were divided into five categories based on their family income: low, low-middle, middle, upper-middle, and high (as shown below). The low-income group was constructed to correspond roughly to the target population for the federal Pell grant program, while the middle-income group was designed to approximate the population usually not eligible for Pell grants, but typically eligible for federal subsidized loans to attend public 4-year institutions. The low-middle-income category contained students who were not clearly in either category. The upper-middle-income group includes students who tend to qualify for subsidized loans only at the higher priced institutions, while the high-income group includes students who typically do not qualify for need-based aid at any type of institution. The criteria used to establish the income categories are described in more detail in appendix B. For reference purposes, the tables in this

report present data for all five income groups, but the text discussion focuses only on the two groups of primary interest—low- and middle-income students.

Family income	Percent of the study population
Low: Less than $30,000	**22**
Low-middle: $30,000–44,999	15
Middle: $45,000–74,999	**30**
Upper-middle: $75,000–99,999	15
High: $100,000 or more	18

Distribution of Students Across Institution Types by Income

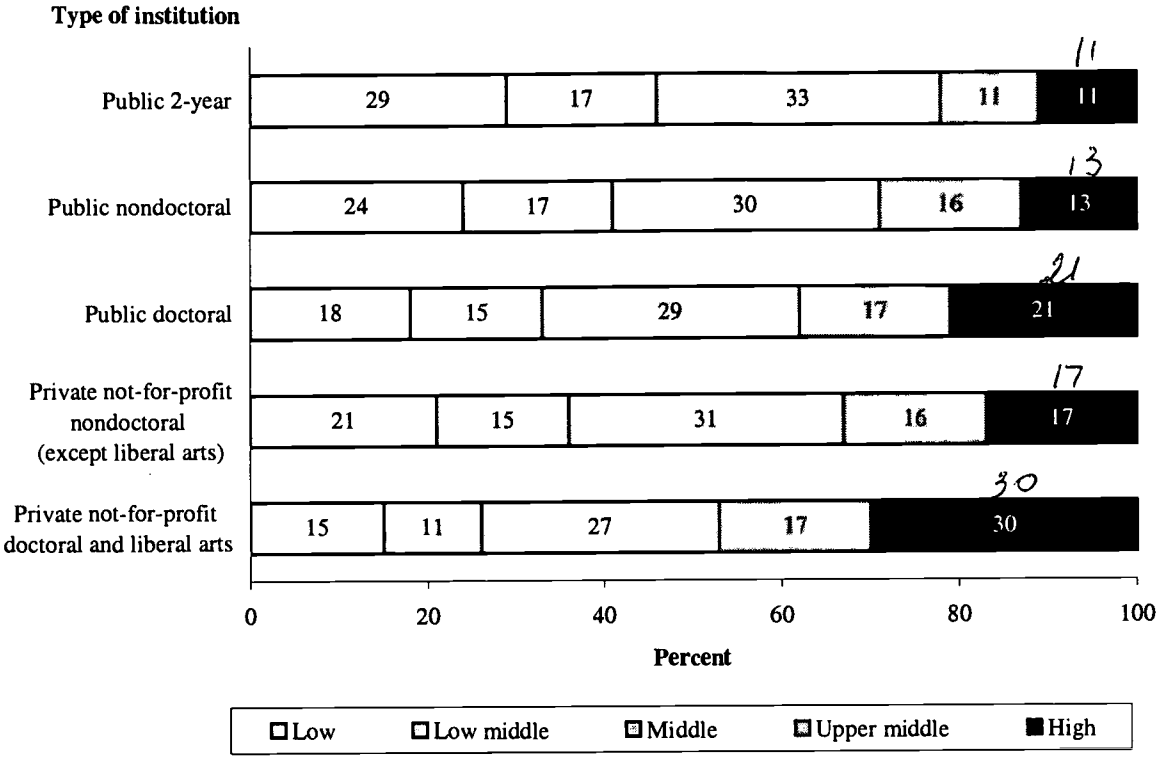
Income diversity existed at each type of institution, although the percentages of students from the various income levels differed, especially at the lowest and highest levels (figure 1). Students at public 2-year institutions were generally more likely than those attending other types of institutions to come from low-income families (29 percent vs. 15 to 24 percent).[3] Compared with students who attended other types of institutions, students at private not-for-profit doctoral and liberal arts institutions were the most likely to come from high-income families (30 percent vs. 11 to 21 percent). Depending on the institution type, between 27 and 33 percent of students were from middle-income families.

Data

The data used in this analysis come from the 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000), which includes data on student characteristics, enrollment, and financial aid collected from institutions and directly from students through telephone interviews. NPSAS also includes extensive student background and financial information on aid applicants from the Free Application for Federal Student Aid (FAFSA), and for federal loan recipients, includes longitudinal loan data from the National Student Loan Data System (NSLDS). All variables used in this analysis are described in the glossary (appendix A). Additional information on NPSAS is included in appendix B.

[3]The apparent difference between the percentages of students at public 2-year and public 4-year nondoctoral institutions who were from low-income families was not statistically significant.

Figure 1. Percentage distribution of full-time, full-year dependent undergraduates according to family income, by institution type: 1999–2000



NOTE: Limited to undergraduates who attended only one institution and who were U.S. citizens or permanent residents. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Organization of the Report

The rest of the report begins with a description of the demographic and enrollment characteristics of full-time dependent students, by income. Next, it examines the students' financial need and describes the types and amounts of financial aid they received from various sources. The following section describes what is known about how students paid for the portion of their expenses not covered by financial aid. The final section of the report summarizes the major findings of the analysis to provide an overall picture of how low- and middle-income students pay for college at each type of institution.

Demographic and Enrollment Characteristics

In 1999–2000, 22 percent of all full-time dependent undergraduates were from low-income families, and 30 percent were from middle-income families (table 2). Thus, together, these two groups made up about half of the full-time dependent undergraduate population. In addition to their income disparities, low- and middle-income students tended to have different demographic and enrollment characteristics.

Demographic Characteristics

Students from racial/ethnic minorities were more likely than White students to be from low-income families. Forty-six percent of Black or African American students, 44 percent of Hispanic or Latino students, and 38 percent of Asian students were from low-income families, compared with 15 percent of White students.

Table 2. Percentage distribution of full-time, full-year dependent undergraduates according to family income, by selected student characteristics: 1999–2000

Student characteristics	Low: less than $30,000	Low middle: $30,000–44,999	Middle: $45,000–74,999	Upper middle: $75,000–99,999	High: $100,000 or more
Total	21.6	15.2	29.9	15.4	17.9
Sex					
Male	20.1	15.9	29.7	15.4	19.0
Female	22.9	14.6	30.1	15.4	17.0
Race/ethnicity[1]					
American Indian	28.2	12.0	33.0	9.5	17.3
Asian	38.1	14.2	23.9	8.2	15.7
Black	45.9	17.9	17.9	9.4	8.9
Pacific Islander	15.3	23.5	16.4	22.7	22.2
White	14.6	14.6	33.0	17.5	20.3
Other[2]	26.2	15.7	26.9	18.8	12.4
More than one race	36.8	12.6	24.9	13.4	12.3
Hispanic	44.4	17.7	21.0	7.8	9.1

[1]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.

[2]Respondents were given the option of identifying themselves as "other" race. See glossary for details.

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Viewed from the opposite perspective, low-income students were more likely than middle-income students to be from a minority racial/ethnic group. About half of all low-income students were minorities: 19 percent were Black or African American, 17 percent were Hispanic or Latino, 9 percent were Asian, and about 5 percent were other minorities or more than one race (table 3). In contrast, about 18 percent of students in the middle-income category were minorities.

Low-income students were also more likely than their middle-income counterparts to have parents who did not attend college. Eight percent of low-income students had parents who did

Table 3. Percentage distribution of full-time, full-year dependent undergraduates within income level according to selected student characteristics: 1999–2000

		Family income				
Selected student characteristics	Total	Low: less than $30,000	Low middle: $30,000–44,999	Middle: $45,000–74,999	Upper middle: $75,000–99,999	High: $100,000 or more
Total	100.0	100.0	100.0	100.0	100.0	100.0
Sex						
Male	45.6	42.3	47.6	45.2	45.5	48.4
Female	54.5	57.7	52.4	54.8	54.5	51.6
Race/ethnicity[1]						
American Indian	0.5	0.7	0.4	0.6	0.3	0.5
Asian	5.1	8.9	4.7	4.1	2.7	4.5
Black	8.8	18.7	10.3	5.3	5.4	4.4
Pacific Islander	0.7	0.5	1.0	0.4	1.0	0.8
White	73.8	49.9	71.2	81.5	83.6	83.7
Other[2]	1.2	1.5	1.3	1.1	1.5	0.8
More than one race	1.5	2.6	1.3	1.3	1.3	1.0
Hispanic	8.4	17.3	9.8	5.9	4.3	4.3
Parents' education						
Less than high school	2.8	7.6	3.5	1.5	0.1	0.8
High school graduate	22.4	36.3	30.0	22.4	12.9	7.9
Some postsecondary education	22.2	25.7	24.1	26.3	20.3	11.6
Bachelor's degree or higher	52.7	30.4	42.4	49.8	66.7	79.7
Delayed enrollment						
No delay	86.2	81.1	86.9	86.4	87.9	90.2
Delayed 1 or more years	13.8	18.9	13.1	13.6	12.1	9.8
Housing						
On campus	38.7	32.2	35.0	39.2	42.9	45.4
Off campus	30.0	28.7	28.4	28.9	32.6	32.7
With parents	31.3	39.1	36.7	32.0	24.5	22.0

[1]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.

[2]Respondents were given the option of identifying themselves as "other" race. See glossary for details.

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

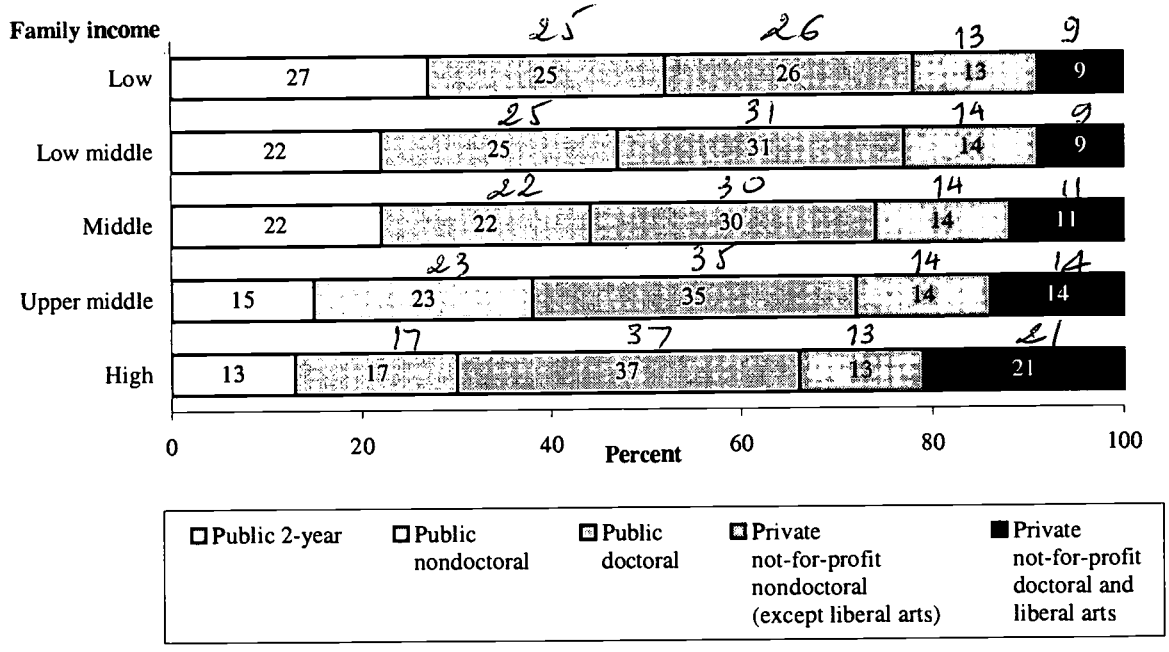
not finish high school (vs. 1 percent of middle-income students), and another 36 percent had parents who graduated from high school but did not go on to college (vs. 22 percent of middle-income students). Conversely, middle-income students were more likely than their peers from low-income families to have parents who attained a bachelor's degree or higher (50 percent vs. 30 percent).

Enrollment Characteristics

Low- and middle-income students also had different enrollment characteristics. Compared with their middle-income peers, low-income students were more likely to have waited a year or more after finishing high school to go to college (19 percent vs. 14 percent) (table 3). They were also more likely to live at home while enrolled (39 percent vs. 32 percent).

Where students attended college also differed for the two groups. Low-income students were more likely than middle-income students to attend public 2-year institutions, and less likely to attend either public doctoral or private not-for-profit doctoral and liberal arts institutions (figure 2).

Figure 2. Percentage distribution of full-time, full-year dependent undergraduates according to the type of institution attended, by family income: 1999–2000



NOTE: Limited to undergraduates who attended only one institution and who were U.S. citizens or permanent residents. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Financial Need

The first step in determining a student's eligibility for financial aid to attend a particular institution is a need analysis. The need analysis establishes how much students and their families are expected to contribute from their own resources and compares that to the price of attending the institution. The gap between the price of attending and the family's expected contribution (EFC) is the student's financial need.

Price of Attending

A student budget, which represents the price of attending the institution selected, is calculated for each student by the institution. The budget is based on the amounts needed to cover tuition and fees, books and materials, and reasonable living expenses in that area. Living expenses include housing, food, transportation, and miscellaneous expenses. The amount allocated for living expenses depends on whether the student lives on campus, independently off campus, or with parents or relatives. For certain students, adjustments may be made to take into account unusual circumstances, such as disability-related expenses. The student budget represents what the institution thinks the student would have to spend to attend the institution, but it may or may not accurately reflect that student's actual expenses, because the budget does not fully take into account individual circumstances or expectations regarding standard of living.

In 1999–2000, average tuition and fees for full-time dependent students ranged from $1,600 at public 2-year institutions to $19,900 at private not-for-profit doctoral and liberal arts institutions, and the average student budget ranged from $8,600 to $28,800 (table 4). Differences by family income within institution type reflect variation in tuition and student budget across the particular institutions attended and differences in where students lived while enrolled. Within each type of 4-year institution, middle-income students were more likely than low-income students to enroll at higher priced institutions (as measured by both tuition and fees and total student budget).

Expected Family Contribution (EFC)

While the price of attending is specific to an institution and the student's living arrangements, the EFC is independent of where the student enrolls and depends only on the

Table 4. Average tuition and fees, student budget, and expected family contribution for full-time, full-year dependent undergraduates, percentage with financial need, and for those with need, average amount of need, by institution type and family income: 1999–2000

Institution type and family income	Average Tuition and fees	Average Student budget (determined by the institution)	Average Expected family contribution (EFC)[1]	Percent with financial need (Student budget greater than EFC)	For those with need, average need (Student budget minus EFC)
Total	$6,900	$14,900	$11,100	69.5	$10,200
Public 2-year					
Total	$1,600	$8,600	$8,800	60.5	5,400
Family income					
Low: less than $30,000	1,600	8,400	1,000	100.0	7,400
Low middle: $30,000–44,999	1,700	8,700	4,000	94.4	5,000
Middle: $45,000–74,999	1,600	8,600	8,800	48.2	2,600
Upper middle: $75,000–99,999	1,600	8,600	16,400	4.5	‡
High: $100,000 or more	1,400	8,500	27,700	1.1	‡
Public nondoctoral					
Total	$3,500	$11,000	$9,400	67.6	6,900
Family income					
Low: less than $30,000	3,100	10,300	1,100	99.9	9,200
Low middle: $30,000–44,999	3,500	10,700	3,700	97.8	7,300
Middle: $45,000–74,999	3,600	11,100	8,300	72.7	5,000
Upper middle: $75,000–99,999	3,900	11,500	15,500	25.2	3,700
High: $100,000 or more	3,700	11,500	26,700	9.3	2,800
Public doctoral					
Total	$4,900	$13,500	$12,500	64.2	8,300
Family income					
Low: less than $30,000	4,400	12,900	1,500	99.1	11,700
Low middle: $30,000–44,999	4,700	13,200	4,100	98.8	9,300
Middle: $45,000–74,999	4,800	13,300	9,000	82.5	6,100
Upper middle: $75,000–99,999	5,000	13,600	16,100	32.0	5,300
High: $100,000 or more	5,600	14,200	29,800	10.7	4,400
Private not-for-profit nondoctoral (except liberal arts)					
Total	$13,300	$21,400	$10,900	84.8	14,400
Family income					
Low: less than $30,000	10,900	18,100	1,200	98.9	17,000
Low middle: $30,000–44,999	12,700	20,800	3,800	99.4	17,100
Middle: $45,000–74,999	13,800	22,100	8,400	95.2	14,800
Upper middle: $75,000–99,999	14,200	22,600	16,100	81.5	9,700
High: $100,000 or more	15,100	23,700	28,100	40.0	8,600
Private not-for-profit doctoral and liberal arts					
Total	$19,900	$28,800	$14,800	84.7	19,300
Family income					
Low: less than $30,000	18,300	27,300	1,400	99.9	26,000
Low middle: $30,000–44,999	19,900	28,900	3,900	100.0	25,000
Middle: $45,000–74,999	19,900	28,700	8,600	97.5	20,900
Upper middle: $75,000–99,999	20,200	28,900	15,800	89.3	15,500
High: $100,000 or more	20,500	29,600	30,900	56.9	10,300

‡Reporting standards not met. (Too few cases.)

[1]Average computed including zero values (9 percent had no expected family contribution).

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

family's circumstances. The formula used to calculate the EFC takes into account family income and assets, family size, and the number of other college students in the family. For dependent students, the income and assets of both students and parents are taken into account. Institutions must use the Federal Methodology legislated by Congress during the 1992 reauthorization of the Higher Education Act to determine eligibility for federal aid, but states and institutions can use different formulas to allocate their own aid. These formulas might require students to make greater contributions. In this report, EFC refers to the amount required for federal aid eligibility purposes.

It is important to recognize that while EFCs represent what families are expected to contribute, they are not necessarily accurate measures of ability to pay. Because financial aid is limited and everyone's need cannot be fully met, the formulas are designed to compare one family's ability to pay against others' ability to pay so that available aid can be distributed equitably. The formulas for calculating EFCs have been changed numerous times as policymakers have tried to develop rules that are fair and easy to understand and that encourage families to behave responsibly (such as saving for their child's education). Controversial issues have included, for example, the student's age at which their parents' income should no longer be considered (currently age 24); how to treat noncustodial and stepparents' income when parents are divorced; how home equity should be treated; which assets should be counted; what percentage of income and assets should be contributed; and how much students should be expected to work.[4]

Many low-income students (between 31 and 45 percent, varying with the type of institution attended) had a zero EFC.[5] Because the EFC depends on the families' financial resources and is not affected by where students enroll, the variation across institution types reflects the differing financial circumstances of the students who chose those types of institutions. The average EFC for low-income students (including those with zero EFCs) was between $1,000 and $1,500 (table 4). Virtually all middle-income students had a positive EFC (at least 99 percent at each type of institution).[6] Their average EFC (including those few with a zero amount) ranged between $8,300 and $9,000.

Financial Need

As indicated at the beginning of this section, financial need is calculated by subtracting the EFC from the price of attendance. Thus a student's financial need reflects both the family's

[4]See Baum (1999) for a thorough discussion of need analysis.

[5]1999–2000 National Postsecondary Student Aid Study (NPSAS:2000), Data Analysis System. Not shown in table.

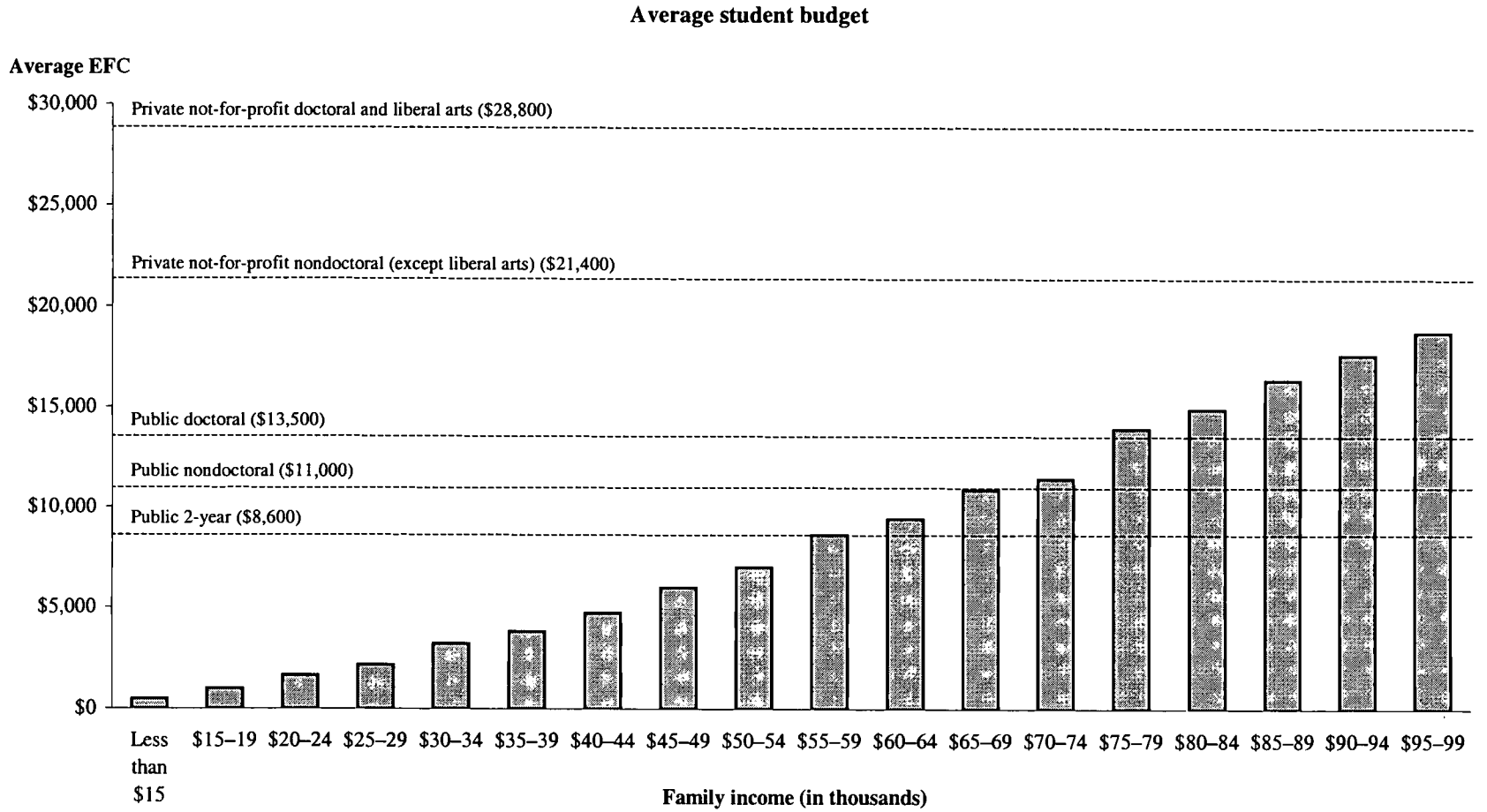
[6]1999–2000 National Postsecondary Student Aid Study (NPSAS:2000), Data Analysis System. Not shown in table.

financial resources and the choice of institution. For federal aid, a student would be expected to contribute the same amount regardless of the institution selected, but would have greater financial need at an institution with a high price of attendance than at an institution with a low one. At the same time, a low-income student would be expected to contribute less than a middle-income one attending the same institution.

Virtually all low-income students (at least 99 percent at each type of institution) had some financial need, regardless of where they enrolled (table 4). Among those with need, the average ranged from $7,400 at public 2-year institutions to $26,000 at private not-for-profit doctoral and liberal arts institutions. In contrast, the percentage of middle-income students with financial need varied by type of institution. At public 2-year institutions, 48 percent of middle-income students had financial need, compared with 97 percent at private not-for-profit doctoral and liberal arts institutions. For middle-income students with need, the average amount ranged from $2,600 at public 2-year institutions to $20,900 at private not-for-profit doctoral and liberal arts institutions.

Figure 3 illustrates the relationship between the average budget at a particular type of institution and the average EFC for students within each income interval. The difference between the two represents the average financial need to attend that type of institution—the amount of financial aid for which students in that income range would be eligible (although not necessarily awarded). Thus, assuming that the EFC accurately represents what families can afford to pay, students from families with incomes under about $55,000 could not afford to attend any type of institution without aid in 1999–2000. At the other end of the income scale, the average student at an income level of $95,000–99,000 would need aid to be able to afford to attend a private not-for-profit institution.

Figure 3. Average expected family contribution (EFC) for full-time, full-year dependent undergraduates by income and average student budget by type of institution: 1999–2000



TO READ: The horizontal lines indicate the average student budget for each type of institution. At each income level, the difference between the average budget and the average EFC represents the average financial need at that type of institution. Thus, for example, students from families with incomes under about $55,000 would have financial need at all types of institutions.

NOTE: Limited to undergraduates who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Financial Aid

Once a student's need for financial aid has been established, a financial aid officer develops an aid package that comes as close as possible to meeting that student's financial need. However, students do not always receive the full amount of aid for which they qualify. First, students who would be eligible may not apply for aid or may fail to provide all the required documentation. Second, funds for some programs are limited to specific amounts appropriated, which may be exhausted before all eligible students are helped. Finally, students sometimes decline to take out any or all of the loans for which they are eligible, preferring instead to work more, spend less, or find other sources of funds. Throughout this report, "received" aid means that the student actually received the aid, not simply that an award was offered.

Among full-time, full-year dependent undergraduates in 1999–2000, 79 percent applied for financial aid and 70 percent received some form of aid (table 5). Although virtually all low-income students had some financial need (table 4), not all applied for aid even though it appears that most would have qualified for grant aid. A number of explanations are possible. For example, they may have not realized that they were eligible for aid; they may have had access to income or assets not considered in the need formula (from a noncustodial parent, for example); they may have been able to live on less than the estimated student budget and decided that they did not need aid; or their financial circumstances may have improved since the time of the need calculation, which for the 1999–2000 academic year would have been based on their 1998 calendar year income. For middle-income students, an additional reason why the percentage of students with financial need may be greater than the percentage applying for or receiving aid is that much of the aid for which they qualify is in the form of loans, which they may have decided not to take. Among upper-middle and high-income students, the percentages receiving aid were sometimes higher than the percentages with financial need because not all aid is awarded on the basis of need.

Type and Amounts of Aid Received

The proportions of students receiving aid and the amounts they receive vary with both family income and type of institution. Reflecting the way in which the need-based financial aid system is designed to work, the general pattern is that as income increases, students tend to receive less aid, especially grants, and as price increases, students tend to receive more aid. The

Table 5. Percentage of full-time, full-year dependent undergraduates who applied for and received financial aid and type of aid, by institution type and family income: 1999–2000

Institution type and family income	Applied for financial aid	Received financial aid	Type of aid: Grants	Loans (including PLUS[1])	Work-study	Other[2]
Total	78.9	70.3	56.4	44.3	13.7	2.2
Public 2-year						
Total	65.5	50.8	43.8	14.1	4.0	1.9
Family income						
Low: less than $30,000	82.6	77.5	75.1	14.6	9.3	1.5
Low middle: $30,000–44,999	69.8	55.3	47.7	18.3	3.1	2.1
Middle: $45,000–74,999	59.5	40.3	31.1	14.8	2.5	1.3
Upper middle: $75,000–99,999	56.6	34.3	23.6	14.9	#	0.9
High: $100,000 or more	42.2	22.7	15.5	3.6	#	5.4
Public nondoctoral						
Total	81.2	73.1	53.6	47.7	9.9	2.4
Family income						
Low: less than $30,000	93.4	90.2	87.7	52.5	15.8	3.2
Low middle: $30,000–44,999	85.5	81.1	65.7	54.4	13.8	1.1
Middle: $45,000–74,999	82.0	71.3	42.5	51.6	9.2	2.3
Upper middle: $75,000–99,999	74.6	64.4	33.0	41.8	4.5	2.2
High: $100,000 or more	59.3	46.3	25.6	29.1	2.4	2.7
Public doctoral						
Total	78.0	68.9	50.2	45.6	9.1	2.5
Family income						
Low: less than $30,000	89.3	86.3	83.1	59.6	18.8	2.4
Low middle: $30,000–44,999	81.5	75.9	62.7	51.7	14.6	3.3
Middle: $45,000–74,999	79.2	70.7	45.6	50.7	8.7	2.6
Upper middle: $75,000–99,999	75.0	61.3	35.4	36.7	3.6	2.6
High: $100,000 or more	66.8	53.0	31.0	29.6	1.9	1.7
Private not-for-profit nondoctoral (except liberal arts)						
Total	94.7	92.5	83.7	68.3	31.2	3.0
Family income						
Low: less than $30,000	98.2	97.8	96.3	67.3	35.5	3.9
Low middle: $30,000–44,999	96.7	93.5	88.9	74.3	40.9	4.7
Middle: $45,000–74,999	94.6	93.1	83.1	77.9	34.9	2.9
Upper middle: $75,000–99,999	93.1	91.2	79.6	66.8	22.6	1.3
High: $100,000 or more	90.7	85.3	69.0	48.3	18.5	2.3
Private not-for-profit doctoral and liberal arts						
Total	81.8	76.9	68.2	58.7	28.6	0.9
Family income						
Low: less than $30,000	91.0	89.5	87.2	76.5	40.5	1.8
Low middle: $30,000–44,999	86.9	84.5	79.3	70.1	39.9	2.9
Middle: $45,000–74,999	87.5	83.7	76.6	68.2	36.7	0.3
Upper middle: $75,000–99,999	80.2	75.0	66.3	56.7	23.5	0.8
High: $100,000 or more	70.8	62.5	47.8	37.9	13.7	0.4

#Rounds to zero.

[1]PLUS loans are taken out by parents.

[2]All other types of aid, such as ROTC, aid for veterans' dependents and survivors, and other unidentified types of aid.

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

relationship is not precise, because students do not always take out the loans for which they are eligible; the federal government, states, and institutions have different criteria for distributing need-based aid; and not all aid is need based.

In this analysis, the average amounts of aid that students received were computed in two ways: for only students who received that type of aid and across all students, including those who did not receive that type of aid. The first average is useful for understanding the typical amounts that aided students received, while the second is useful for looking at the relative contributions of different types of aid.

Overview of Aid Packages

Aid packages consist mainly of some combination of grants, loans, and work-study, plus a small amount of "other" aid for certain students, such as ROTC and aid for veterans' dependents and survivors. The particular combinations awarded vary systematically with income and type of institution. As income increases, eligibility for need-based grants declines, leading to a greater reliance on loans. Variation by institution type reflects both price differentials and availability of particular types of aid. Private not-for-profit institutions, for example, typically provide institutional aid to more of their students than public institutions.

Most low-income students received financial aid: 78 percent at public 2-year institutions, and 86 to 98 percent at 4-year institutions (table 5). Among middle-income students, less than half received aid at public 2-year institutions (40 percent), but 71 to 93 percent did so at 4-year institutions. Students from both income groups were more likely to receive aid at private not-for-profit nondoctoral institutions than at any other type of institution.

In all institution types, low-income students were more likely than middle-income students to receive grants, and when they did, they generally received larger amounts (table 6). The one exception was at private not-for-profit nondoctoral institutions, where both low- and middle-income students with grants received an average of about $8,000.

About 15 percent of both low- and middle-income students borrowed at public 2-year institutions, and about 52 percent of both groups borrowed at public nondoctoral institutions (table 5).[7] In the private not-for-profit sector, low-income students were more likely than middle-income ones to borrow at doctoral and liberal arts institutions, but the reverse was true at

[7]For the purposes of this analysis, PLUS loans to parents were included with loans to students because paying for college is a joint responsibility for dependent students and their parents. Consequently, considering only loans to students would provide an incomplete picture of how much a family borrowed to pay for college.

Table 6. Average amount of aid received by full-time, full-year dependent undergraduates, by institution type and family income: 1999–2000

Institution type and family income	Average for students with type of aid[1]					Average for all students[2]				
	Total aid	Grants	Loans (with PLUS[3])	Work-study	Other[4]	Total aid	Grants	Loans (with PLUS[3])	Work-study	Other[4]
Total	$8,700	$5,500	$6,100	$1,700	$3,400	$6,100	$3,100	$2,700	$200	$100
Public 2-year										
Total	3,200	2,400	3,200	1,600	‡	1,600	1,100	400	100	#
Family income										
Low: less than $30,000	3,900	3,200	3,100	‡	‡	3,000	2,400	500	100	#
Low middle: $30,000–44,999	3,100	2,100	3,800	‡	‡	1,700	1,000	700	#	#
Middle: $45,000–74,999	2,500	1,500	3,000	‡	‡	1,000	500	400	#	100
Upper middle: $75,000–99,999	2,000	‡	‡	‡	‡	700	200	400	#	#
High: $100,000 or more	‡	‡	‡	‡	‡	500	400	100	#	100
Public nondoctoral										
Total	5,700	3,200	4,800	1,500	2,900	4,200	1,700	2,300	200	100
Family income										
Low: less than $30,000	6,600	3,900	4,100	1,700	‡	5,900	3,400	2,200	300	100
Low middle: $30,000–44,999	5,900	3,200	4,600	1,400	‡	4,800	2,100	2,500	200	#
Middle: $45,000–74,999	5,200	2,300	4,900	1,600	‡	3,700	1,000	2,500	100	100
Upper middle: $75,000–99,999	5,200	2,500	5,800	‡	‡	3,300	800	2,400	100	100
High: $100,000 or more	5,200	2,800	5,400	‡	‡	2,400	700	1,600	#	100
Public doctoral										
Total	7,200	4,200	5,700	1,800	3,300	5,000	2,100	2,600	200	100
Family income										
Low: less than $30,000	9,000	5,400	4,800	1,800	‡	7,800	4,500	2,900	300	100
Low middle: $30,000–44,999	7,600	4,300	5,300	1,800	‡	5,800	2,700	2,700	300	100
Middle: $45,000–74,999	6,800	3,500	5,800	1,900	‡	4,800	1,600	2,900	200	100
Upper middle: $75,000–99,999	6,000	3,300	6,400	‡	‡	3,700	1,200	2,400	100	100
High: $100,000 or more	6,100	3,600	6,600	‡	‡	3,200	1,100	2,000	#	100
Private not-for-profit nondoctoral (except liberal arts)										
Total	13,100	7,700	7,400	1,500	4,600	12,100	6,400	5,000	500	100
Family income										
Low: less than $30,000	12,700	7,900	6,200	1,400	‡	12,400	7,700	4,100	500	100
Low middle: $30,000–44,999	14,200	8,300	6,800	1,500	‡	13,300	7,300	5,100	600	300
Middle: $45,000–74,999	14,300	8,300	7,400	1,500	‡	13,300	6,900	5,800	500	100
Upper middle: $75,000–99,999	11,900	6,600	7,800	1,400	‡	10,800	5,300	5,200	300	100
High: $100,000 or more	11,200	6,400	9,700	1,700	‡	9,600	4,400	4,700	300	100
Private not-for-profit doctoral and liberal arts										
Total	17,100	11,500	8,100	1,800	‡	13,200	7,900	4,800	500	100
Family income										
Low: less than $30,000	21,100	14,400	7,300	1,700	‡	18,900	12,500	5,600	700	100
Low middle: $30,000–44,999	20,700	13,800	8,000	1,700	‡	17,500	11,000	5,600	700	200
Middle: $45,000–74,999	17,600	11,700	7,500	1,800	‡	14,700	8,900	5,100	700	#
Upper middle: $75,000–99,999	16,400	10,100	8,800	2,000	‡	12,300	6,700	5,000	500	100
High: $100,000 or more	12,500	8,300	9,400	1,600	‡	7,800	3,900	3,600	200	100

#Rounds to zero.

‡Reporting standards not met. (Too few cases.)

[1]See table 5 for percentage of students with each type of aid.

[2]Includes zero values (that is, unaided students). Average total aid is the sum of grants, loans, work-study, and other aid. Detail may not sum to totals because of rounding.

[3]PLUS loans are taken out by parents.

[4]All other types of aid, such as ROTC, aid for veterans' dependents and survivors, and other unidentified types of aid.

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

nondoctoral institutions. Both low- and middle-income borrowers at private not-for-profit 4-year institutions borrowed more, on average, than their counterparts at public institutions (table 6).

The likelihood of participating in a work-study program reflects both the availability of work-study funds at the different types of institutions and student need. Students at public 2-year institutions were the least likely to participate in such a program, while students at private not-for-profit 4-year institutions were the most likely to do so (table 5). At public institutions, participation rates for work-study programs were higher for low-income students than for middle-income students, but no differences were detected between the two groups in their rates of participation at private not-for-profit 4-year institutions or in the amounts earned at any type of 4-year institution (table 6).

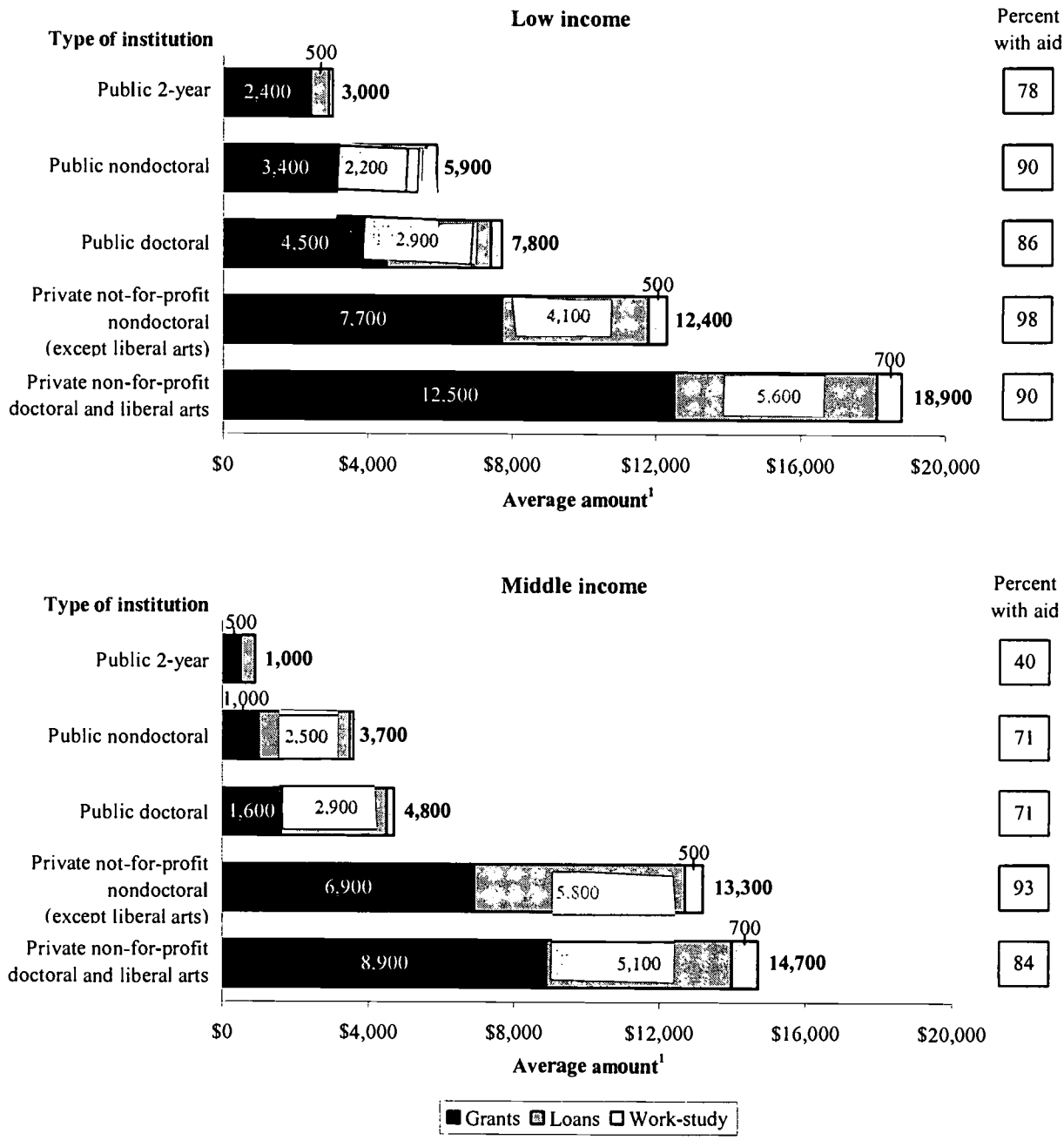
To illustrate the relative importance of the different types of aid for low- and middle-income students across institution types, figure 4 shows the average amounts of each type of aid computed using all students as the base (i.e., including unaided students). It shows the general patterns described above: more aid for low-income students, more aid as price goes up, more grant aid for low-income students than middle-income students at most types of institutions, and more loans than grants for middle-income students at public institutions.

Types of Grants

Overall, 56 percent of all full-time, dependent students received some type of grant aid, averaging $5,500 for recipients (tables 5 and 6). This aid often came from more than one source, each of which uses different criteria for allocating grants: 23 percent received federal grant aid, 22 percent received state grants, 34 percent received institutional grants, and 15 percent received grants from private sources (tables 7 and 8).

The federal government distributes almost all of its grants according to demonstrated financial need. The major federal grant program is the Pell, which awards grants to all undergraduates whose EFC falls below a certain level, established annually. When financial aid officers package aid for an undergraduate, they start with the Pell grant if the student is eligible for one. In 1999–2000, the maximum Pell award was $3,125 (U.S. Department of Education 2000). Another important federal grant is the Federal Supplemental Educational Opportunity Grant (FSEOG), which assists undergraduates with exceptional need. Designed to supplement the Pell grant (priority is given to Pell recipients), it is administered by institutions. Eligibility does not guarantee an award because the funds available to a particular institution are limited. The maximum FSEOG in 1999–2000 was $4,000 (U.S. Department of Education 2000). In

Figure 4. Average amount of aid received by all full-time, full-year dependent low- and middle-income undergraduates, by type of aid, type of institution, and percentage with aid: 1999–2000



[1]Averages computed using both aided and unaided students.

NOTE: Limited to undergraduates who attended only one institution and who were U.S. citizens or permanent residents. Detail may not sum to totals because types of aid other than grants, loans, and work-study are not shown. Average "other" aid did not exceed $200 at any institution type. Due to space limitations, components less than $500 are not labeled. See table 6 for amounts.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table 7. Percentage of full-time, full-year dependent undergraduates who received federal grants and average amount received, by institution type and family income: 1999–2000

Institution type and family income	Percent with federal grant			Average for students with type of grant			Average for all students[1]		
	Total	Pell	FSEOG[2]	Total	Pell	FSEOG	Total	Pell	FSEOG
Total	22.7	21.9	7.2	$2,400	$2,200	$1,000	$500	$500	$100
Public 2-year									
Total	24.0	23.8	5.6	2,300	2,200	500	600	500	#
Family income									
Low: less than $30,000	65.9	65.4	16.6	2,500	2,400	500	1,700	1,600	100
Low middle: $30,000–44,999	26.6	26.6	4.8	1,600	1,500	‡	400	400	#
Middle: $45,000–74,999	2.2	2.2	0.3	‡	‡	‡	#	#	#
Upper middle: $75,000–99,999	1.2	#	#	‡	‡	‡	#	#	#
High: $100,000 or more	#	#	#	‡	‡	‡	#	#	#
Public nondoctoral									
Total	26.9	26.4	5.7	2,300	2,200	700	600	600	#
Family income									
Low: less than $30,000	78.9	78.6	16.9	2,600	2,500	700	2,100	2,000	100
Low middle: $30,000–44,999	39.0	38.3	6.4	1,600	1,500	900	600	600	100
Middle: $45,000–74,999	4.1	3.3	1.6	1,000	900	‡	#	#	#
Upper middle: $75,000–99,999	0.3	#	0.3	‡	‡	‡	#	#	#
High: $100,000 or more	0.1	#	#	‡	‡	‡	#	#	#
Public doctoral									
Total	19.0	18.2	5.8	2,400	2,100	1,000	500	400	$100
Family income									
Low: less than $30,000	69.2	68.6	24.2	2,800	2,500	1,000	1,900	1,700	200
Low middle: $30,000–44,999	31.2	30.1	7.3	1,700	1,500	800	500	500	100
Middle: $45,000–74,999	5.3	4.0	0.9	1,100	800	‡	100	#	#
Upper middle: $75,000–99,999	0.6	0.2	0.2	‡	‡	‡	#	#	#
High: $100,000 or more	0.7	#	#	‡	‡	‡	#	#	#
Private not-for-profit nondoctoral (except liberal arts)									
Total	26.0	24.8	12.6	2,500	2,100	1,000	700	500	100
Family income									
Low: less than $30,000	86.9	84.8	45.2	3,000	2,500	1,000	2,600	2,200	500
Low middle: $30,000–44,999	40.2	39.1	15.8	1,500	1,200	900	600	500	100
Middle: $45,000–74,999	5.4	4.1	2.6	1,200	‡	‡	100	#	#
Upper middle: $75,000–99,999	1.0	#	0.5	‡	‡	‡	#	#	#
High: $100,000 or more	0.4	#	#	‡	‡	‡	#	#	#
Private not-for-profit doctoral and liberal arts									
Total	18.7	17.3	10.4	2,800	2,000	1,600	500	300	200
Family income									
Low: less than $30,000	74.8	74.1	42.7	3,300	2,400	1,600	2,500	1,800	700
Low middle: $30,000–44,999	39.7	37.6	22.7	2,100	1,300	1,600	900	500	400
Middle: $45,000–74,999	8.6	6.6	4.2	1,800	1,100	‡	200	100	100
Upper middle: $75,000–99,999	2.3	0.4	1.0	‡	‡	‡	100	#	#
High: $100,000 or more	1.1	0.3	0.4	‡	‡	‡	#	#	#

#Rounds to zero.

‡Reporting standards not met. (Too few cases.)

[1]Includes zero values (that is, students without grants).

[2]Federal Supplemental Educational Opportunity Grant.

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table 8. Percentage of full-time, full-year dependent undergraduates who received nonfederal grants from various sources and average amount received, by institution type and family income: 1999–2000

Institution type and family income	Percent with grants			Average for students with type of grant			Average for all students		
	Institutional	State	Private	Institutional	State	Private	Institutional	State	Private
Total	33.5	21.7	14.8	$5,200	$2,100	$2,200	$1,700	$500	$300
Public 2-year									
Total	16.2	18.3	8.5	900	1,200	1,300	100	200	100
Family income									
Low: less than $30,000	25.2	35.4	7.6	800	1,300	‡	200	500	100
Low middle: $30,000–44,999	16.1	21.2	8.6	‡	1,100	‡	200	200	100
Middle: $45,000–74,999	11.8	11.5	11.3	1,000	1,100	1,100	100	100	100
Upper middle: $75,000–99,999	15.2	3.2	8.2	‡	‡	‡	200	#	#
High: $100,000 or more	7.8	5.0	2.9	‡	‡	‡	100	100	100
Public nondoctoral									
Total	20.4	22.3	12.9	2,000	1,800	1,800	400	400	200
Family income									
Low: less than $30,000	25.0	38.2	10.0	1,600	1,900	1,800	400	700	200
Low middle: $30,000–44,999	22.9	33.5	16.8	1,900	1,900	2,200	400	600	400
Middle: $45,000–74,999	19.6	19.2	13.0	2,200	1,400	1,600	400	300	200
Upper middle: $75,000–99,999	17.3	5.5	16.6	2,500	1,700	1,600	400	100	300
High: $100,000 or more	14.6	6.1	8.9	2,300	‡	2,400	300	100	200
Public doctoral									
Total	26.5	19.4	16.2	3,300	2,200	2,000	900	400	300
Family income									
Low: less than $30,000	37.9	43.0	14.8	3,000	2,400	2,100	1,200	1,000	300
Low middle: $30,000–44,999	32.5	26.5	17.6	3,300	2,300	2,600	1,100	600	500
Middle: $45,000–74,999	25.7	16.1	16.5	3,500	2,100	1,900	900	300	300
Upper middle: $75,000–99,999	20.6	9.5	17.8	2,900	1,900	2,100	600	200	400
High: $100,000 or more	18.2	6.6	14.7	4,100	1,800	1,700	700	100	300
Private not-for-profit nondoctoral (except liberal arts)									
Total	72.3	32.3	21.5	6,100	2,700	2,300	4,400	900	500
Family income									
Low: less than $30,000	65.6	50.1	17.3	4,900	2,700	2,300	3,200	1,400	400
Low middle: $30,000–44,999	74.5	47.7	25.4	6,200	3,100	2,200	4,600	1,500	600
Middle: $45,000–74,999	77.5	34.3	24.7	6,800	2,700	2,500	5,200	900	600
Upper middle: $75,000–99,999	76.5	16.3	20.9	6,000	1,700	1,800	4,600	300	400
High: $100,000 or more	65.5	8.5	17.9	5,900	1,500	2,400	3,900	100	400
Private not-for-profit doctoral and liberal arts									
Total	60.4	20.3	17.9	10,000	2,800	3,700	6,100	600	700
Family income									
Low: less than $30,000	73.2	38.0	16.7	11,200	3,500	3,300	8,200	1,300	500
Low middle: $30,000–44,999	71.5	31.9	20.4	11,900	3,200	3,000	8,500	1,000	600
Middle: $45,000–74,999	69.7	29.6	19.9	10,400	2,500	3,900	7,200	700	800
Upper middle: $75,000–99,999	60.9	7.0	20.7	9,600	‡	2,800	5,900	200	600
High: $100,000 or more	40.9	6.2	14.1	7,600	1,700	4,600	3,100	100	600

#Rounds to zero.

‡Reporting standards not met. (Too few cases.)

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

1999–2000, more low-income students received Pell grants (65 percent) than FSEOGs (17 percent) (table 7).

The percentage of low-income students with federal grant aid ranged from 66 percent at public 2-year institutions (where the average amount received was $2,500) to 87 percent at private not-for-profit nondoctoral institutions (where the average amount was $3,000). In both the public and private not-for-profit sectors, low-income students at nondoctoral institutions were more likely than their counterparts at doctoral or doctoral and liberal arts institutions to receive grants despite the lower average price of attending a nondoctoral institution. Low-income students at private not-for-profit institutions were more likely than those at public institutions to receive FSEOG awards because these institutions have greater access to this type of aid rather than greater eligibility on the part of students.

Reflecting the fact that the target population for federal grant programs is low-income students, relatively few middle-income students received federal grants: 2 percent at public 2-year institutions and 4 to 9 percent at 4-year institutions. Those middle-income students who do receive federal grant aid are likely to have lower than average EFCs because of family circumstances, most likely multiple students in college.

The criteria for receiving state grants are more diverse than those used in federal programs. Most state grant programs are need-based, but they differ in the rules they use to establish eligibility (Lee and Clery 1999). Since the mid-1990s, a number of states have introduced merit-based grant programs based on high school performance (Creech and Davis 1999), but in 1999–2000, relatively few students (3 percent) received merit-only grants (Berkner et al. 2002). The percentage of low-income students receiving state grants ranged from 35 percent at public 2-year institutions to 50 percent at private not-for-profit nondoctoral institutions (table 8). Low-income students were generally more likely than middle-income students to receive state grants.[8] The average amount of state grants ranged from $1,300 to $3,500 for low-income recipients, and from $1,100 to $2,700 for their middle-income counterparts.

Some institutions, especially those in the private sector, have their own funds for grant aid. As indicated earlier, they can distribute this aid to meet their own specific educational or enrollment goals. Low-income students were more likely than middle-income students to receive institutional grants at public 2-year institutions (25 percent vs. 12 percent) and public doctoral institutions (38 percent vs. 26 percent). However, no differences were detected between low- and middle-income students in their likelihood of receiving institutional grant aid at public

[8]At private not-for-profit doctoral and liberal arts institutions, there was not enough statistical evidence to confirm the apparent difference in the percentages of low- and middle-income students receiving state aid.

nondoctoral institutions or private not-for-profit doctoral and liberal arts institutions. At private not-for-profit nondoctoral institutions, middle-income students were more likely than low-income students to receive institutional grants (77 percent vs. 66 percent).

Unlike federal and state grant aid programs, the amount of institutional aid awarded is not subject to maximum limits. Institutions' own financial resources and policies determine the size of awards. At nondoctoral institutions in both sectors, middle-income students with institutional grants generally received larger awards than their low-income counterparts, but no such differences were found at the other types of institutions.

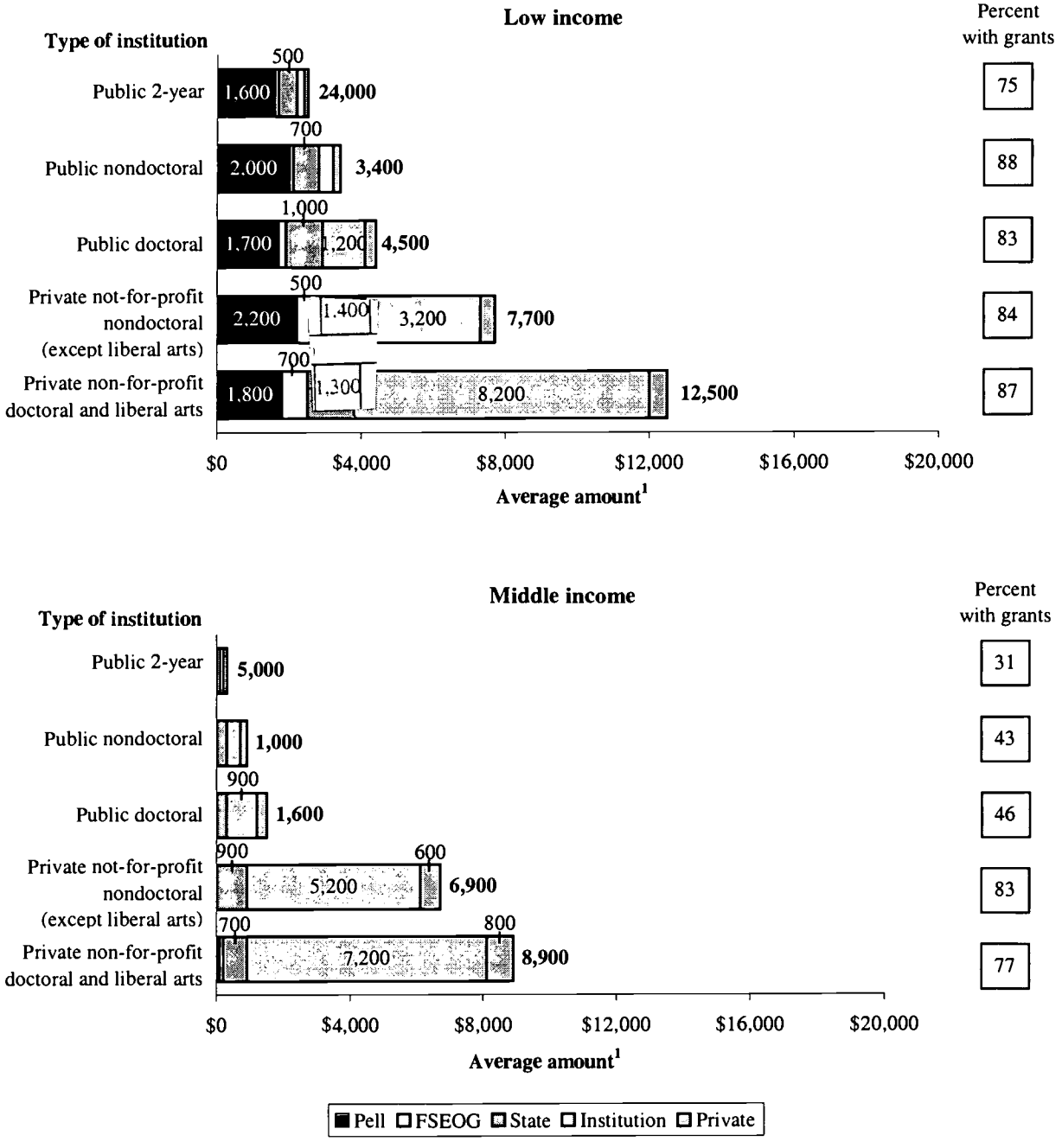
Grants from private sources are awarded according to criteria established by the donor, and therefore do not vary systematically with income. Fifteen percent of all students obtained private grant aid. For those who received this type of aid, the average amount varied from $1,300 at public 2-year institutions to $3,700 at private not-for-profit doctoral and liberal arts institutions.

Figure 5 shows the average amount of grant aid for all students, computed including those without grants, to illustrate the relative proportion of total grant aid that came from various sources for low- and middle-income students at each type of institution. It highlights both the extent to which federal and state aid (especially federal aid) is targeted toward low-income students and the relatively larger amounts of institutional aid that private not-for-profit institutions provide to both low- and middle-income students.

Types of Loans

Most students who borrow use federal loan programs: 44 percent of all full-time dependent undergraduates or their parents borrowed from nonfamily sources to help pay for their education (see table 5), and 43 percent borrowed through one or more of the federal loan programs (table 9). Undergraduates attending at least half time who have financial need can take out subsidized Stafford loans, which are interest free to students until 6 months after they graduate, leave school, or fall below half-time attendance status. The annual maximums allowed for dependent undergraduates in 1999–2000 were $2,625 in the first year, $3,500 in the second year, and $5,500 in later years, with a cumulative maximum of $23,000 for subsidized Stafford loans (U.S. Department of Education 2000). Students may also take out unsubsidized Stafford loans whether or not they have financial need, but students may not borrow more in combined subsidized and unsubsidized loans than the annual and cumulative maximums imposed for subsidized loans. Federal Perkins loans are administered by the institution and are targeted toward students with exceptional financial need. They have an annual maximum of $4,000 and a cumulative maximum of $15,000. In addition, parents of dependent undergraduates may take out loans

Figure 5. Average amount of grant aid received by all full-time, full-year dependent low- and middle-income undergraduates, by type of grant, type of institution, and percentage with grants: 1999–2000



[1]Averages computed using zero values.

NOTE: Limited to undergraduates who attended only one institution and who were U.S. citizens or permanent residents. Detail may not sum to totals because of rounding. Due to space limitations, components less than $500 are not labeled. See tables 7 and 8 for amounts.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table 9. Percentage of full-time, full-year dependent undergraduates who took out federal loans and average amount received, by institution type and family income: 1999–2000

Institution type and family income	Percent with federal loan					Average for students with type of loan					Average for all students[1]				
	Any	Stafford sub-sidized	Perkins	Stafford unsub-sidized	PLUS	Any	Stafford sub-sidized	Perkins	Stafford unsub-sidized	PLUS	Any	Stafford sub-sidized	Perkins	Stafford unsub-sidized	PLUS
Total	43.2	32.5	7.3	18.2	7.0	$5,400	$3,300	$1,800	$3,200	$7,600	$2,322	$1,080	$129	$579	$531
Public 2-year															
Total	13.4	8.9	0.2	6.6	0.5	2,700	2,200	0	2,100	‡	400	200	#	100	#
Family income															
Low: less than $30,000	14.0	13.6	0.4	1.6	0.9	2,900	2,500	‡	‡	‡	400	300	#	#	#
Low middle: $30,000–44,999	18.3	16.4	0.7	8.2	#	2,700	‡	‡	‡	‡	500	300	#	100	#
Middle: $45,000–74,999	13.1	6.7	#	8.2	0.6	2,600	‡	‡	‡	‡	300	100	#	200	#
Upper middle: $75,000–99,999	14.9	1.0	#	14.9	0.4	‡	‡	‡	‡	‡	400	#	#	300	#
High: $100,000 or more	3.6	#	#	3.6	#	‡	‡	‡	‡	‡	100	#	#	100	#
Public nondoctoral															
Total	46.5	34.2	4.0	22.9	5.6	4,500	3,000	1,700	3,100	5,500	2,100	1,000	100	700	300
Family income															
Low: less than $30,000	51.5	49.4	8.2	8.9	2.1	4,000	3,300	1,800	2,000	‡	2,000	1,600	100	200	100
Low middle: $30,000–44,999	53.1	49.5	7.4	16.6	5.5	4,400	3,100	1,800	2,300	‡	2,300	1,500	100	400	300
Middle: $45,000–74,999	50.2	36.1	2.0	29.6	7.8	4,600	2,800	‡	2,900	5,300	2,300	1,000	#	900	400
Upper middle: $75,000–99,999	41.0	14.1	0.7	35.7	7.0	5,100	2,300	‡	3,700	6,300	2,100	300	#	1,300	400
High: $100,000 or more	27.5	6.9	0.3	25.8	5.1	5,400	‡	‡	4,000	‡	1,500	100	#	1,000	300
Public doctoral															
Total	44.5	31.9	7.2	20.0	7.7	5,300	3,300	1,700	3,400	6,900	2,400	1,000	100	700	500
Family income															
Low: less than $30,000	59.1	56.0	15.7	9.3	3.4	4,600	3,500	1,800	2,400	‡	2,700	2,000	300	200	200
Low middle: $30,000–44,999	51.0	48.1	14.4	11.1	7.4	5,000	3,400	1,700	2,400	5,400	2,500	1,600	200	300	400
Middle: $45,000–74,999	49.0	37.7	6.2	23.7	10.4	5,400	3,100	1,600	3,100	6,500	2,700	1,200	100	700	700
Upper middle: $75,000–99,999	35.4	15.4	1.6	26.1	7.8	5,900	2,900	‡	3,800	8,100	2,100	400	#	1,000	600
High: $100,000 or more	28.7	5.2	0.5	25.5	7.8	6,400	2,900	‡	4,000	8,200	1,800	200	#	1,000	600

See notes at end of table.

Table 9. Percentage of full-time, full-year dependent undergraduates who took out federal loans and average amount received, by institution type and family income: 1999–2000—Continued

Institution type and family income	Percent with federal loan					Average for students with type of loan					Average for all students[1]				
	Any	Stafford sub-sidized	Perkins	Stafford unsub-sidized	PLUS	Any	Stafford sub-sidized	Perkins	Stafford unsub-sidized	PLUS	Any	Stafford sub-sidized	Perkins	Stafford unsub-sidized	PLUS
Private not-for-profit nondoctoral (except liberal arts)															
Total	66.9	53.8	13.0	24.5	13.2	$6,100	$3,600	$1,700	$3,300	$8,200	$4,100	$2,000	$200	$800	$1,100
Family income															
Low: less than $30,000	65.8	61.6	23.4	11.8	6.6	5,300	3,800	1,600	3,200	‡	3,500	2,400	400	400	400
Low middle: $30,000–44,999	73.7	70.9	24.4	16.3	12.9	5,800	3,700	1,700	2,800	5,700	4,300	2,600	400	500	700
Middle: $45,000–74,999	76.7	66.0	12.4	26.6	15.9	5,900	3,600	1,800	2,900	7,200	4,500	2,300	200	800	1,100
Upper middle: $75,000–99,999	65.5	43.3	2.1	35.6	16.2	6,500	3,300	‡	3,600	9,300	4,200	1,400	#	1,300	1,500
High: $100,000 or more	45.8	17.6	1.3	33.1	13.6	7,800	3,700	‡	3,800	12,200	3,600	600	#	1,200	1,700
Private not-for-profit doctoral and liberal arts															
Total	57.1	46.4	19.0	17.9	11.6	6,900	3,800	2,000	3,200	10,200	3,900	1,800	400	600	1,200
Family income															
Low: less than $30,000	75.2	70.1	35.0	12.7	7.5	6,200	4,200	2,000	3,500	‡	4,600	3,000	700	400	500
Low middle: $30,000–44,999	69.7	63.5	27.1	17.2	9.5	6,300	3,900	2,100	2,600	‡	4,400	2,500	600	500	900
Middle: $45,000–74,999	66.2	61.1	25.3	16.3	15.1	6,600	3,700	1,900	2,600	7,900	4,300	2,300	500	400	1,200
Upper middle: $75,000–99,999	54.6	39.8	14.0	20.4	13.1	7,300	3,600	1,500	3,600	12,200	4,000	1,400	200	700	1,600
High: $100,000 or more	36.1	18.2	5.0	20.8	10.3	8,100	3,600	2,600	3,600	13,500	2,900	700	100	700	1,400

#Rounds to zero.

‡Reporting standards not met. (Too few cases.)

[1]Includes zero values (that is, students without loans).

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

through the federal Parent Loans to Undergraduate Students (PLUS) program. There are no fixed limits, but parents must demonstrate that they are not credit-unworthy (i.e., parents with no credit history are eligible) and may not borrow an amount that exceeds the student budget minus any other financial aid.

Students at public 2-year institutions were less likely than those at any other type of institution to take out federal loans (13 percent vs. 45 to 67 percent) (table 9). At public 2-year and public 4-year nondoctoral institutions, no differences were detected in the percentages of low- and middle-income students taking out federal loans. However, at other types of institutions, low-income students were generally more likely than middle-income students to borrow through federal loan programs. The exception was at private not-for-profit nondoctoral institutions, where middle-income students were more likely than their low-income peers to take out federal loans (77 percent vs. 66 percent). Both low- and middle-income students at private not-for-profit 4-year institutions tended to borrow more in federal loans than their peers at public institutions.[9] Depending on the type of institution attended, the average amount of federal student loans ranged from $2,900 to $6,200 for low-income borrowers, and from $2,600 to $6,600 for middle-income borrowers.

Low-income students were generally more likely than middle-income students to take out subsidized Stafford loans, except at private-not-for-profit nondoctoral institutions, where no difference was detected. At all types of 4-year institutions, low-income borrowers took out larger subsidized Stafford loans, on average, than their middle-income counterparts. This pattern reflects the fact that middle-income students have less need to borrow, but also that the amounts that middle-income students can borrow in subsidized loans are restricted by their calculated financial need. In other words, even if they wanted to borrow more, they might not be eligible to do so.

At 4-year institutions, middle-income students were generally more likely than low-income students to take out unsubsidized Stafford loans, except at private-not-for-profit doctoral and liberal arts institutions, where no difference was detected. The average amount in unsubsidized Stafford loans ranged from $2,000 to $3,500 for low-income borrowers with this type of loan, and from $2,600 to $3,100 for middle-income borrowers.

The percentage of students with parents who took out PLUS loans ranged from 1 to 8 percent for low-income students and from 1 to 16 percent for middle-income students, depending

[9]For middle-income students, there was not enough statistical evidence to confirm the apparent difference in the average amounts borrowed at private not-for-profit nondoctoral versus public doctoral institutions.

on the type of institution. Among middle-income students whose parents took out this type of loan, the average amount ranged from $5,300 to $7,900.

Figure 6 shows the average amounts taken out in loans for all students, computed including those without loans to illustrate the relative proportion of total borrowing that came from various sources for low- and middle-income students at each type of institution. It highlights the amount of unsubsidized borrowing (Stafford unsubsidized and PLUS) by middle-income students compared with low-income ones.

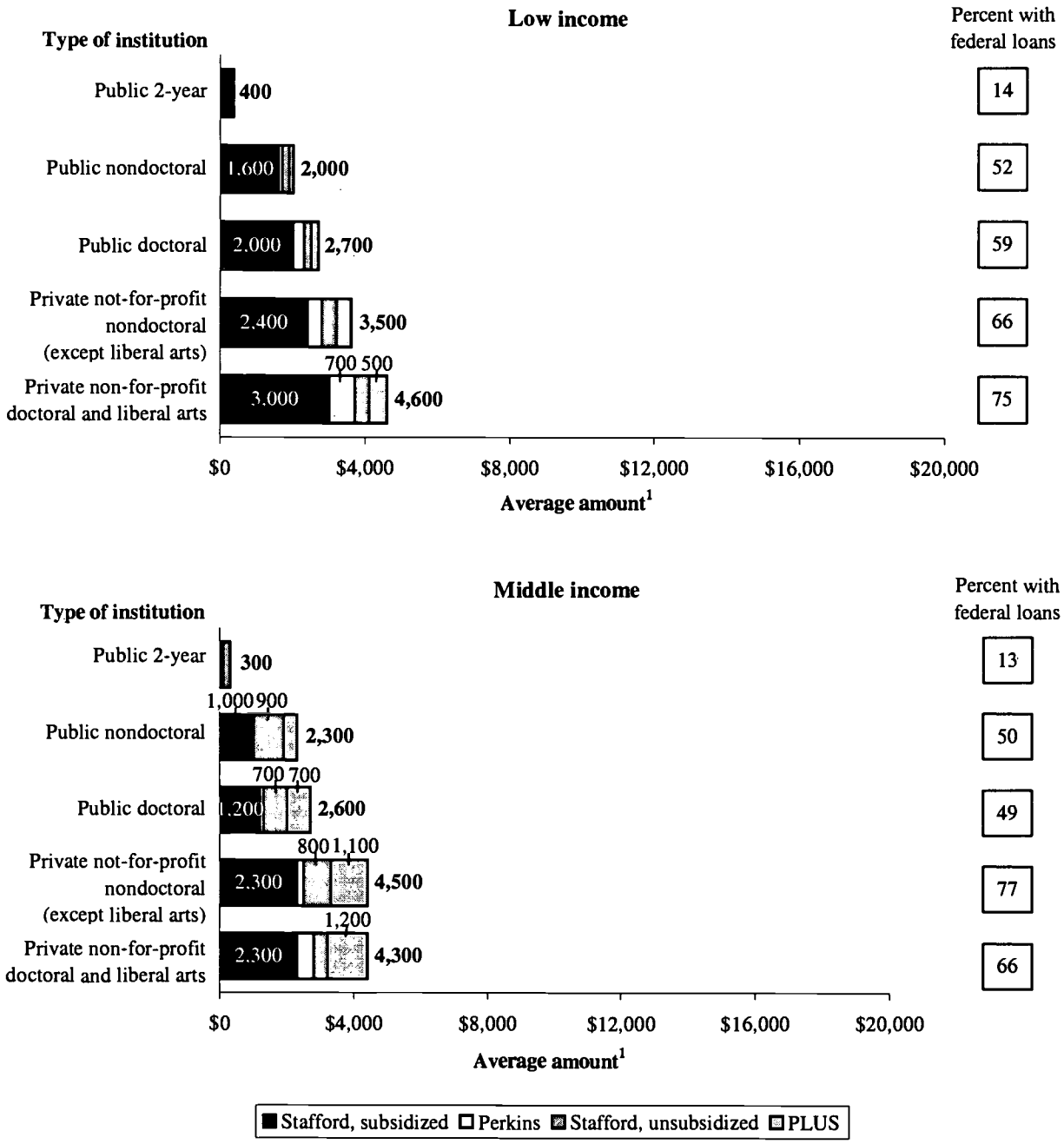
Among low- and middle-income students who earned a bachelor's degree in 1999–2000, about 60 to 70 percent of those who graduated from a public institution and about 72 to 88 percent of those who graduated from a private not-for-profit institution had borrowed to help pay for their education (table 10). Middle-income students borrowed more, on average, than low-income students except at private not-for-profit nondoctoral institutions, where no difference was observed.

Relative Importance of Grants and Loans

Table 11 shows what percentage of the student budget was covered by financial aid, among those who received aid, and what percentage of aid came from grants and loans at each institution type. For aided low-income students, aid covered almost half (48 percent) of the student budget, on average, at public 2-year institutions. At both types of public 4-year institutions and at private not-for-profit nondoctoral institutions, aid covered 64 to 68 percent of the student budget, and at private not-for-profit doctoral and liberal arts institutions, it covered 75 percent. For aided middle-income students, aid covered 29 percent of the student budget, on average, at public 2-year institutions, 46 to 50 percent at public 4-year institutions, and 62 to 63 percent at private not-for-profit 4-year institutions.

At each type of institution, low-income students had more of their budget covered by financial aid than middle-income students, on average, and a greater proportion was covered by grants. For low-income students, from 39 to 49 percent of their student budget was covered by grants, on average, depending on the type of institution they attended. For middle-income students, the average ratio of grants to budget did not exceed 16 percent at public institutions, but in the private not-for-profit sector, it was higher: 32 percent at nondoctoral institutions and 37 percent at doctoral and liberal arts institutions. The percentage of the total student budget covered by loans was greater for middle-income students than for low-income students except at private not-for-profit doctoral and liberal arts institutions, where no difference was detected.

Figure 6. Average amount borrowed in federal loans by all full-time, full-year dependent low- and middle-income undergraduates, by type of federal aid, type of institution, and percentage with federal loans: 1999–2000



[1]Averages computed using zero values.

NOTE: Limited to undergraduates who attended only one institution and who were U.S. citizens or permanent residents. Detail may not sum to totals because of rounding. Due to space limitations, components less than $500 are not labeled. See table 9 for for amounts.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table 10. Among full-time, full-year dependent undergraduates who received a bachelor's degree in 1999–2000, percentage who ever borrowed federal loans (including PLUS), and for those who borrowed, the average cumulative amount borrowed, by institution type and family income: 1999–2000

Institution type and family	Percent	Average amount
Total	62.0	$20,100
	Public nondoctoral	
Total	56.8	15,500
Family income		
Low: less than $30,000	66.2	13,900
Low middle: $30,000–44,999	55.7	15,000
Middle: $45,000–74,999	63.6	17,900
Upper middle: $75,000–99,999	55.1	14,300
High: $100,000 or more	35.8	14,500
	Public doctoral	
Total	56.2	19,200
Family income		
Low: less than $30,000	70.0	15,200
Low middle: $30,000–44,999	59.0	19,000
Middle: $45,000–74,999	60.5	18,600
Upper middle: $75,000–99,999	49.5	18,400
High: $100,000 or more	44.1	26,000
	Private not-for-profit nondoctoral (except liberal arts)	
Total	78.4	20,800
Family income		
Low: less than $30,000	87.6	19,700
Low middle: $30,000–44,999	80.0	19,200
Middle: $45,000–74,999	84.6	21,000
Upper middle: $75,000–99,999	76.1	21,200
High: $100,000 or more	62.2	23,000
	Private not-for-profit doctoral and liberal arts	
Total	63.1	24,500
Family income		
Low: less than $30,000	81.9	19,800
Low middle: $30,000–44,999	78.7	21,600
Middle: $45,000–74,999	71.6	26,200
Upper middle: $75,000–99,999	58.9	26,600
High: $100,000 or more	42.7	26,100

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table 11. For full-time, full-year dependent undergraduates who received financial aid, average percentage of budget or aid from various sources, by institution type and family income: 1999–2000

Institution type and family income	Total aid/ student budget	Grants/ student budget[1]	Loans[2]/ student budget[1]	Grants/ total aid[1]	Pell/ total aid[1]	Loans[2]/ total aid[1]
Total	52.7	26.6	23.7	54.2	11.9	40.7
Public 2-year						
Total	38.1	26.8	9.6	74.0	29.5	20.6
Family income						
Low: less than $30,000	48.1	40.4	6.1	86.0	55.2	9.0
Low middle: $30,000–44,999	36.2	21.0	13.5	69.9	26.9	26.8
Middle: $45,000–74,999	29.2	14.4	12.2	63.0	2.5	30.8
Upper middle: $75,000–99,999	24.6	9.7	14.8	59.0	#	40.9
High: $100,000 or more	‡	‡	‡	‡	‡	‡
Public nondoctoral						
Total	52.1	22.0	27.6	46.2	15.0	48.6
Family income						
Low: less than $30,000	64.0	38.6	22.3	64.5	39.8	30.7
Low middle: $30,000–44,999	53.1	23.2	27.2	47.8	15.0	47.2
Middle: $45,000–74,999	46.4	12.2	31.4	33.3	1.2	60.9
Upper middle: $75,000–99,999	43.7	10.9	31.3	35.9	#	58.4
High: $100,000 or more	42.7	13.0	27.6	39.7	#	56.2
Public doctoral						
Total	52.5	22.6	27.5	47.3	7.5	47.9
Family income						
Low: less than $30,000	68.3	39.9	25.5	61.7	24.9	33.8
Low middle: $30,000–44,999	56.6	25.7	27.4	48.7	9.6	45.1
Middle: $45,000–74,999	49.7	16.2	31.1	37.7	0.8	57.4
Upper middle: $75,000–99,999	42.4	14.6	26.1	42.3	#	53.0
High: $100,000 or more	41.4	14.5	25.1	47.4	#	48.8
Private not-for-profit nondoctoral (except liberal arts)						
Total	60.2	32.5	24.7	56.5	7.5	38.2
Family income						
Low: less than $30,000	67.9	43.4	20.8	67.6	29.6	27.0
Low middle: $30,000–44,999	65.7	36.1	25.1	55.7	5.7	36.6
Middle: $45,000–74,999	62.6	31.7	27.8	51.1	0.4	44.1
Upper middle: $75,000–99,999	52.6	25.8	25.0	53.1	#	43.5
High: $100,000 or more	47.7	22.1	23.5	55.8	#	38.4
Private not-for-profit doctoral and liberal arts						
Total	59.9	35.2	22.1	59.1	2.9	36.2
Family income						
Low: less than $30,000	75.0	49.1	23.0	64.9	12.3	31.0
Low middle: $30,000–44,999	70.8	43.8	23.6	61.6	4.6	33.1
Middle: $45,000–74,999	62.1	36.9	22.4	59.7	0.6	35.4
Upper middle: $75,000–99,999	56.8	30.6	23.7	56.6	0.1	38.9
High: $100,000 or more	42.7	21.9	19.2	54.5	0.1	40.5

#Rounds to zero.

‡Reporting standards not met. (Too few cases.)

[1]Ratio computed using zero values for grants and loans.

[2]Includes PLUS loans.

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

At each type of institution, grants constituted a higher percentage of total aid, on average, for low-income students than for middle-income students. Among low-income students with any financial aid, an average of 86 percent of their total aid came from grants at public 2-year colleges, and 62 to 68 percent at the other types of institution attended.

Sources of Aid

As mentioned previously, students are able to draw upon several sources of aid—from federal and state governments, institutions, and private organizations—to meet their financial need. For low-income students who received financial aid, federal aid (including grants and loans) constituted from 46 to 73 percent of total aid, on average, depending on the type of institution attended (table 12). For aided middle-income students, it ranged from 30 to 61 percent. At 4-year institutions, the relative contribution of state aid to total aid was generally higher, on average, for low-income students than for middle-income students.[10] At each type of institution, institutional aid made up a greater proportion of total aid, on average, for middle-income students than for low-income students.

Remaining (Unmet) Need

Remaining, or unmet, need represents the amount of the total budget not covered by either the EFC or financial aid. In 1999–2000, about one-half of all full-time dependent students had at least some unmet need (table 13). Depending on the type of the institution attended, 74 to 92 percent of low-income students and 38 to 65 percent of middle-income students had unmet need. At each type of institution, low-income students were more likely than middle-income students to have unmet need. Among students with unmet need, the average amount ranged from $4,000 to $9,300 for low-income students, and from $2,100 to $10,700 for middle-income students. At public institutions, low-income students with unmet need averaged higher amounts than their middle-income counterparts. At private not-for-profit 4-year nondoctoral institutions, no difference was detected between low- and middle-income students, and at private not-for-profit doctoral and liberal arts institutions, the apparent difference was not statistically significant.

While it would be tempting to use the amount of unmet need as a measure of the adequacy of the amount of financial aid awarded relative to need, it would be misleading to do so. To evaluate the adequacy of financial aid, one would have to consider the circumstances of not only enrolled students, but also potential students who did not enroll because they lacked the

[10]At public 2-year institutions, there was not enough statistical evidence to confirm the apparent difference between low- and middle-income students in the ratios of state aid to total aid.

Table 12. For full-time, full-year dependent undergraduates who received financial aid, average ratios of federal, state, and institutional aid to total aid, by institution type and family income: 1999–2000

Institution type and family income	Federal aid/ total aid[1]	State aid/ total aid[1]	Institutional aid/ total aid[1]
Total	52.1	10.5	25.0
		Public 2-year	
Total	51.4	16.3	17.5
Family income			
Low: less than $30,000	69.9	14.5	11.2
Low middle: $30,000–44,999	52.0	19.3	18.7
Middle: $45,000–74,999	29.9	20.0	20.7
Upper middle: $75,000–99,999	41.2	4.1	35.4
High: $100,000 or more	‡	‡	‡
		Public nondoctoral	
Total	63.3	11.3	13.8
Family income			
Low: less than $30,000	73.4	13.2	8.0
Low middle: $30,000–44,999	63.1	15.4	11.5
Middle: $45,000–74,999	60.7	10.1	15.7
Upper middle: $75,000–99,999	53.8	6.3	19.6
High: $100,000 or more	52.9	8.0	23.3
		Public doctoral	
Total	55.3	11.2	19.4
Family income			
Low: less than $30,000	62.5	15.0	14.8
Low middle: $30,000–44,999	56.7	12.4	18.1
Middle: $45,000–74,999	56.3	10.4	19.6
Upper middle: $75,000–99,999	49.9	9.0	21.2
High: $100,000 or more	47.0	8.1	24.9
		Private not-for-profit nondoctoral (except liberal arts)	
Total	43.2	7.4	39.5
Family income			
Low: less than $30,000	60.2	9.8	22.9
Low middle: $30,000–44,999	42.6	11.7	36.3
Middle: $45,000–74,999	39.4	7.0	41.7
Upper middle: $75,000–99,999	38.9	4.7	47.3
High: $100,000 or more	31.8	3.2	53.6
		Private not-for-profit doctoral and liberal arts	
Total	38.1	5.2	46.1
Family income			
Low: less than $30,000	46.0	8.2	39.7
Low middle: $30,000–44,999	37.1	6.8	48.7
Middle: $45,000–74,999	35.3	6.2	48.6
Upper middle: $75,000–99,999	35.3	2.5	48.4
High: $100,000 or more	38.0	2.8	44.6

‡Reporting standards not met. (Too few cases.)

[1]Ratio computed using zero values for federal, state, and institutional aid.

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table 13. Percentage distribution of full-time, full-year dependent undergraduates according to the amount of unmet need, and for those with unmet need, the average amount, by institution type and family income: 1999–2000

Institution type and family income	None	Less than $1,000	$1,000–2,999	$3,000–4,999	$5,000–9,999	$10,000 or more	If unmet need, average amount
Total	51.5	6.4	13.1	10.9	12.4	5.7	$5,100
Public 2-year							
Total	47.5	7.2	16.7	13.5	13.4	1.8	3,900
Family income							
Low: less than $30,000	7.7	6.8	21.4	26.4	33.5	4.3	4,700
Low middle: $30,000–44,999	18.8	9.7	27.6	19.7	20.5	3.7	3,900
Middle: $45,000–74,999	61.7	10.7	18.4	8.2	1.1	#	2,100
Upper middle: $75,000–99,999	97.8	1.1	#	#	1.1	#	‡
High: $100,000 or more	100.0	#	#	#	#	#	‡
Public nondoctoral							
Total	52.8	7.5	15.8	12.4	9.8	1.7	3,600
Family income							
Low: less than $30,000	17.3	9.2	27.8	22.6	19.3	3.7	4,000
Low middle: $30,000–44,999	25.4	12.1	23.7	20.0	16.5	2.4	3,700
Middle: $45,000–74,999	56.1	9.4	15.1	11.0	7.2	1.2	3,100
Upper middle: $75,000–99,999	92.2	2.3	3.3	1.6	0.7	#	2,600
High: $100,000 or more	98.1	0.7	0.5	0.2	0.5	#	‡
Public doctoral							
Total	57.5	6.0	11.3	9.2	11.9	4.1	4,700
Family income							
Low: less than $30,000	26.3	9.6	17.7	13.3	22.0	11.2	5,400
Low middle: $30,000–44,999	24.6	6.5	18.3	19.0	23.7	7.9	5,200
Middle: $45,000–74,999	51.0	9.0	13.9	11.0	12.4	2.7	4,000
Upper middle: $75,000–99,999	83.7	3.0	6.0	3.4	3.0	0.8	3,600
High: $100,000 or more	95.4	1.1	1.4	0.9	1.3	#	3,200
Private not-for-profit nondoctoral (except liberal arts)							
Total	48.4	6.3	10.9	12.1	14.1	8.2	5,600
Family income							
Low: less than $30,000	18.5	5.7	15.8	26.0	22.9	11.2	5,600
Low middle: $30,000–44,999	26.4	9.7	14.1	15.6	22.5	11.7	5,800
Middle: $45,000–74,999	49.3	8.7	11.3	9.1	11.8	9.8	5,700
Upper middle: $75,000–99,999	66.6	3.9	8.3	6.4	9.6	5.2	5,200
High: $100,000 or more	84.8	2.0	4.1	3.3	4.5	1.4	5,000
Private not-for-profit doctoral and liberal arts							
Total	43.6	4.4	9.4	7.0	14.7	20.9	9,700
Family income							
Low: less than $30,000	21.6	8.8	14.7	8.6	20.0	26.3	9,300
Low middle: $30,000–44,999	29.6	2.8	10.5	8.9	18.5	29.8	12,000
Middle: $45,000–74,999	35.4	4.9	10.5	6.7	15.8	26.7	10,700
Upper middle: $75,000–99,999	47.5	3.2	10.6	6.1	9.1	23.7	9,100
High: $100,000 or more	65.3	2.9	4.7	6.3	12.9	8.0	7,000

#Rounds to zero.

‡Reporting standards not met. (Too few cases.)

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

necessary funds, and students who dropped out because their alternative strategies for obtaining funds were no longer workable. NPSAS includes only enrolled students, and even for enrolled students the adequacy of financial aid is difficult to assess. The fact that students with unmet need enrolled anyway means that somehow they found enough money to attend, even though their enrollment may have created a financial hardship for their families or had personal or educational costs for the student. They may have lived more frugally than the student budget allowed, managed to assemble more funds than the EFC, or both. To cover their remaining need, they may have worked more, assumed credit card debt, obtained gifts or loans from grandparents, a noncustodial parent, or others whose financial resources are not considered in the EFC formula, or used more of their income or savings than required by the EFC formula, to name just a few possible strategies.

Another difficulty with trying to relate unmet need to the adequacy of financial aid is that financial aid includes loans, and loans are discretionary. If students and their families choose not to borrow the maximum permitted or not to borrow at all (working more instead, for example), their calculated unmet need will go up. When students decline to borrow the maximums allowed, their need is not truly "unmet."

After Financial Aid

Financial aid does not usually cover all the education-related expenses of aided students, and not all students receive financial aid. The amount of money that students and their families have to pay during a given year to allow the students to enroll is called the "net price." For aided students, it is the amount remaining after subtracting all student financial aid from the student budget (including grants, loans, work-study, and any other aid). For students without financial aid, the net price is the same as the student budget. It is important to note that net price reflects only current outlays. When students take out loans, the total amount they pay for their education includes the amounts they borrow and repay later, plus interest. This section describes the net prices paid by full-time dependent students, compares them with the EFC, and then describes what is known about students' use of work, help from parents, and credit to cover net price.

Net Price

For this analysis, net price was computed as total price minus all financial aid *except* work-study. Because work-study programs provide wage subsidies to institutions and other employers, they help students obtain jobs. From the perspective of students, however, work-study earnings are still earnings from work and therefore they would have reported them in the telephone interview when asked about work. If work-study earnings were included in aid, they would be double-counted later in this analysis when the relative contributions of aid and work are examined.

Among low-income students, those at public nondoctoral institutions appeared to have the lowest average net price ($4,600) (table 14). No differences were detected in the average net prices of low-income students at public 2-year, public doctoral, and private not-for-profit nondoctoral institutions ($5,400 to $6,000). Because there were differences in the average prices paid at these types of institutions (table 4), more financial aid compensated for the higher prices. Low-income students at private not-for-profit doctoral and liberal arts institutions had the highest average net price ($9,100) (table 14).

Among middle-income students, those at public 2-year and public 4-year nondoctoral institutions had the lowest net prices (about $7,600). Their counterparts at public doctoral and private not-for-profit nondoctoral institutions had the next highest level of net price (around

Table 14. Percentage distribution of full-time, full-year dependent undergraduates according to the net price and average net price, by institution type and family income: 1999–2000

Institution type and family income	Less than $5,000	$5,000–9,999	$10,000–14,999	$15,000–19,999	$20,000 or more	Average net price[1]
Total	27.6	37.6	22.4	5.7	6.7	$9,000
Public 2-year						
Total	23.3	61.1	15.4	0.2	#	7,000
Family income						
Low: less than $30,000	47.0	42.7	9.9	0.4	#	5,400
Low middle: $30,000–44,999	24.6	59.9	15.5	#	#	7,000
Middle: $45,000–74,999	11.4	71.5	17.1	#	#	7,700
Upper middle: $75,000–99,999	12.9	65.9	21.2	#	#	7,900
High: $100,000 or more	6.0	74.6	18.4	1.0	#	8,000
Public nondoctoral						
Total	35.6	41.0	20.2	3.1	#	6,900
Family income						
Low: less than $30,000	64.5	27.6	6.9	1.0	#	4,600
Low middle: $30,000–44,999	43.7	40.2	14.3	1.7	0.1	6,100
Middle: $45,000–74,999	25.8	48.7	22.6	2.9	#	7,500
Upper middle: $75,000–99,999	21.3	46.8	26.3	5.6	#	8,200
High: $100,000 or more	11.9	42.0	39.7	6.4	0.1	9,200
Public doctoral						
Total	26.5	31.8	32.6	6.4	2.7	8,700
Family income						
Low: less than $30,000	55.0	26.7	15.1	2.1	1.1	5,500
Low middle: $30,000–44,999	33.7	34.8	24.8	4.7	2.0	7,700
Middle: $45,000–74,999	22.6	36.5	33.0	6.1	1.7	8,700
Upper middle: $75,000–99,999	14.0	34.6	40.5	8.0	3.0	10,000
High: $100,000 or more	12.3	25.6	46.0	10.5	5.6	11,000
Private not-for-profit nondoctoral (except liberal arts)						
Total	29.9	29.8	18.2	11.2	10.9	9,800
Family income						
Low: less than $30,000	52.7	32.6	9.0	3.8	2.0	6,000
Low middle: $30,000–44,999	29.4	45.0	13.9	6.0	5.7	8,000
Middle: $45,000–74,999	28.9	30.5	22.2	10.7	7.8	9,400
Upper middle: $75,000–99,999	16.8	26.2	26.4	16.5	14.2	12,100
High: $100,000 or more	17.1	15.0	18.6	20.8	28.5	14,400
Private not-for-profit doctoral and liberal arts						
Total	20.5	16.3	16.6	11.6	35.1	16,100
Family income						
Low: less than $30,000	45.8	19.0	15.3	7.3	12.5	9,100
Low middle: $30,000–44,999	31.2	19.7	19.4	6.3	23.4	12,200
Middle: $45,000–74,999	19.0	22.7	19.0	12.9	26.4	14,600
Upper middle: $75,000–99,999	14.9	17.7	18.9	11.2	37.2	17,100
High: $100,000 or more	8.2	7.0	12.8	14.6	57.5	22,000

#Rounds to zero.

[1]Computed including those with zero net price. Net price is total budget minus all aid except work-study. Aid includes PLUS loans.

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

$9,000). Middle-income students at private not-for-profit doctoral and liberal arts institutions had the highest average net price ($14,600).

Net Price Compared to EFC

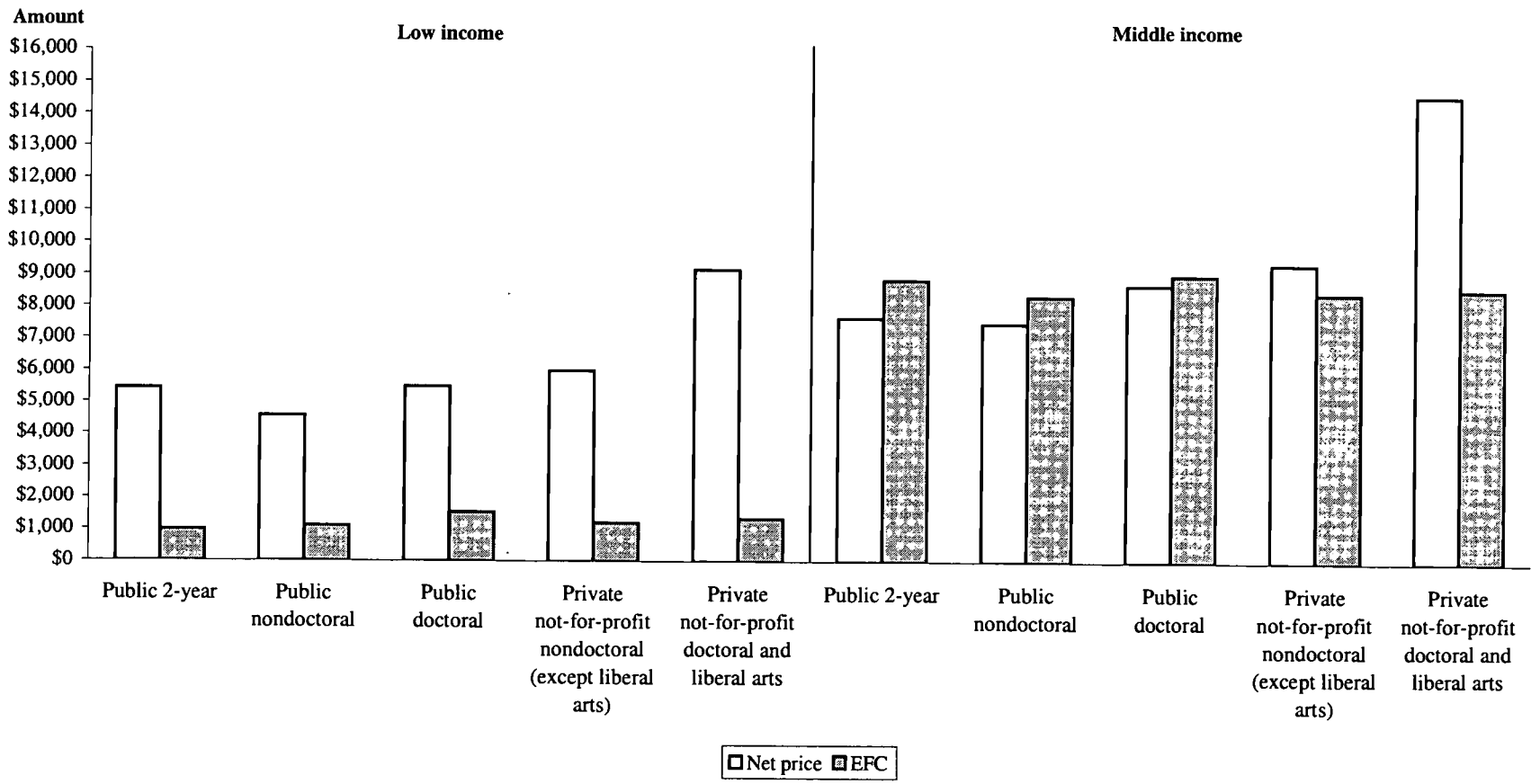
If the financial aid system works the way it is supposed to, the net price should be roughly equal to the EFC. That is, what is left to pay after financial aid should be about the same as the amount the EFC formula calculates. Consequently, one way to examine families' ability to pay for college is to compare the net price with the EFC. This addresses the question: After grants (and any other nonloan types of aid) have been awarded and loans have been taken out (either the maximum allowed or the amount that families have chosen to borrow), did families have the financial resources (at least theoretically, based on their EFC) to pay for what was left?

When comparing net price and EFC, it is important to keep in mind that families' choices about borrowing affect their net price. If students have not borrowed the maximum allowed or their parents have not taken out PLUS loans (but could have), students can reduce their net price with additional borrowing. That is, by borrowing more they could cover more of their educational expenses from financial aid and reduce the amount paid from income and savings (the net price). In fact, it is likely that students and their parents decide how much to borrow in conjunction with assessing how much they can or want to pay in the current year from income and savings.

For low-income students, the average EFC was well below the average net price at each type of institution (figure 7). That is, even after financial aid (including the amounts they were allowed or willing to borrow), the net price exceeded the amounts that students' families were expected to pay. This implies that the families came up with more funds than expected by the EFC formula. Since most low-income families are unlikely to have substantial assets to tap beyond the EFC, one of the ways they are likely to have obtained the funds needed is through additional work by the student while enrolled. (The amount that students work and the relative contributions of work and other sources to paying for college are discussed below.) Another strategy that some students may have used to help close the gap between their net price and EFC could have been to adopt a standard of living below that provided for by the student budget. Some students may use more than one strategy to close the gap.

For middle-income students at public institutions and at private not-for-profit nondoctoral institutions, the average EFC either exceeded the average net price or no difference was observed. That is, students and their families seemed to be able (at least on average) to cover their educational expenses through their own income and savings and financial aid (including

Figure 7. Average net price and expected family contribution for full-time, full-year dependent low- and middle-income undergraduates, by type of institution: 1999–2000



NOTE: Limited to undergraduates who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

borrowing). At private not-for-profit doctoral and liberal arts institutions, in contrast, the average net price exceeded the average EFC. This implies either that students at these high-priced institutions had expenses below those assumed in their budgets or that their families came up with more financial resources than required by the EFC formula—by additional student work, for example, digging deeper into their savings or assets than required by the need analysis, or by obtaining contributions from grandparents, noncustodial parents, or others whose financial circumstances did not enter into the EFC calculation. Students may, of course, use a combination of strategies. Middle-income students at other types of institutions who are not able to meet the EFC may use these strategies as well.

Work

Working during the school year is the norm, even for full-time students. In 1999–2000, 76 percent of all full-time dependent students worked while they were enrolled (including work-study jobs) (table 15). Those who worked put in an average of 22 hours per week and earned an average of $5,100, including hours and earnings from work-study programs. Most of those who worked during the school year worked in the summer as well (89 percent), and those who worked during the summer reported working an average of 37 hours per week and saving an average of $1,200 to help pay for their education expenses.

At each institution type, no difference was detected between the percentages of low-income and middle-income students who worked while enrolled, the amount they worked, and the average amount they earned. However, there were some differences across institution types. For example, low-income students who attended public 2-year institutions worked more hours per week (26), on average, than their counterparts at any other type of institution (17 to 22 hours), and low-income students who attended private not-for-profit doctoral and liberal arts institutions averaged fewer hours (17) than students at any of the public institution types (21 to 26 hours). The pattern was the same for middle-income students.

Although working while enrolled provides students with an opportunity to earn funds to pay for their education, it has other effects as well. On the positive side, it can help students with their coursework and with career preparation: 55 percent of all students who worked reported that their job helped them to prepare for their career, and 25 percent reported that it helped them with their coursework (table 16). However, working can have negative effects as well, and these seem to be related to the amount of time students work. The more hours students worked, the more likely they were to report that their job limited their choice of classes, their class schedule, the number of classes they could take, and their library access.

Table 15. Percentage of full-time, full-year dependent undergraduates who worked while enrolled and during the summer, average hours worked per week, average earnings while enrolled, and average savings from summer employment, by institution type and family income: 1999–2000

Institution type and family income	Work while enrolled				Summer employment[1]			
	Worked while enrolled	Average hours worked per week[2]	Average earnings if worked[2]	Average earnings (including zeros)	Worked during summer	Average hours worked per week[2]	Average saved if worked and saved	Average saved if worked (including zeros)[3]
Total	76.3	21.8	$5,100	$3,800	88.7	37.5	$1,600	$1,200
Public 2-year								
Total	87.7	27.7	$6,800	5,900	89.8	36.7	$1,300	900
Family income								
Low: less than $30,000	83.7	26.5	6,100	5,000	79.4	33.7	1,300	800
Low middle: $30,000–44,999	90.3	27.8	6,600	5,900	97.5	37.2	1,300	900
Middle: $45,000–74,999	90.1	27.3	6,800	6,000	93.3	37.4	1,300	1,000
Upper middle: $75,000–99,999	85.4	28.5	7,200	6,000	94.5	38.8	1,700	1,200
High: $100,000 or more	89.4	31.1	8,500	7,500	88.1	38.1	‡	700
Public nondoctoral								
Total	76.1	22.4	$5,200	3,900	88.0	37.6	$1,600	1,200
Family income								
Low: less than $30,000	75.4	22.3	5,000	3,600	79.7	35.2	1,400	1,100
Low middle: $30,000–44,999	80.5	23.4	4,900	3,900	81.9	36.4	1,600	1,200
Middle: $45,000–74,999	80.0	22.6	5,300	4,200	93.0	39.7	1,700	1,400
Upper middle: $75,000–99,999	71.8	21.2	5,100	3,600	93.3	36.7	1,700	1,200
High: $100,000 or more	68.9	22.1	5,900	3,900	92.4	38.7	1,700	1,100
Public doctoral								
Total	69.9	20.4	$4,900	3,400	87.7	37.2	$1,700	1,300
Family income								
Low: less than $30,000	76.1	20.7	5,100	3,800	79.2	35.7	1,500	1,100
Low middle: $30,000–44,999	69.5	19.3	4,900	3,300	88.3	36.4	1,700	1,400
Middle: $45,000–74,999	76.2	21.1	5,100	3,700	91.0	37.5	1,600	1,200
Upper middle: $75,000–99,999	66.2	20.2	5,100	3,300	90.8	38.3	2,000	1,600
High: $100,000 or more	60.4	19.7	4,500	2,600	88.0	37.6	1,700	1,200
Private not-for-profit nondoctoral (except liberal arts)								
Total	77.5	18.4	$3,700	2,800	90.4	38.4	$1,900	1,600
Family income								
Low: less than $30,000	73.7	19.3	3,700	2,700	88.2	36.2	1,500	1,300
Low middle: $30,000–44,999	89.7	19.9	4,000	3,500	87.3	39.4	2,000	1,700
Middle: $45,000–74,999	78.9	17.7	3,600	2,800	93.1	38.7	1,900	1,600
Upper middle: $75,000–99,999	82.4	18.0	3,800	3,100	95.3	39.5	1,800	1,400
High: $100,000 or more	64.3	17.2	3,600	2,300	85.8	38.0	2,200	1,800
Private not-for-profit doctoral and liberal arts								
Total	71.0	15.2	$3,500	2,400	88.0	38.5	$1,800	1,500
Family income								
Low: less than $30,000	82.1	17.0	3,500	2,800	82.0	38.1	1,600	1,200
Low middle: $30,000–44,999	78.8	15.4	3,700	2,900	92.2	38.0	1,900	1,500
Middle: $45,000–74,999	80.7	15.9	3,400	2,700	90.0	39.5	1,700	1,500
Upper middle: $75,000–99,999	66.0	14.3	3,300	2,100	87.9	37.6	1,800	1,500
High: $100,000 or more	57.7	13.7	3,500	2,000	87.7	38.6	1,900	1,500

‡Reporting standards not met. (Too few cases.)

[1]Only students who worked during the school year and considered themselves primarily students who worked (71 percent) were asked the questions about summer employment. Students who did not work during the school year and students who considered themselves primarily employees were not asked these questions. Thus, this is a biased estimate of summer employment. The net effect of excluding these two groups is unknown.

[2]Among students who worked. Includes work-study.

[3]Includes students who worked but did not save.

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table 16. Percentage of full-time, full-year dependent undergraduates who worked and considered themselves primarily students who reported various effects of working while enrolled, by hours worked per week: 1999–2000

Hours worked per week	Helped with		Limited			
	Coursework	Career preparation	Choice of classes	Class schedule	Number of classes	Access to library
Total	24.5	55.4	22.0	33.8	23.6	21.6
Hours worked per week						
1–15	27.2	52.1	9.2	15.9	10.1	9.6
16–20	24.4	54.6	19.0	31.9	20.1	18.1
21–30	21.6	57.0	31.3	44.3	32.4	29.1
More than 30	24.2	61.2	38.9	58.3	44.0	40.8

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

About half of all working students thought that working had some effect on their grades, but not necessarily the same one. Among students who thought it had an effect, about half thought the effect was positive and about half thought it was negative (table 17). Among students who worked 15 hours per week or less, 57 percent thought that working had no effect on their grades, 29 percent thought it had a positive effect, and 14 percent thought it had a negative effect. As the number of hours worked increased, so did the percentage of students who reported that working had a negative effect on their grades, from 14 percent for those who worked 15 hours a week or less up to 42 percent among those working more than 30 hours per week.

Table 17. Percentage distribution of full-time, full-year dependent undergraduates who worked and considered themselves primarily students according to the effect of their job on their grades, by hours worked per week: 1999–2000

Hours worked per week	Positive effect	No effect	Negative effect
Total	25.9	47.1	27.0
Hours worked per week			
1–15	29.1	57.1	13.8
16–20	26.9	48.2	24.9
21–30	23.0	39.7	37.3
More than 30	22.6	35.9	41.5

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Help From Parents

Institutions do not have records of students' access to help from parents in paying for college, so the only information available is that provided by students through the telephone interview component of NPSAS. In 1999–2000, students were asked if their parents paid some or all of their tuition, if their parents provided money for nontuition expenses (and if so how much), and if they lived with their parents while enrolled. If they did live with their parents, they were asked if they paid room and board.

Reflecting the greater financial resources of their families, middle-income students were more likely than their low-income peers to report that they received help from their parents or others in paying their tuition at each type of institution (table 18). With respect to nontuition expenses, middle-income students were more likely than low-income students to report receiving help at public doctoral institutions (34 percent vs. 28 percent), but generally no differences between the two groups were detected at other types of institutions.[11]

The majority of low-income students at public 2-year institutions appeared to be on their own financially when it came to financing their education: 81 percent received no help with tuition from their parents or others, and 80 percent reported receiving no help with other expenses. However, many were not truly on their own, because 66 percent lived at home while enrolled, which represents an important parental contribution. Fifteen percent of those who lived at home reported paying their parents something for room and board, but the amounts are unknown. At private not-for-profit doctoral and liberal arts institutions, about half (48 percent) of low-income students received at least some help with tuition, and 35 percent reported receiving help with nontuition expenses. Among those who received such help, the average amount was $1,400. Thirteen percent of students at private not-for-profit doctoral and liberal arts institutions lived at home while enrolled.

Credit

Credit is another source of funds that students can use to cover their expenses. Approximately two-thirds of all full-time dependent undergraduates had credit cards, regardless of family income (table 19). Although students were asked about credit card balances, there is no way of knowing whether this debt was incurred to cover their 1999–2000 education-related expenses. However, these numbers do provide some indication of general financial stress. Overall, 27 percent of all students usually carried a credit card balance. Although it appears that

[11] At public nondoctoral institutions, there was not enough statistical evidence to confirm the apparent difference between low- and middle-income students in the percentages reporting that they received help.

Table 18. Percentage of full-time, full-year dependent undergraduates who received various types of support from their parents or others and average amount received for nontuition expenses, by institution type and family income: 1999–2000

Institution type and family income	Some or all of tuition	Money for nontuition expenses			Lived with parents while enrolled	Paid parents room and board[1]
		Any	Average amount If received	Average amount All		
Total	49.0	31.6	$1,600	$500	31.3	8.2
Public 2-year						
Total	36.8	21.4	1,100	$200	68.0	9.2
Family income						
Low: less than $30,000	18.5	20.1	1,100	200	66.0	14.8
Low middle: $30,000–44,999	30.0	27.6	900	300	69.6	13.4
Middle: $45,000–74,999	49.0	20.7	800	200	68.3	4.6
Upper middle: $75,000–99,999	50.5	24.4	‡	500	65.3	9.8
High: $100,000 or more	42.1	14.9	‡	200	72.9	4.3
Public nondoctoral						
Total	43.5	31.7	1,100	$400	32.3	6.7
Family income						
Low: less than $30,000	22.3	26.3	1,100	300	40.2	8.2
Low middle: $30,000–44,999	37.7	29.7	1,000	300	39.3	9.0
Middle: $45,000–74,999	47.4	32.2	1,100	400	30.4	4.2
Upper middle: $75,000–99,999	53.8	33.9	1,300	400	22.2	5.1
High: $100,000 or more	65.1	39.2	1,400	500	25.0	7.0
Public doctoral						
Total	51.5	36.3	2,100	$800	18.1	8.3
Family income						
Low: less than $30,000	31.1	27.9	1,500	400	19.9	18.4
Low middle: $30,000–44,999	37.9	35.0	1,600	600	20.4	11.7
Middle: $45,000–74,999	48.6	34.3	1,900	600	19.2	5.6
Upper middle: $75,000–99,999	64.1	45.0	2,300	1,000	16.5	#
High: $100,000 or more	69.7	39.6	2,700	1,100	14.7	4.1
Private not-for-profit nondoctoral (except liberal arts)						
Total	55.2	30.9	1,200	$400	23.2	6.3
Family income						
Low: less than $30,000	40.4	31.9	800	200	38.2	9.2
Low middle: $30,000–44,999	48.3	27.5	1,200	300	29.7	8.2
Middle: $45,000–74,999	54.0	28.4	1,000	300	20.7	7.5
Upper middle: $75,000–99,999	66.4	33.0	1,500	500	16.1	0.5
High: $100,000 or more	72.2	35.3	1,900	700	10.7	1.2
Private not-for-profit doctoral and liberal arts						
Total	67.5	38.6	1,900	$700	11.2	6.2
Family income						
Low: less than $30,000	47.7	35.1	1,400	500	12.5	‡
Low middle: $30,000–44,999	63.9	47.3	1,200	600	13.9	‡
Middle: $45,000–74,999	65.1	36.5	1,300	500	11.2	#
Upper middle: $75,000–99,999	71.9	37.3	2,100	800	12.9	‡
High: $100,000 or more	77.6	39.2	2,700	1,000	8.4	‡

#Rounds to zero.

‡Reporting standards not met. (Too few cases.)

[1]If lived at home.

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table 19. Percentage distribution of full-time, full-year dependent undergraduates according to their usual credit card status, and for those who usually carry balances, percentage distribution according to current balance and average balance due, by institution type and family income: 1999–2000

Family income	Usual credit card status			Current balance due on all credit cards if usually carry a balance				
	No credit cards	Pay off each month	Carry balance	None[1]	Less than 1,000	$1,000–4,999	$5,000 or more	Average balance[2]
Total	34.6	38.7	26.7	2.6	45.3	44.0	8.1	$1,700
Public 2-year								
Total	44.5	30.1	25.3	3.1	50.9	37.9	8.1	1,500
Family income								
Low: less than $30,000	45.2	25.6	29.2	1.9	53.7	39.5	5.0	1,100
Low middle: $30,000–44,999	42.1	35.1	22.9	‡	‡	‡	‡	‡
Middle: $45,000–74,999	42.0	30.8	27.2	6.8	42.5	36.3	14.4	1,900
Upper middle: $75,000–99,999	48.2	35.4	16.4	‡	‡	‡	‡	‡
High: $100,000 or more	49.8	27.6	22.7	‡	‡	‡	‡	‡
Public nondoctoral								
Total	32.7	36.0	31.4	2.6	48.9	41.3	7.2	1,500
Family income								
Low: less than $30,000	29.1	33.6	37.4	3.2	42.3	48.7	5.9	1,400
Low middle: $30,000–44,999	35.5	28.5	36.0	0.3	49.2	47.2	3.3	1,500
Middle: $45,000–74,999	32.7	37.2	30.1	3.3	53.5	36.3	6.8	1,500
Upper middle: $75,000–99,999	33.8	40.8	25.5	1.6	56.5	32.8	9.1	1,500
High: $100,000 or more	33.9	40.5	25.6	4.2	44.0	37.5	14.4	1,700
Public doctoral								
Total	28.4	43.0	28.6	1.1	40.6	49.5	8.8	1,900
Family income								
Low: less than $30,000	22.6	38.6	38.8	2.2	33.1	57.4	7.3	2,000
Low middle: $30,000–44,999	26.2	43.3	30.5	#	43.2	47.5	9.4	1,900
Middle: $45,000–74,999	29.3	41.0	29.7	0.7	38.2	50.0	11.1	2,000
Upper middle: $75,000–99,999	31.1	43.5	25.4	1.8	46.1	46.0	6.1	1,700
High: $100,000 or more	31.1	48.1	20.8	0.3	47.2	43.4	9.1	1,900
Private not-for-profit nondoctoral (except liberal arts)								
Total	36.5	38.9	24.6	5.2	44.4	43.9	6.5	1,500
Family income								
Low: less than $30,000	45.8	30.9	23.3	2.6	31.4	61.9	4.1	1,700
Low middle: $30,000–44,999	30.9	36.2	32.9	10.6	39.8	38.6	11.0	1,800
Middle: $45,000–74,999	36.4	39.1	24.5	3.2	47.4	43.2	6.2	1,300
Upper middle: $75,000–99,999	33.5	47.6	18.9	0.6	50.9	41.9	6.6	1,300
High: $100,000 or more	35.1	41.5	23.4	7.6	51.6	37.2	3.6	1,300
Private not-for-profit doctoral and liberal arts								
Total	33.8	47.8	18.5	3.3	39.5	47.0	10.3	1,800
Family income								
Low: less than $30,000	27.0	40.8	32.2	3.4	31.5	50.7	14.4	2,100
Low middle: $30,000–44,999	32.5	45.8	21.7	#	45.2	51.6	3.2	1,500
Middle: $45,000–74,999	32.8	42.6	24.6	1.0	44.7	47.2	7.0	1,600
Upper middle: $75,000–99,999	36.9	49.6	13.6	4.6	56.7	28.7	10.0	1,500
High: $100,000 or more	36.5	55.0	8.5	9.8	22.2	51.1	16.9	2,300

#Rounds to zero.

‡Reporting standards not met. (Too few cases.)

[1]Not all students who usually carry a balance have a balance in the current month.

[2]Including those with no current balance.

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

low-income students were more likely than middle-income students to carry a balance at some types of institutions, there was not enough statistical evidence to confirm these differences except at public doctoral institutions, where 39 percent of low-income students reported that they usually carried a balance, compared with 30 percent of middle-income students. Among low-income students who usually carried a balance, those at public or private not-for-profit doctoral institutions carried larger balances, on average ($2,000 and $2,100, respectively) than those at public 2-year institutions ($1,100). In addition to credit cards, students or their parents may have used private loans to help pay for their education.

Paying for College: A Summary

So far this report has described the prices that full-time dependent undergraduates faced at various types of institutions, how much they were expected to contribute toward paying for their education, how much financial aid they needed and received, how much they earned by working while enrolled, and whether they received help from others in paying their tuition. This final section summarizes the major findings of the analysis to provide an overall picture of how low- and middle-income students pay for college at each type of institution. It is unavoidably incomplete, but nevertheless illustrates important differences between low- and middle-income students and across institution types.

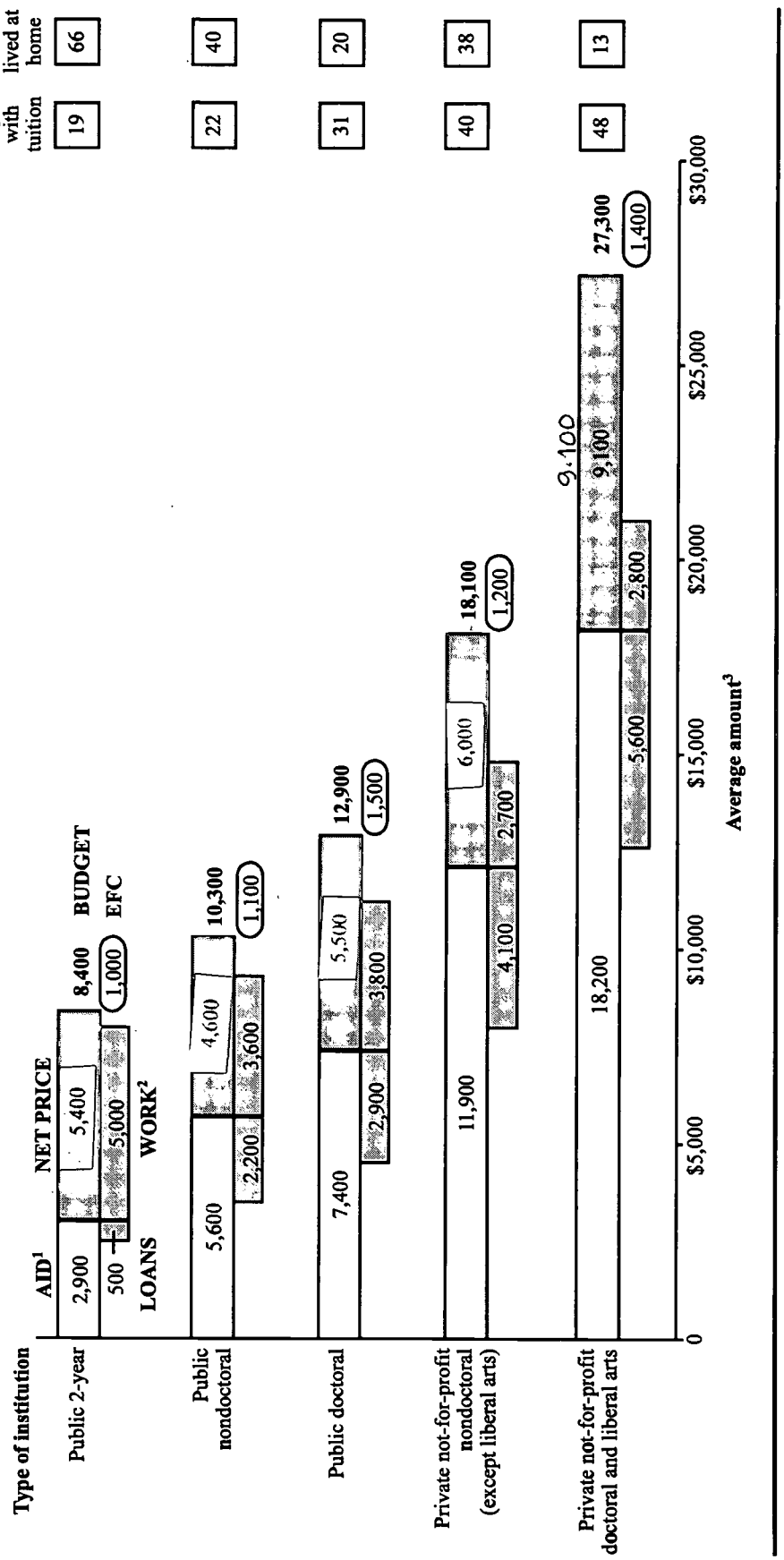
Figure 8 shows data for low- and middle-income students separately, with two horizontal bars for each institution type. The top bar represents the average student budget (also shown in table 4) and its two components: financial aid (excluding work-study here, unlike the average shown in table 6) and net price (the amount paid by students and their families, also shown in table 14). The lower bar shows the known family effort: loans, including PLUS loans to parents (also shown in table 6), and the contribution of earnings while enrolled to net price (also shown in table 15), assuming that these earnings are used entirely for educational expenses.[12] The averages shown were computed using both aided and unaided students in order to show the relative contributions of the different amounts to the totals.

The circled numbers in the figure represent the EFC (also shown in table 4). When the net price is greater than the EFC—that is, when the amount that students and their families must pay is greater than the amount they are expected to pay—students have unmet need. A comparison of the EFC to work indicates how much of the family contribution theoretically could have come from student work while enrolled.[13] The boxes on the right show the percentages of students whose parents (or others) helped pay their tuition and the percentages who lived at home (also shown in table 18). The rest of this section summarizes this information for low- and middle-income students at each type of institution, with some references to earlier sections. Unless otherwise indicated, data cited below are shown in figure 8.

[12]Savings are not included because data on savings from summer work are not available for all students, only for those who had worked during the school year.

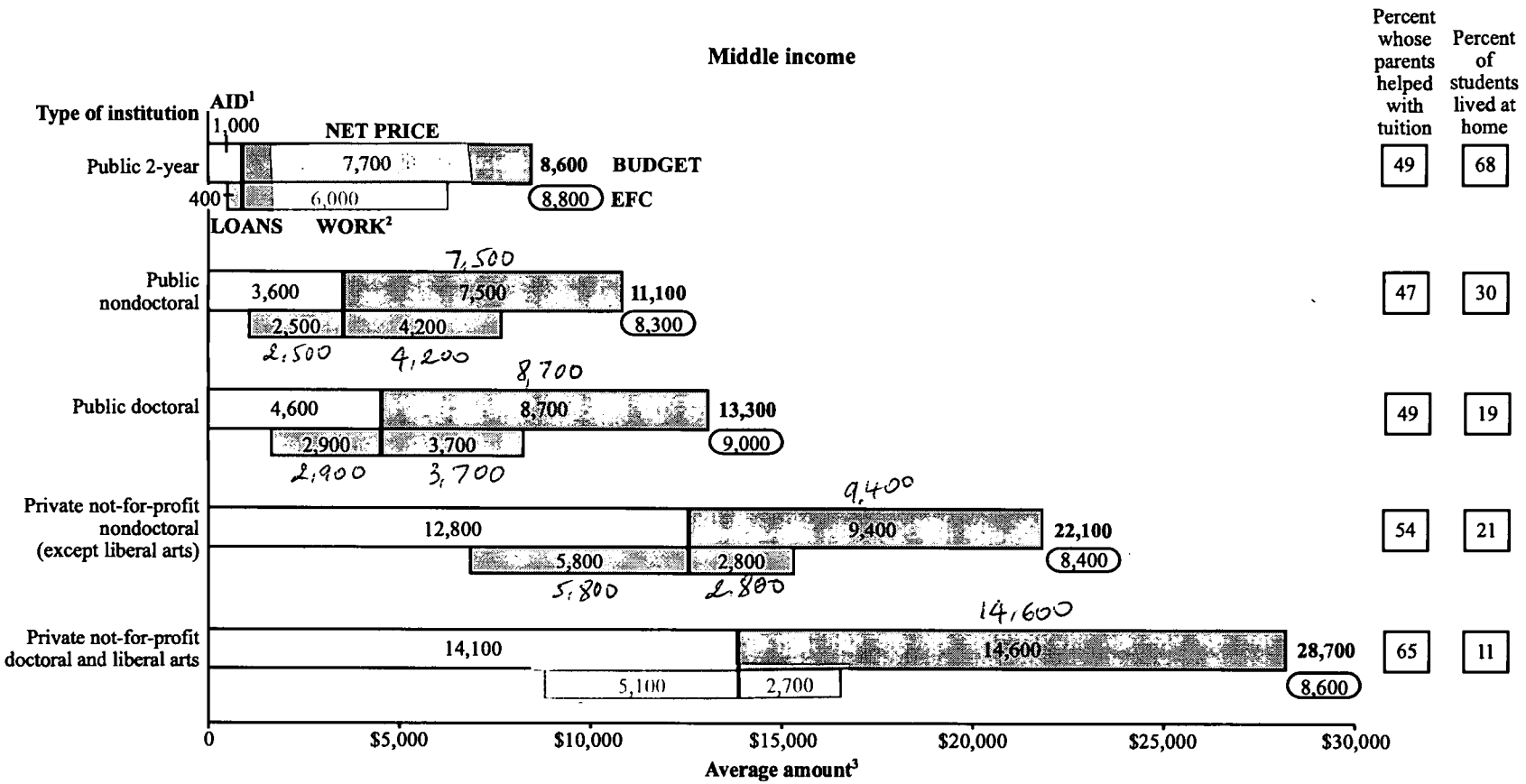
[13]There is no way of knowing what sources of funds families actually use.

Figure 8. Average amounts for selected components of the average student budget for full-time, full-year dependent low- and middle-income undergraduates, sources of funds, and percentage of students who received support from their parents, by type of institution: 1999–2000



See notes at end of figure.

Figure 8. Average amounts for selected components of the average student budget for full-time, full-year dependent low- and middle-income undergraduates, sources of funds, and percentage of students who received support from their parents, by type of institution: 1999–2000—Continued



HOW TO READ: The top bar in each set represents the average student budget with its two components: financial aid (excluding work-study) and what students and their families must pay (net price). The lower bar shows the known family effort: loans and student earnings from work while enrolled (assuming that these earnings are used entirely for educational expenses). The circled numbers represent the expected family contribution (EFC). When the net price is greater than the EFC—that is, when the amount students and their families must pay is greater than the amount they are expected to pay—students have unmet financial need.

[1]Aid includes grants/scholarships, loans, and "other" aid (such as ROTC, aid for veterans' dependents and survivors, and other unidentified types of aid), but excludes work-study aid. Earnings from work-study participation are included in "work." Therefore, this average amount of aid differs from the total shown in table 6.

[2]Includes work-study earnings.

[3]Average amounts include unaided as well as aided students.

NOTE: Limited to undergraduates who attended only one institution and who were U.S. citizens or permanent residents. Detail may not sum to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Public 2-Year

Low-income students (average budget: $8,400): These students covered their education expenses primarily with grant aid (especially federal, as shown in figure 5) and work while enrolled. Because relatively few students borrowed, the amount averaged over all students was $500. Parents were more likely to assist their children by having them live at home while enrolled (66 percent did so) than by helping to pay their tuition (19 percent).

Middle-income students (average budget: $8,600): Middle-income students at public 2-year institutions typically did not receive grant aid from the federal government, although they received some from other sources (figure 5). They borrowed an average of about $400, and covered about $6,000 of their $7,700 net price with their own earnings from work while enrolled. About half of the students (49 percent) reported receiving help from their parents with tuition, and 68 percent (about the proportion of low-income students) lived at home while enrolled.

Public 4-Year Nondoctoral

Low-income students (average budget: $10,300): Low-income students at public nondoctoral institutions received more grant aid than their counterparts at public 2-year institutions, on average (table 5). Grant aid for low-income students was still primarily federal, but included some from other sources as well (figure 5). Loans were primarily subsidized Stafford loans (figure 6). Student earnings accounted for about $3,600 of the $4,600 net price. Twenty-two percent of low-income students received help paying tuition from parents or others, and 40 percent lived at home.

Middle-income students (average budget: $11,100): Middle-income students at public nondoctoral institutions typically were not eligible for federal grant aid. They received some nonfederal grant aid (figure 5), but most of their aid was in the form of loans (figure 4). Their loans were a mixture of subsidized and unsubsidized Stafford loans, with some parents taking out PLUS loans (figure 6). Earnings while enrolled accounted for about $4,200 of the $7,500 net price. Middle-income students were more likely than their low-income peers to get help from parents in paying their tuition (47 percent) and were less likely to live at home (30 percent).

Public 4-Year Doctoral

Low-income students (average budget: $12,900): The average net price of attending a public doctoral institution ($5,500) was greater than that of attending a public nondoctoral institution ($4,600), but not significantly different from attending a public 2-year institution ($5,400). In other words, on average, low-income students did not pay more out-of-pocket in

1999–2000 to attend a public doctoral institution than a public 2-year institution. On average, low-income students at public doctoral institutions received larger grants (especially institutional grants) than their counterparts at public 2-year or public nondoctoral institutions (figure 5). Thirty-one percent of low-income students received help paying their tuition, and they were less likely than their peers at public nondoctoral institutions to live at home.

Middle-income students (average budget: $13,300): Middle-income students at public doctoral institutions, like their low-income peers, borrowed an average of $2,900, and the two groups earned an average of $3,700 to $3,800 during the school year. However, middle-income students received less grant aid than low-income students (figure 4), which meant they had to rely more on other sources such as parental support. Indeed, they were more likely than their low-income counterparts to receive help with their tuition (49 percent vs. 31 percent).

Private Not-For-Profit 4-Year Nondoctoral

Low-income students (average budget: $18,100): Low-income students who attended private not-for-profit nondoctoral institutions received a relatively large amount of aid compared with students at public nondoctoral institutions, particularly grant aid (figure 4). Their grant aid came from both federal and nonfederal sources (figure 5). Borrowing was mainly in the form of subsidized Stafford loans (figure 6). Compared with their counterparts at public doctoral institutions, low-income students at private not-for-profit nondoctoral institutions borrowed more and earned less from working while enrolled. However, no difference was detected in students' average net prices after receiving aid at these two types of institutions because students at private not-for-profit nondoctoral institutions received more grant aid, especially institutional grant aid (figure 5). Forty percent of the students received parental help in paying tuition, and 38 percent lived at home.

Middle-income students (average budget: $22,100): Whereas low-income students at public institutions received more aid, on average, than middle-income students, the reverse was true at private not-for-profit nondoctoral institutions, where middle-income students received about $900 more in total aid than their low-income peers. This was partly because they tended to enroll at institutions with higher tuition and fees, but middle-income students also borrowed more than low-income students. Institutional grant aid was an important source of aid at private not-for-profit nondoctoral institutions (figure 5), as were loans, which consisted of a combination of subsidized and unsubsidized Stafford loans and PLUS loans (figure 6). About 54 percent of middle-income students received help from parents with tuition, and middle-income students were less likely than low-income students to live at home (21 percent vs. 38 percent).

Private Not-For-Profit 4-Year Doctoral and Liberal Arts

Low-income students (average budget: $27,300): Low-income students at private not-for-profit doctoral and liberal arts institutions averaged $12,500 in grant aid, $8,200 of which came from their institution (figure 5). Although they borrowed an average of $5,600, they still had an average net price of $9,100. Some of this price was covered by work (an average of $2,800), but the source of the rest is not clear. About half of the students (48 percent) reported receiving some help with their tuition, but it is difficult to imagine that low-income families would have the resources to cover the entire difference between the net price and the amount earned.

Middle-income students (average budget: $28,700): Middle-income students at private not-for-profit doctoral and liberal arts institutions also received sizeable amounts of grant aid, on average ($8,900), most of which was institutional aid ($7,200) (figure 5). Their average net price was $14,600, on average, of which $2,700 was covered by work. Sixty-five percent of the students received help with tuition. As was the case with low-income students, it is not clear how these families assembled the resources to cover the net price.

Conclusion

For low-income students at each type of institution, the EFC fell short of the price students had to pay, even after financial aid. At public 2-year institutions, low-income students appeared to cover their educational expenses by receiving aid (primarily grants), living at home, and working while enrolled. At public 4-year institutions, they appeared to depend primarily on aid (both grants and loans) and their own earnings, with some help from their parents. While low-income students at private not-for-profit 4-year institutions received substantial amounts of aid, it is difficult to understand how they covered their educational expenses given the gap between the net price and EFC and the amount these students reported earning on their own, especially at private not-for-profit doctoral and liberal arts institutions, where relatively few students lived at home.

At public institutions and private not-for-profit nondoctoral institutions, middle-income students and their families were in a better position than their low-income counterparts to cover their expenses. With access to student loans (and substantial grants at private not-for-profit nondoctoral institutions), these families, on average, generally appeared able to bring the net price into line with the EFC. At private not-for-profit doctoral institutions, however, despite grants and loans, there remained a relatively large unexplained amount of the net price to cover beyond the EFC.

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Appendix A—Glossary

This glossary describes the variables used in this report. The variables were taken directly from the NCES NPSAS: 2000 undergraduate Data Analysis System (DAS), an NCES software application that generates tables from the NPSAS:2000 data (see appendix B for a description of the DAS). The variables listed in the index below are organized by category in the order they appear in the report within that category. The glossary is in alphabetical order by variable name in the DAS (displayed in bold letters at the right-hand side of the page).

GLOSSARY INDEX

	DAS variable
Applied for financial aid	**AIDAPP**

Indicates whether the student applied for financial aid for the 1999–2000 academic year.

Ratio of total aid to student budget	**AIDCST2**

The ratio of total aid received during 1999–2000 to the student budget.

Attendance status	**ATTNSTAT**

Combined attendance intensity and persistence during 1999–2000. Intensity refers to the student's full- or part-time attendance while enrolled. Persistence refers to the number of months a student was enrolled during the year. Students were considered to have been enrolled for a full year if they were enrolled 9 or more months during 1999–2000. Months did not have to be contiguous or at the same institution, and students did not have to be enrolled for a full month in order to be considered enrolled for that month. For this analysis, ATTNSTAT was used as a filter to select students who enrolled full time, full year at one institution (ATTNSTAT=1).

Undergraduate federal loans total	**BORFED4**

The cumulative federal loan amount the student borrowed for undergraduate education through July 1, 2000. Includes PLUS loans taken out by their parents.

Student budget	**BUDGETFT**

The total student budget amount for full-time, full-year students for 1999–2000.

Carnegie Code with control	**CC2000A**

The 2000 Carnegie Classification includes all colleges and universities in the United States that are degree granting and accredited by an agency recognized by the U.S. Secretary of Education. The 2000 edition classifies institutions based on their degree-granting activities from 1995–96 through 1997–98. In this variable, a distinction was made between public, private not-for-profit, and private for-profit institutions. 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 were not included in this analysis.

The following categories were used in this analysis:

Public 2 year	Public 2-year institutions with an "Associate's Colleges" Carnegie Code. This category includes institutions that offer associate's degree and certificate programs but, with few exceptions, award no baccalaureate degrees. If awarded, bachelor's degrees represent less than 10 percent of all undergraduate awards.

	DAS variable
Carnegie Code with control—continued	CC2000A
Public nondoctoral	Public institutions with a "Baccalaureate Colleges" or "Master's Colleges and Universities" Carnegie Code. Baccalaureate colleges include institutions that are primarily undergraduate colleges with major emphasis on baccalaureate programs. Master's colleges and universities typically offer a wide range of baccalaureate programs, and they are committed to graduate education through the master's degree. They award 20 or more master's degrees per year.
Public doctoral	Public institutions with a "Doctorate-granting Institutions" Carnegie Code. These institutions typically offer a wide range of baccalaureate programs, and they are committed to graduate education through the doctorate. They award at least 10 doctoral degrees per year across 3 or more disciplines or at least 20 doctoral degrees overall.
Private not-for-profit nondoctoral (except liberal arts)	Private not-for-profit institutions with a "Baccalaureate Colleges" or "Master's Colleges and Universities" Carnegie Code *except* those in the "Baccalaureate Colleges—Liberal Arts" subgroup, which are colleges that award at least half of their baccalaureate degrees in liberal arts fields.
Private not-for-profit doctoral and liberal arts	Private not-for-profit institutions with a "Doctorate-granting Institutions" Carnegie Code or a "Baccalaureate—Liberal Arts" Code.

Citizenship **CITIZEN2**

Student's citizenship status. For this analysis, this variable was used as a filter to select students who were U.S. citizens, nationals, or resident aliens in 1999–2000.

U.S. citizen	Student was a U.S. citizen or U.S. national in 1999–2000.
Resident alien	Student was a permanent or temporary U.S. resident eligible for federal financial aid in 1999–2000.
Foreign/international student	Student was not a U.S. citizen and was not eligible for financial aid (includes those holding student or exchange visitor visas).

Graduating senior **COLLGRAD**

Indicates whether the student received a bachelor's degree in 1999–2000. In addition to those whose degree status was confirmed in the CATI interview, this variable includes CATI nonrespondents who were reported to be graduating seniors by the institution in CADE. It also includes some students who earned their bachelor's degree in the third year. This variable was used as a filter for the table presenting information on cumulative borrowing.

DAS variable

Delayed enrollment **DELAYENR**

The number of calendar years between high school graduation and the first year enrolled in postsecondary education. Immediate enrollment is defined as entry into postsecondary education the same calendar year as high school graduation. The assumption is that high school graduation takes place in May or June and postsecondary enrollment takes place in the fall.

Did not delay	Student entered postsecondary education the same calendar year as high school graduation.
Delayed enrollment	Student entered postsecondary education 1 or more calendar years after high school graduation.

Dependency status **DEPEND**

Students were considered to be financially independent for federal financial aid purposes in 1999–2000 if they met any of the following criteria:

1) Student was 24 years old or older as of 12/31/99;
2) Student was a veteran of the U.S. Armed Forces;
3) Student was enrolled in a graduate or professional program (beyond a bachelor's degree) in 1999–2000;
4) Student was married;
5) Student was an orphan or ward of the court; or
6) Student had legal dependents other than spouse.

All other students under 24 were considered to be dependent unless they demonstrated that they were receiving no parental support and were classified as independent by a financial aid officer using professional judgment. This variable was used as a filter to select dependent students.

Dependent
Independent

Dependent 1998 income **DEPINC**

Dependent student parents' total income for 1998. Based on amounts reported in the financial aid application, estimates by students in the CATI interview, or stochastic imputation.

Low	less than $30,000
Low-middle	$30,000–44,999
Middle	$45,000–74,999
Upper-middle	$75,000–99,999
High	$100,000 or more

Expected family contribution **EFC4**

Composite estimate of the federal expected family contribution used in need analysis. For Pell grant recipients, the EFC on the Pell grant record in NSLDS was used; for other federal financial aid applicants, the primary EFC from the most recent CPS record was used if available; otherwise the EFC reported by the NPSAS institution in CADE was used. For students who did not apply for federal financial aid (42 percent), the EFC was imputed by regression for each dependency status.

DAS variable

Ratio of federal aid to total aid **FEDPCT**

The percentage of total aid received during 1999–2000 that was federal, excluding Veterans Affairs and Department of Defense (VA/DOD) aid, but including PLUS loans. Computed only for students who had some aid.

Student budget minus EFC **FTNEED1**

Financial aid need. Equal to the student budget minus the federal expected family contribution.

Student budget minus EFC minus aid **FTNEED2**

Remaining need after all financial aid was applied. Equal to the student budget minus the federal expected family contribution minus the total financial aid received in 1999–2000.

Sex **GENDER**

Male
Female

Ratio of grants to student budget **GRTCST**

The total amount of grant aid received in 1999–2000 as a percentage of the student budget.

Ratio of grants to total aid **GRTPCT**

The percentage of total aid received during 1999–2000 that was grant aid. Computed only for students who had some aid.

Institutional grants **INGRTAMT**

The total grant aid from institutional funds received in 1999–2000. Includes all institutional grants, scholarships, and tuition waivers received during the NPSAS year. Includes need-based and merit-only awards. At public institutions in some states, the distinction between state and institutional grant funds is not always clear because grants are funded by the state but are allocated by the institutions. The California Community College Board of Governor's Grants, California State University Grants, and Educational Opportunity Grants are classified as institutional grants.

Ratio of institutional aid to total aid **INSTPCT**

The percentage of total aid received during 1999–2000 that was institutional aid. Computed only for students who had some aid.

Ratio of loans to student budget **LOANCST**

The total amount of loan aid received in 1999–2000 as a percentage of the student budget.

DAS variable

Ratio of loans to total aid **LOANPCT2**

The percentage of total aid received during 1999–2000 that was loans (including PLUS loans). Computed only for students who had some aid.

Local residence **LOCALRES**

Students' residence while enrolled

On campus	Institution-owned living quarters for students. These are typically on-campus or off-campus dormitories, residence halls, or other facilities.
Off campus	Student lived off campus in noninstitution-owned housing but not with her or his parents or relatives.
Living with parents/other relatives	Student lived at home with parents or other relatives.

Parents help pay tuition **NCPARTUI**

Student's response to the CATI question: "Did anyone, such as your parent(s)/guardian(s) pay your tuition and fees on your behalf for the 1999–2000 school year?" Asked of CATI respondents under the age of 30.

Yes, some or all of it
No

Paid parents room and board **NCPAYPAR**

Student's response (yes/no) to the CATI question: "Did you pay your parent(s)/guardian(s) room and board to live with them during the 1999–2000 school year?" Asked of CATI respondents under the age of 30 who lived with their parents while enrolled for the 1999–2000 school year.

Amount of parental support for nontuition expenses **NCSUPAMT**

Student's response to the CATI question: "How much (were you given for school-related expenses other than tuition)?" Asked of CATI respondents under the age of 30.

Balance due on all credit cards **NDCRDBAL**

Among those who reported carrying a credit card balance, student's response to the CATI question: "What was the balance due on all credit cards, according to your last statement?"

DAS variable

Job affects grades **NDEFFGRD**

Student's response to the CATI question: "Would you say that working while you were going to school had had a positive effect, a negative effect, or no effect on the grades you earned?" Asked of CATI respondents who reported being primarily students who worked.

Positive effect
Negative effect
No effect

Job helps with career preparation **NDHLPCAR**

Student's response (yes/no) to the CATI question: "Did having a job while you were going to school help you with career preparation?" Asked of CATI respondents who reported being primarily students who worked.

Job helps with coursework **NDHLPCLS**

Student's response (yes/no) to the CATI question: "Did having a job while you were going to school help you with class work?" Asked of CATI respondents who reported being primarily students who worked.

Job limits number of classes **NDLIMCLS**

Student's response (yes/no) to the CATI question: "Did having a job while you were going to school limit the number of classes you could take?" Asked of CATI respondents who reported being primarily students who worked.

Job limits library access **NDLIMLIB**

Student's response (yes/no) to the CATI question: "Did having a job while you were going to school limit your access to the library?" Asked of CATI respondents who reported being primarily students who worked.

Job limits class schedule **NDLIMSCH**

Student's response (yes/no) to the CATI question: "Did having a job while you were going to school limit the class schedule you could have?" Asked of CATI respondents who reported being primarily students who worked.

Credit card practices **NDPAYOFF**

Created from student's responses to the CATI questions: "How many credit cards do you have in your own name that are billed to you?" and "Do you usually pay off your credit card balances each month, or carry balances over from month to month?" Asked of CATI respondents.

No credit cards
Payoff balances
Carry balances

DAS variable

Job restricts class choice **NDRSTRCT**

Student's response (yes/no) to the CATI question: "Did having a job while you were going to school restrict your choice of classes?" Asked of respondents who reported being primarily students who worked.

Hours worked during summer 1999 **NDSMRHR**

Student's response to the CATI question: "How many hours per week did you typically work during the summer of 1999?" Asked of CATI respondents who reported working during the summer of 1999. Applies to undergraduate CATI respondents under age 25 who reported working during the 1999–2000 school year and considered themselves primarily students who worked.

Amount saved to pay education expenses **NDSMRSAV**

Student's response to the CATI question: "In dollars, about how much of your summer earnings would you estimate you saved to pay for educational expenses during the 1999–2000 school year?" Asked of CATI respondents who reported working during the summer of 1999. Applies to undergraduate CATI respondents under age 25 who reported working during the 1999–2000 school year and considered themselves primarily students who worked.

Worked during summer 1999 **NDSUMMR**

Student's response to the CATI question: "Did you work for pay during the summer of 1999?" Applies to undergraduate CATI respondents under age 25 who considered themselves primarily students who worked.

Student budget minus all aid except work-study **NETCST18**

Student budget minus all financial aid except work-study amounts.

Parents' education **NPARED**

The highest level of education completed by the student's mother or father, whoever had the highest level. The variable was aggregated to the following categories in this report:

High school diploma or less	Students' parents earned a high school diploma or equivalent or did not complete high school.
Some postsecondary education	Students' parents attended some postsecondary education but did not earn a bachelor's degree.
Bachelor's degree or higher	Students' parents attained a bachelor's or advanced degree.

Pell grant amount **PELLAMT**

The federal Pell grant amount received during 1999–2000. Pell grants are awarded to undergraduates who have not yet received a bachelor's or first-professional degree. They are intended as a financial base, to which other financial aid awards can be added. The amount of a Pell grant depends on the EFC, price of attendance, and attendance status (full-time or part-time, full-year or part-year). In 1999–2000, the maximum Pell grant amount was $3,125.

	DAS variable
Ratio of Pell grant amount to total aid	**PELLRAT1**

The percentage of total aid received in 1999–2000 that was Pell grant aid. Computed only for students who had some aid.

Perkins loans	**PERKAMT**

The federal Perkins loan amount received during 1999–2000. The Perkins loan is a campus-based (administered by each institution) low-interest loan for students who show exceptional financial need. Priority is given to Pell grant recipients. For undergraduates, total annual awards cannot exceed $3,000, and the maximum amount that can be borrowed is $15,000.

PLUS loans	**PLUSAMT**

The total amount of federal PLUS loans to parents in 1999–2000. Federal Parent Loans to Undergraduate Students are available to the parents of undergraduates in addition to any federal Stafford loans for which students are eligible. PLUS loans are not based on need and may be used to cover the federal EFC. There is no fixed limit to the amount of a PLUS loan, but the loan may not exceed the student budget minus any other financial aid. PLUS loans are available only to parents who can meet certain credit-worthiness criteria; if they cannot do so, the dependent student for whom the loan is intended may apply to receive an unsubsidized Stafford loan up to the higher limit normally available only to independent students.

Private sources grants	**PRIVAID**

The amount of grants and scholarships received from private outside sources during 1999–2000. Approximately half of the private grants were student-reported in CATI. Student-reported aid amounts are not always reliable and were edited (reduced) in relation to the student budget and other aid received.

Race/ethnicity	**RACE2**

Undergraduate's race/ethnicity. Students were asked their race and whether they were Hispanic or Latino. Students choosing more than one race were shown as a separate category. Those who chose Hispanic or Latino were coded as Hispanic regardless of 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	A person having origins in any of the peoples of the Far East, Southeast Asia, or the Indian subcontinent. This includes people from China, Japan, Korea, the Philippine Islands, India, and Vietnam.
Black	A person having origins in any of the black racial groups of Africa. Includes African Americans.
Pacific Islander	A person having origins in the Pacific Islands including Hawaii and Samoa.

	DAS variable
Race/ethnicity—continued	**RACE2**
White	A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.
More than one race	A person having origins in more than one race.
Other	A person having origins in a race not listed above.
Hispanic or Latino	A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

FSEOG Amount **SEOGAMT**

The FSEOG (Federal Supplemental Educational Opportunity Grant) amount received in 1999–2000. The FSEOG is a federal, campus-based (administered by each institution) grant for undergraduates who have not yet received a bachelor's or first-professional degree and who show exceptional financial need. It is intended to supplement the Pell grant (priority is given to Pell grant recipients), and awards a maximum of $4,000 per year. However, unlike the Pell grant, eligibility does not guarantee an FSEOG award because the funds available to a particular institution may be limited.

Stafford subsidized loans **STAFSUB**

The amount of subsidized Stafford loans received in 1999–2000. Subsidized Stafford loans are need-based, and the federal government pays the interest while the student is enrolled and for 6 months after leaving postsecondary education.

Stafford unsubsidized loans **STAFUNSB**

The amount of unsubsidized Stafford loans received during 1999–2000. Unsubsidized Stafford loans are available to students enrolled at least half time (usually taking at least two courses) without demonstrating need. Students are charged interest on the loan while they are enrolled, and the interest is added to the original loan principal.

Ratio of state aid to total aid **STAPCT**

The percentage of total aid received during 1999–2000 that was state aid. Computed only for students who had some aid.

State grants **STGTAMT**

The total amount of state grants, scholarships, and fellowships (including the federal portion of LEAP funds to states) received in 1999–2000.

Total federal grants **TFEDGRT**

The total amount of federal grants received by a student in 1999–2000. Includes Pell grants, FSEOG grants, and a small number of Robert Byrd Scholarships. Does not include federal veteran's benefits or military education aid.

DAS variable

Total federal loans (including PLUS) **TFEDLN2**

The total amount of federal loans received during 1999–2000, including PLUS loans to parents. Includes Perkins, Stafford, other federal loans through the Public Health Service, and PLUS loans.

Total aid **TOTAID**

The total amount of financial aid received by a student in 1999–2000. Includes grants, loans, work-study, or any other types of aid, as well as loans to parents under the PLUS program, veterans benefits, and military education aid.

Total grants **TOTGRT**

The total amount of grants received by a student in 1999–2000. Grants are a type of student financial aid that does not require repayment or employment. Grants include merit-only scholarships, tuition waivers, and employer tuition reimbursements as well as need-based grants.

Total loans (including PLUS) **TOTLOAN2**

The total amount of all student loans (federal, state, institutional, and private sector) and federal PLUS loans to parents received during 1999–2000. Does not include loans from family or friends to the student or commercial loans to parents (such as home equity loans).

Total other type of aid excluding PLUS **TOTOTHR2**

The amount of other types of aid, excluding federal parent PLUS loans.

Total work-study **TOTWKST**

The total amount of all work-study awards received during 1999–2000. Institutions were asked to report the amount actually earned rather than the award amount, which may be greater.

Tuition and fees **TUITION2**

Tuition and fees charged at the sampled NPSAS institution for students who attended only one institution during 1999–2000.

Hours worked per week **WKHRS2**

Average number of hours worked per week while enrolled, including unreported work-study jobs, which were assumed to require 15 hours per week. CATI variable.

Earnings from work while enrolled **WKINC2**

Total calculated earnings for school year. Applies to respondents who worked while enrolled. CATI variable.

Appendix B—Technical Notes

The 1999–2000 National Postsecondary Student Aid Study

The 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000) is a comprehensive nationwide study conducted by the U.S. Department of Education's National Center for Education Statistics (NCES) to determine how students and their families pay for postsecondary education.[14] It also describes demographic and other characteristics of students enrolled. The study is based on a nationally representative sample of all students in postsecondary education institutions, including undergraduate, graduate, and first-professional students. For NPSAS:2000, information was obtained from more than 900 postsecondary institutions on approximately 50,000 undergraduate, 9,000 graduate, and 3,000 first-professional students. They represented about 16.5 million undergraduates, 2.4 million graduate students, and 300,000 first-professional students who were enrolled at some time between July 1, 1999 and June 30, 2000.[15]

The response rate for obtaining institutional record data for all students was 97 percent and the weighted overall student interview response rate was 65.6 percent.[16] Because the student telephone interview response rates for NPSAS:2000 were less than 70 percent in some institutional sectors, an analysis was conducted to determine if Computer Assisted Telephone Interview (CATI) estimates were significantly biased due to CATI nonresponse.[17] Considerable information was known for CATI nonrespondents and these data were used to analyze and reduce the bias. The distributions of several variables using the design-based, adjusted weights for study respondents (study weights) were found to be biased before CATI nonresponse adjustments. The CATI nonresponse and poststratification procedures, however, reduced the bias for these variables; and the remaining relative bias ranged from 0 to 0.35 percent.

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[14]For more information on the NPSAS survey, consult U.S. Department of Education, National Center for Education Statistics, *Methodology Report for the 1999–2000 National Postsecondary Student Aid Study* (NCES 2002–152) (Washington, DC: 2001). Additional information is also available at the NPSAS web site *http://nces.ed.gov/npsas*.

[15]For response rates, see tables A3 and A4 in A. Malizio, *National Postsecondary Student Aid Study: Student Financial Aid Estimates for 1999–2000* (NCES 2001–209) (Washington, DC: U.S. Department of Education, National Center for Education Statistics, 2001).

[16]Ibid.

[17]For nonresponse bias analysis, see U.S. Department of Education, National Center for Education Statistics, *National Postsecondary Student Aid Study, 1999–2000 (NPSAS:2000), CATI Nonresponse Bias Analysis Report* (NCES 2002–03) (Washington, DC: 2002), available at *http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=200203*

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 only on samples of populations rather than on 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 sample members (e.g., 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.

Weighted item response rates were calculated for all variables used in this report. The weighted item response rates were calculated by dividing the final weighted number of valid responses by the weighted population for which the item was applicable. Most of the items had very high response rates (at least 85 percent). For these variables, it is unlikely that reported differences between low- and middle-income students are biased because of missing data. Two variables had an item response rate below 85 percent: NDCRDBAL (the balance due on all credit cards according to their last statement for students who reported that they usually carried a balance) and NDSMRSAV (the amount students who worked during the summer saved for their education expenses) (table B-1). Since both of these variables are related to income, it is important to consider whether the response rates differ for low- and middle-income students. In the case of NCCRDBAL, both low- and middle-income students had response rates of 64 percent. For NDSMRSAV, the response rate for low-income students was slightly lower for low-income students (76 percent) than for middle-income students (82 percent).

Table B-1. Variables with response rates less than 85 percent

Variable name	Variable label	Population	Item response rate
NDCRDBAL	Balance due on all credit cards	All students	64.8
		Low-income students	63.6
		Middle-income students	64.1
NDSMRSAV	Amount saved to pay education expenses	All students	81.0
		Low-income students	75.8
		Middle-income students	82.1

NOTE: Weighted item response rates were calculated by dividing the total weighted number of valid responses by the 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, 1999–2000 National Postsecondary Student Aid Study (NPSAS: 2000).

For NCCRDBA, the low item response rate (65 percent) is due in part to the fact that the question was applicable to a relatively small proportion of the sample (33 percent). Given the methodology for calculating the item response rates, all students with incomplete interviews (9 percent) are assumed to have been eligible to answer the question and not responded, which is very unlikely. When students with incomplete interviews are excluded from the calculation, the item response rate for NCCRDBAL is 89 percent. NDSMRSAV applied to a relatively larger number of students (66 percent), which means that incomplete interviews have a smaller effect on the response rate. Excluding students with incomplete interviews from the calculation increases the item response rate to 93 percent overall and also for low- and middle-income students separately. Given the similarity in response rates for low- and middle-income students for these variables, it is unlikely that bias was introduced due to differential response rates for the two income groups.

Data Analysis System

The estimates presented in this report were produced using the NPSAS:2000 Data Analysis System (DAS). The DAS software makes it possible for users to specify and generate their own tables from the NPSAS:2000 data. With the DAS, users can replicate or expand upon the tables presented in this report. In addition to the table estimates, the DAS calculates proper standard errors[18] and weighted sample sizes for these estimates. For example, table B-2 contains standard errors that correspond to table 5 of this report, and they were generated by the DAS. 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.

The DAS can be accessed electronically at *http://nces.ed.gov/DAS*. For more information about the NPSAS:2000 Data Analysis System, contact:

Aurora D'Amico
Postsecondary Studies Division
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006-5652
(202) 502-7334
aurora.d'amico@ed.gov

[18]The NPSAS:2000 sample is not a simple random sample, 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 the linear terms of a Taylor series expansion. The procedure is typically referred to as the *Taylor series method.*

Table B-2. Standard errors for table 5: Percentage of full-time, full-year dependent undergraduates who applied for and received financial aid and type of aid, by institution type and family income: 1999–2000

Institution type and family income	Applied for financial aid	Received financial aid	Type of aid: Grants	Loans (including PLUS[1])	Work-study	Other[2]
Total	0.51	0.60	0.71	0.67	0.51	0.19
Public 2-year						
Total	1.55	1.82	2.00	1.35	0.72	0.39
Family income						
Low: less than $30,000	2.59	2.56	2.66	2.02	1.85	0.61
Low middle: $30,000–44,999	3.80	4.07	4.02	3.86	1.43	0.92
Middle: $45,000–74,999	2.54	2.71	2.51	2.32	0.93	0.65
Upper middle: $75,000–99,999	4.69	5.47	4.27	4.00	#	0.96
High: $100,000 or more	5.98	4.18	3.54	2.19	#	1.85
Public nondoctoral						
Total	0.88	0.99	1.51	1.49	0.98	0.36
Family income						
Low: less than $30,000	0.99	1.30	1.54	3.96	1.89	0.72
Low middle: $30,000–44,999	1.73	2.02	2.50	3.44	2.46	0.52
Middle: $45,000–74,999	1.30	1.75	2.43	2.15	1.40	0.61
Upper middle: $75,000–99,999	2.19	2.20	2.88	2.81	1.02	0.74
High: $100,000 or more	2.66	2.82	2.40	2.87	1.04	0.85
Public doctoral						
Total	0.65	0.79	0.81	0.84	0.60	0.26
Family income						
Low: less than $30,000	1.23	1.39	1.52	1.84	1.53	0.59
Low middle: $30,000–44,999	1.53	1.76	2.15	2.09	1.77	0.85
Middle: $45,000–74,999	1.30	1.51	1.69	1.66	1.01	0.50
Upper middle: $75,000–99,999	1.61	1.84	2.01	2.11	0.79	0.61
High: $100,000 or more	1.77	2.10	1.80	1.82	0.46	0.44
Private not-for-profit nondoctoral (except liberal arts)						
Total	0.60	0.64	1.38	1.61	1.88	0.94
Family income						
Low: less than $30,000	0.74	0.87	1.09	3.90	2.77	1.49
Low middle: $30,000–44,999	0.80	1.16	1.68	3.03	3.34	2.06
Middle: $45,000–74,999	0.69	0.82	1.82	1.95	2.89	1.22
Upper middle: $75,000–99,999	1.57	1.73	2.72	2.94	2.94	0.61
High: $100,000 or more	1.88	1.92	3.46	2.81	2.70	0.80
Private not-for-profit doctoral and liberal arts						
Total	1.33	1.60	1.85	1.48	1.45	0.23
Family income						
Low: less than $30,000	2.14	2.23	2.37	2.79	3.04	0.77
Low middle: $30,000–44,999	2.49	2.45	2.79	3.04	4.22	1.29
Middle: $45,000–74,999	1.64	2.35	2.84	2.94	2.70	0.23
Upper middle: $75,000–99,999	2.34	2.42	2.97	2.60	2.91	0.44
High: $100,000 or more	2.21	2.39	2.46	1.96	1.47	0.25

#Rounds to zero.

[1]PLUS loans are taken out by parents.

[2]All other types of aid, such as ROTC, aid for veterans' dependents and survivors, and other unidentified types of aid.

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Family Income Categories

In selecting the family income categories, consideration was given to which students received Pell grants and subsidized Stafford loans. The Pell Grant program targets students from low-income families. At a family income level of $25,000–29,999, two-thirds of students at public 4-year institutions received a Pell grant in 1999–2000 (table B-3). At the

Table B-3. Percentage of full-time, full-year dependent undergraduates at selected types of institutions who received Pell grants and Stafford loans, by family income: 1999–2000

Family income	Percent at public 4-year institutions with a Pell grant	Percent at public 4-year institutions with a Pell grant of $1,000 or more	Percent at public 4-year institutions with a subsidized Stafford loan	Percent at private not-for-profit 4-year institutions with a subsidized Stafford loan
Total	21.6	17.9	32.9	50.0
Family income				
Less than $15,000	77.1	75.6	49.0	52.6
$15,000–19,999	78.3	72.4	54.0	70.0
$20,000–24,999	70.3	62.3	51.2	70.3
$25,000–29,999	67.4	55.5	58.5	64.8
$30,000–34,999	45.8	34.8	44.0	64.6
$35,000–39,999	33.3	22.7	51.4	63.4
$40,000–44,999	22.7	12.3	51.2	72.8
$45,000–49,999	10.1	3.1	43.8	64.7
$50,000–54,999	4.5	1.4	47.7	62.2
$55,000–59,999	2.9	0.1	35.4	73.1
$60,000–64,999	1.8	0.4	35.5	58.1
$65,000–69,999	#	#	30.2	62.4
$70,000–74,999	1.2	0.5	26.2	59.8
$75,000–79,999	#	#	19.5	42.7
$80,000–84,999	0.5	0.5	16.4	51.1
$85,000–89,999	#	#	16.3	41.5
$90,000–94,999	#	#	12.1	37.0
$95,000–99,999	#	#	7.1	32.9
$100,000 or more	#	#	5.7	18.0

#Rounds to zero.

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

next highest income level, the percentage dropped to below half (46 percent). Thus, $29,999 seemed to be an appropriate upper bound for the low-income category. In defining the middle-income category, the goal was to identify students who were not served by the Pell grant program but who used federally subsidized loans to help pay for college. The lower bound for this group appears to start at about $45,000. Above $45,000, only 3 percent of students at public 4-year institutions received Pell grants of $1,000 or more. The upper bound of the middle-income category was set at $74,999, beyond which fewer than one-quarter used subsidized Stafford loans to attend a public 4-year institution. This categorization of low- and middle-income students left a low-middle-income group that was not clearly one either low- or middle-income ($30,000–44,999). At the higher income levels, a distinction was made between upper-middle-income ($75,000–99,999) and high-income students (more than $100,000) because of the difference in the rates at which the two groups received subsidized loans at private not-for-profit institutions (33 percent for the former and 18 percent for the latter).

Institution Types

Private not-for-profit liberal arts colleges are considered nondoctoral institutions in the Carnegie classification because they do not award degrees higher than a master's. However, full-time, full-year dependent students at liberal arts colleges appeared more similar to their counterparts at doctoral than at nondoctoral institutions with respect to important characteristics related to price and paying for college in 1999–2000. These characteristics include tuition paid, budget, expected family contribution (EFC), financial aid received, and net cost (table B-4). In addition, students at liberal arts colleges more closely resembled their peers at doctoral institutions than at nondoctoral ones in terms of certain background characteristics such as parents' education and the highest degree they expected to earn. Therefore, for the purposes of this study, private not-for-profit liberal arts institutions were grouped with doctoral institutions.

Table B-4. Characteristics of full-time, full-year dependent undergraduates at private not-for-profit nondoctoral, doctoral, and liberal arts institutions: 1999–2000

Student characteristics	Private not-for-profit		
	Nondoctoral	Doctoral	Liberal arts
Average tuition and fees	$13,300	$20,200	$19,300
Average budget	21,400	29,700	27,100
Average EFC	10,900	15,700	13,000
Average amounts of aid (for students with aid)			
Total	13,100	17,800	16,000
Grants	7,700	12,000	10,700
Loans	7,400	8,500	7,400
Work study	1,500	1,900	1,500
Institutional aid	6,300	10,500	9,500
Average net cost (budget minus aid) for students with aid	10,200	17,400	15,400
Average amounts of aid (for all students, including unaided)			
Total	12,100	13,300	13,000
Grants	6,400	7,900	7,800
Loans	5,000	4,800	4,700
Work study	500	500	500
Institutional aid	4,600	6,400	6,200
Average net cost (budget minus aid) for all students, including unaided	9,300	16,400	14,100
Percentage of students with at least one parent with a bachelor's degree or higher	52	74	70
Percentage of students expecting to earn higher than a bachelor's degree	82	88	88

NOTE: Limited to undergraduates at public 2-year and public and private not-for-profit 4-year institutions who attended only one institution and who were U.S. citizens or permanent residents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Statistical Procedures

Differences Between Means

The descriptive comparisons were tested in this report using Student's t statistic. Differences between estimates are tested against the probability of a Type I error,[19] 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.

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

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

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:

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

where r is the correlation between the two variables.[20] The denominator in this formula will be at its maximum when the two estimates are perfectly negatively correlated; that is, when $r = -1$. This means that a conservative dependent test may be conducted by using -1 for the correlation in this formula, or

$$t = \frac{E_1 - E_2}{\sqrt{(se_1)^2 + (se_2)^2 + 2se_1 se_2}}. \tag{3}$$

The estimates and standard errors are obtained from the DAS.

[19] A Type I error occurs when one concludes that a difference observed in a sample reflects a true difference in the population from which the sample was drawn when no such difference is present.

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

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

Comparisons were made in this report only when $p \leq .05$. 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 twenty when there was no actual difference in the quantities in the underlying population. When we test hypotheses that show *t* values at the .05 level or smaller, we treat this finding as rejecting the null hypothesis that there is no difference between the two quantities.

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