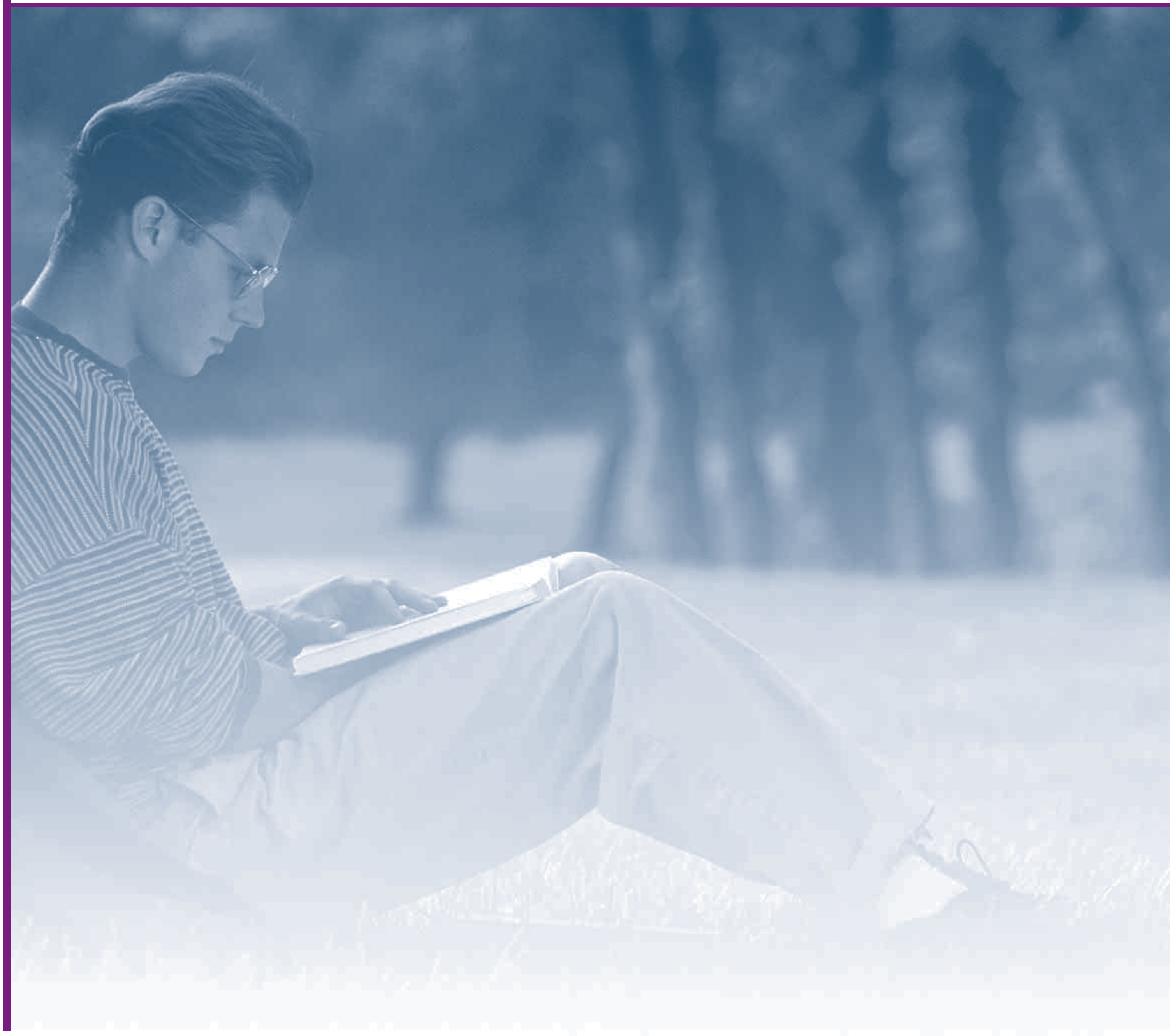
Special Analysis



Contents

Paying for College: Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates 2

Special Analyses on *The Condition of Education* Web Site (2000–2004)	Year
Entering Kindergarten: A Portrait of American Children When They Begin School	2000
Students Whose Parents Did Not Go to College: Postsecondary Access, Persistence, and Attainment	2001
Private Schools: A Brief Portrait	2002
Nontraditional Undergraduates	2002
Reading—Young Children's Achievement and Classroom Experiences	2003
Paying for College: Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates	2004

Paying for College
Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Susan P. Choy

A Decade of Change

The 1990s brought college tuition and fee increases that outpaced both inflation and growth in the median family income (U.S. General Accounting Office 1996, 1998). At the same time, federal, state, and institutional financial aid to students expanded (The College Board 2003a), and important changes were made in the structure of the financial aid system. At the federal level, the 1992 Reauthorization of the Higher Education Act expanded students' eligibility for need-based aid, raised student loan limits, and introduced unsubsidized loans for students regardless of their need. The resulting increase in borrowing has been one of the most dramatic changes in financial aid in the decade. Also during the 1990s, the federal government began to use tax credits to ease the burden of paying for college. States and institutions increased their grant programs, as well as the amounts awarded based on merit or a combination of merit and financial need, rather than need alone (The College Board 2003b; Horn and Peter 2003). As a result of these trends and events, the overall picture of what and how students pay for college has changed substantially since the early 1990s.

This analysis examines changes in student financing of undergraduate education between 1989–90 and 1999–2000, focusing on students who enrolled full time for the full academic year and who were considered financially dependent on their parents for financial aid purposes. It briefly describes the increases in tuition and fees, major types and sources of financial aid available to undergraduates, data and definitions used, and where students enrolled. It then shows what prices they faced, how much they and their families were expected to pay from their own resources, and what types and amounts of financial aid they received. The analysis presents the price of going to college in three ways: the total price (tuition and fees plus books and living expenses), the net price after taking grants into account, and the net price after both grants and loans are considered.

Although this analysis describes how students have used financial aid to help pay for college, it does not address the role of financial aid in providing access to college. Only students who actually enrolled were included—that is, those who were able to assemble the necessary financial resources. The analysis does not include prospective students who may have been discouraged by the price of going to college, found the available financial aid inadequate to their needs, or were unable or unwilling to borrow the amount needed to enroll.

Tuition and Fee Increases

College prices were relatively stable during the 1970s, but increases in tuition and fees began to outstrip growth in consumer prices during the early 1980s, causing much public concern about college affordability (The College Board 2003a). Figure 1 shows the annual percentage increases in tuition and fees at different types of institutions between 1989–90 and 2002–03. In the public sector, annual increases were mostly in the 10 to 14 percent range in the early 1990s. A period of more modest annual increases followed, ranging from 4 to 6 percent at 4-year institutions and less than that at 2-year institutions. In the past couple of years, however, growth has accelerated again, and between 2001–02 and 2002–03, tuition rose by 9 percent at public 4-year institutions and by 7 percent at public 2-year institutions. At private 4-year institutions, annual percentage increases have been more even. Compared with the increases at public institutions, they were generally not as high in the early 1990s, were about the same in the mid-1990s, and have not shown the recent upturn.

Student Financial Aid

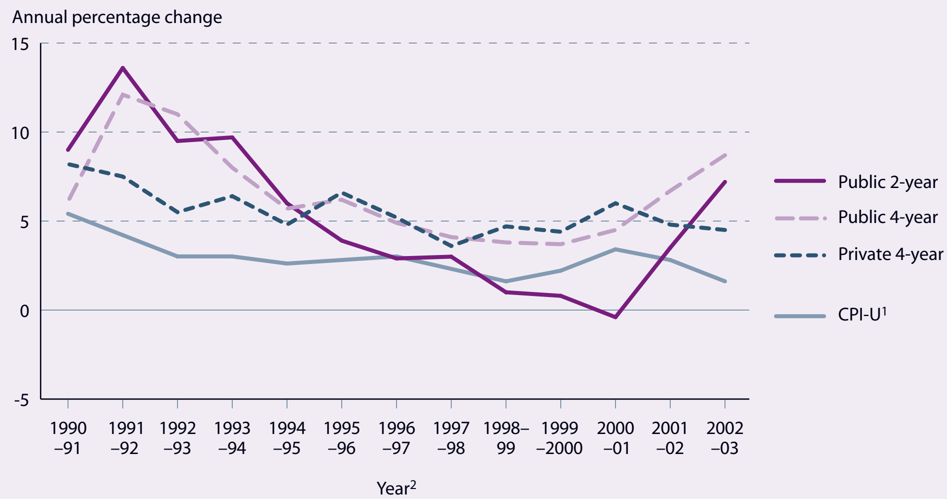
Aid consists of grants or merit-based scholarships that do not have to be repaid, loans that

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

Figure 1. Annual percentage change in average tuition and fees paid by full-time-equivalent students, by type of institution, and annual percentage change in the Consumer Price Index: 1989–90 to 2002–03



[1]Consumer Price Index for All Urban Consumers.

[2]The value for each year is the percentage change from the previous year.

NOTE: Data reflect average charges paid by students in current dollars; for public institutions, data reflect in-state charges. Tuition and fees are weighted by the number of full-time-equivalent undergraduates.

SOURCE: U.S. Department of Education, NCES, Higher Education General Information Survey (HEGIS), Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment" surveys, 1989 through 1999, and "Institutional Characteristics" surveys, 1989–90 through 2000–01, and Spring 2001 and Spring 2002. U.S. Department of Labor, Bureau of Labor Statistics. *http://bls.gov/data* (CPI data).

must be repaid, and work-study that requires work (usually on campus) in exchange for aid. Aid providers use different criteria for distributing aid to students, depending on their goals. Many federal, state, institutional, and private financial aid programs exist to assist students who need financial help with their educational expenses.

The original goal of federal student aid programs implemented as part of the Higher Education Act of 1965 was to provide need-based financial aid to low-income students to increase their access to postsecondary education and give them reasonable alternatives from which to choose an appropriate program. By the 1980s, this goal had been expanded to include making college more affordable for middle-income families as well (Spencer 1999). The 1992 Reauthorization of the Higher Education Act made several major changes to the federal financial aid system: it changed the method for calculating need, making it easier for dependent students to qualify for need-based aid; it raised the loan limits for the Stafford loan program, allowing students to borrow more; and it made federally guaranteed unsubsidized loans available to students regardless of need.[1] Within the last decade, the federal government has begun to use the tax code to assist families with annual incomes up to $100,000 with educational expenses, although families with incomes below $20,000 a year typically do not have sufficient tax liability to benefit from these programs (U.S. General Accounting Office 2002). In 2002–03, the federal government provided $71.6 billion

Paying for College
Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

in student aid for undergraduate and graduate study—$15.8 billion in grant aid, $49.1 billion in guaranteed loans, $1.2 billion in work-study aid, and $5.4 billion in education tax credits (The College Board 2003b).

States support postsecondary education mainly through operating subsidies to public institutions. State student aid programs have played a secondary role (Hauptman 2001). However, the 1972 reauthorization of the Higher Education Act provided states with incentives to create grant programs, and they responded. By the end of the 1970s, almost all states had at least one need-based grant program, and many have more than one now. States have taken different approaches to eligibility, and rules may vary by program within states (National Association of State Student Grant and Aid Programs [NASSGAP] 2003). For example, some programs limit participation to students at public institutions, while others also include students who attend private institutions. A few are open to state residents regardless of where they enroll, and some are targeted to specific groups, such as prospective teachers or nurses.[2] Between 1992–93 and 2002–03, the amount of state grant aid more than doubled, from $2.7 billion (in constant 2002 dollars) to $5.6 billion (The College Board 2003b). State grants were once mainly need based, but the use of merit-based grant programs has grown. In 2002–03, 24 percent of state grants were merit based, compared with 10 percent a decade earlier.

Institutions, especially private ones, have considerable freedom to establish their own criteria for awarding aid. They may distribute aid to achieve a variety of goals, such as assisting financially needy students, attracting students with high levels of academic ability or other talents, enrolling diverse student bodies, or meeting enrollment goals (Redd 2000). Often they try to achieve some or all of these goals simultaneously. In 2002–03, public and private institutions awarded a total of $20.4 billion in grant aid from their own funds, which represented almost half of all the grant aid awarded (The College Board 2003b). Between 1992–93 and 1999–2000, the percentage of undergraduates receiving institutional aid increased, particularly in the higher income brackets (Horn and Peter 2003; *indicator 37*).

Legislators and policymakers frequently review and adjust the goals of the student financial aid system, the rules for distributing various types of aid, and the amounts available. To inform financial aid debates and measure the impact of changes in laws and policies, the National Center for Education Statistics (NCES) conducts the National Postsecondary Student Aid Study (NPSAS), which has collected information on a nationally representative sample of postsecondary students at 3- to 4-year intervals since 1987. The most recently completed study collected data during the 1999–2000 academic year; the next one covers 2003–04. Among other topics, NPSAS covers the actual charges to students, the amounts students and their families are expected to contribute, and the types and amounts of financial aid students receive from various sources.[3] This analysis uses data from the 1989–90 and 1999–2000 studies to examine changes in student financing of undergraduate education over this period.

Data and Definitions

Most of the data presented in this analysis are extracted from tables produced for *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000*, an NCES publication that contains an extensive compendium of tables on student financing of undergraduate education in each of the four NPSAS years between 1989–90 and 1999–2000 (Wei, Li, and Berkner forthcoming). The report tables present data on full-time, full-year undergraduates at four types of institutions (public 2-year, public 4-year, private not-for-profit 4-year, and private for-profit less-than-4-year) and within type of

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

institution separately for dependent and independent students.[4] For financial aid purposes, undergraduates are categorized as "dependent" or "independent." Undergraduates under age 24 are generally considered financially dependent, which means that parents' income and assets as well as the student's are considered in determining eligibility for federal financial aid. Independent students are undergraduates 24 years and above or younger students who are married, have dependents of their own, are veterans, or are wards of the court. Parental financial resources are not considered for these students. In 1999–2000, 49 percent of all undergraduates were dependent (Horn, Peter, and Rooney 2002).

The analysis presented here focuses on dependent undergraduates who enrolled full time for the full academic year.[5] It compares data for the 1989–90 and 1999–2000 NPSAS years by type of institution and family income quarters. The two end-points were selected for analysis as before and after comparisons, showing the results of the changes enacted by the 1992 Higher Education Amendments that were implemented in 1993–94.

While dependent, full-time undergraduates tend to receive the most attention in financial aid discussions, they represented only part of the total undergraduate population in 1999–2000: 12 percent at public 2-year institutions, 43 percent at public 4-year institutions, 52 percent at private not-for-profit 4-year institutions, and 19 percent at private for-profit less-than-4-year institutions.[6]

Many of the tables present data by family income. In 1999–2000, the average family income among full-time dependent students was $65,500.[7] The average was $18,800 for families in the lowest quarter, $43,100 for those in the lower middle quarter, $67,600 for those in the upper middle quarter, and $124,600 for those in the highest income quarter. Adjusting for inflation, the average family income was higher in 1999–2000 than in 1989–90, when it was $62,300 (in 1999 constant dollars). The average family income increased for each quarter except the highest, where an apparent increase was not statistically significant.[8]

For ease of presentation, references to the 1989–90 and 1999–2000 academic years have been shortened to 1990 and 2000, and "full-time, full-year" has been shortened to "full-time." Estimates of dollar amounts for 1989–90 were adjusted for inflation using the Consumer Price Index for All Urban Consumers.[9]

Enrollment Patterns

Postsecondary students can choose from many types of institutions, including public and private not-for-profit 4-year institutions that offer primarily bachelor's degrees or higher, public 2-year institutions (usually called "community colleges") that offer mainly associate's degrees and vocational certificates, and other less-than-4-year institutions. This last type of institution typically offers certificate programs that can be completed in about a year of full-time enrollment, but some of these institutions offer associate's degrees as well. Most students at these types of institutions attend private for-profit institutions, commonly known as "trade" or "proprietary" schools.

In both 1990 and 2000, approximately one-half of all full-time dependent undergraduates attended public 4-year institutions, and about one-quarter attended private not-for-profit 4-year institutions (table 1). Between 1990 and 2000, the proportion attending public 2-year institutions (community colleges) increased, while the proportion enrolled at private for-profit less-than-4-year institutions decreased. The decline in the proportion attending private for-profit less-than-4-year institutions may reflect in part the decline in the number of such institutions (from 5,544 in 1990 to 4,343 in

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

Table 1. Percentage distribution of full-time, full-year dependent undergraduates by type of institution, by family income: 1989–90 and 1999–2000

Family income	Public 2-year	Public 4-year	Private not-for-profit 4-year	Private for-profit less-than-4-year
		1989–90		
Total	**15.5**	**52.4**	**28.0**	**4.1**
Lowest quarter	16.4	47.0	28.0	8.7
Lower middle quarter	19.7	53.5	22.8	4.0
Upper middle quarter	15.5	56.4	25.2	2.9
Highest quarter	10.6	52.4	35.7	1.3
		1999–2000		
Total	**19.4***	**51.3**	**27.0**	**2.4***
Lowest quarter	24.7*	47.4	22.9*	5.0*
Lower middle quarter	22.3	51.9	23.8	2.0*
Upper middle quarter	18.6	51.7	28.0	1.7*
Highest quarter	12.6	53.9	32.6	0.9

*Represents statistically significant change from 1989–90.

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

SOURCE: U.S. Department of Education, NCES, 1989–90 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS:90 and NPSAS:2000).

2000) (U.S. Department of Education 2003, table 5). The number of public 2-year institutions increased from 968 to 1,068, and the number of 4-year institutions remained approximately the same (about 600 public and 1,500 private not-for-profit institutions).

- *The distribution of low-income students across types of institutions has shifted.*

Among full-time dependent undergraduates in the lowest family income quarter, the percentage attending private not-for-profit 4-year institutions declined between 1990 and 2000 (from 28 to 23 percent), as did the percentage attending private for-profit less-than-4-year institutions (from 9 to 5 percent) (table 1). The percentage attending public 2-year institutions increased from 16 to 25 percent, however. In both years, 47 percent of low-income dependent students attended public 4-year institutions. It is possible that lower income students reacted to rising tuition by choosing institutions with lower prices (either within or across sector), but price is only one of many factors students consider in choosing a college.

Overview of the Financial Aid System

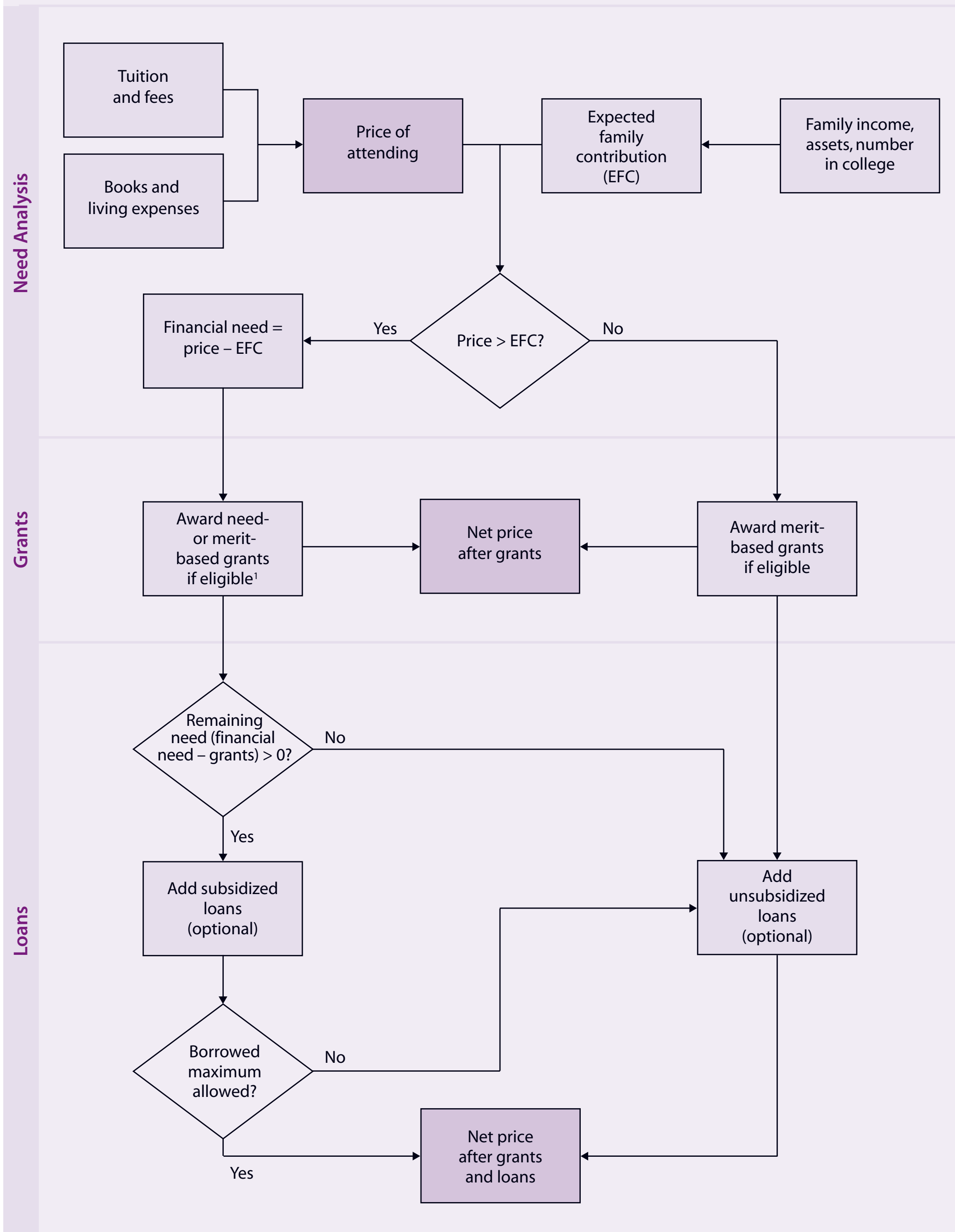
The diagram on the next page summarizes how a student's financial aid eligibility is assessed (need analysis) and how grants and loans are packaged. A student applying to college faces expenses for tuition, fees, books, and living expenses. Depending on where the student wants to enroll and the family's financial resources, the student may be able to receive financial aid to help cover these expenses. In awarding aid, institutions typically first package any grants for which the student is eligible and then offer loans (although some institutional grant aid may be awarded after loans are packaged). If the student has financial need after grants, at least some of the loans may be subsidized (i.e., the federal government pays the interest while the student is enrolled).

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

Overview of the Financial Aid System



[1]Some institutional grant aid may not be awarded until loans have been packaged.

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

Need Analysis

A need analysis determines a student's eligibility for financial aid at a particular institution. The need analysis establishes how much a family is expected to contribute from its own income and assets and compares that to the price of attending. If the price of attending is greater than the expected family contribution, the difference between the two represents the student's financial need. If the expected family contribution is greater than the price of attending, the student is not eligible for need-based aid, but may still qualify for merit aid and can take out unsubsidized loans.

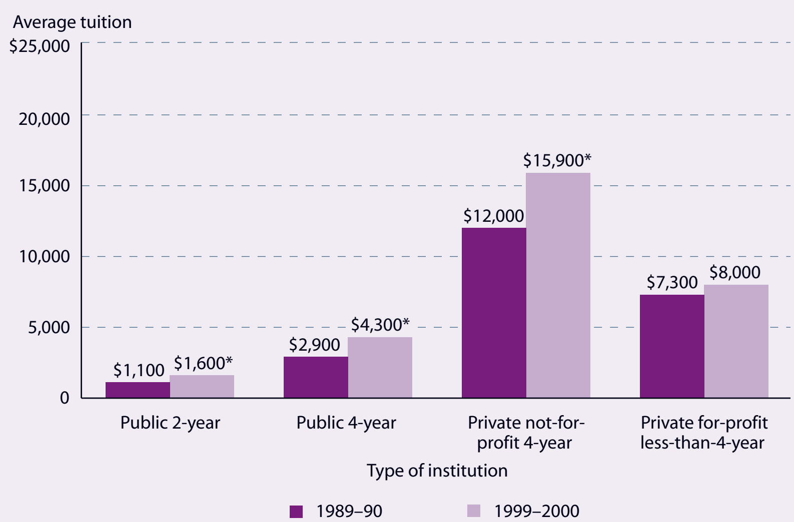
Tuition and Fees

Tuition and fees represent the price that institutions charge students before any grant aid is taken into account. Fees are charges assessed for services such as laboratory expenses, health services, exercise facilities, and art studios and may not be the same for all students. The amounts used in this analysis are the actual charges to individual students and therefore reflect whether they paid in- or out-of-state tuition.

- *Average tuition and fees (after adjusting for inflation) have risen substantially.*

Dependent undergraduates who attended full time in 1990 were charged an average of $1,100 in tuition and fees at public 2-year institutions, $2,900 at public 4-year institutions, and $12,000 at private not-for-profit 4-year institutions (figure 2). By 2000, the averages had risen to $1,600, $4,300, and $15,900, respectively. The apparent increase at private for-profit less-than-4-year institutions (from $7,300 to $8,000) is not statistically significant.

Figure 2. Average tuition and fees (in 1999 constant dollars) for full-time, full-year dependent undergraduates, by type of institution: 1989–90 and 1999–2000



*Represents statistically significant change from 1989–90.

SOURCE: Wei, C.C., Li, X., and Berkner, L. (forthcoming). *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000* (NCES 2004–158), tables A-1.1, A-2.1, A-3.1, and A-4.1. Data from U.S. Department of Education, NCES, 1989–90 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS:90 and NPSAS:2000).

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

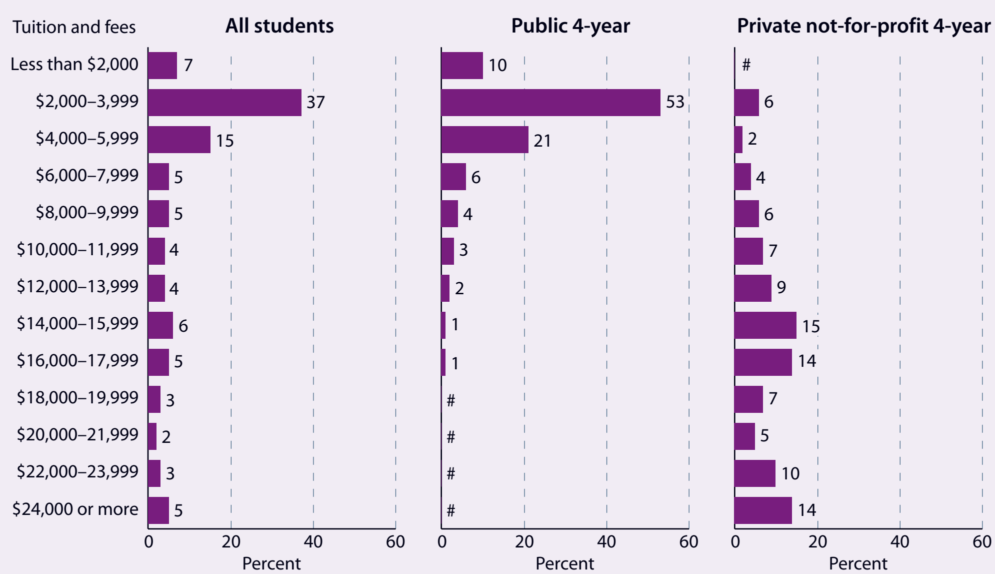
Despite widespread concern about the affordability of postsecondary education, students have a range of options with price tags that vary widely. Although a relatively small percentage (5 percent) of full-time dependent undergraduates at all 4-year institutions faced tuition and fees of $24,000 or more in 2000, about 44 percent were charged less than $4,000 (figure 3). Students at public and private not-for-profit 4-year institutions faced very different prices, however: about 83 percent of students at public 4-year institutions were charged less than $6,000 in tuition and fees, while about a quarter of those at private not-for-profit institutions were charged $22,000 or more.

Total Price of Attending

For each student aid applicant, a financial aid officer develops a budget that estimates the price for that student to attend the institution. The budget includes amounts for tuition and fees (including out-of-state tuition and fees when applicable), books and materials, and reasonable living expenses for that geographic area (housing, food, transportation, and personal items). The amount allocated for living expenses takes into account whether the student lives on campus, independently off campus, or with parents or relatives. Student budgets represent what the institution thinks students would need to spend to attend, but in fact, students may spend more or less depending on their individual needs, resources, and standards of living. The budget, or price of attending, is the starting point for determining financial aid eligibility (i.e., need analysis).

Reflecting the tuition and fee increases described, the total price of attending (after adjusting for

Figure 3. Percentage distribution of full-time, full-year dependent undergraduates at 4-year institutions by tuition and fees, by sector: 1999–2000



#Rounds to zero.

NOTE: Averages for public 4-year institutions include out-of-state students. Detail may not sum to totals because of rounding.

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

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

inflation) increased between 1990 and 2000 at all types of institutions except private for-profit less-than-4-year institutions, where the apparent increase was not statistically significant (table 2). In 2000, the educational expenses of full-time dependent undergraduates averaged $8,500 at public 2-year institutions, $12,400 at public 4-year institutions, $24,400 at private not-for-profit 4-year institutions, and $16,000 at private for-profit less-than-4-year institutions.

Expected Family Contribution

The formula used to calculate the expected family contribution takes into account family income and assets, family size, and the number of other college students in the family. Institutions must use the Federal Methodology legislated by Congress to assess eligibility for federal aid, but states and institutions may use different formulas to distribute their own aid. In this analysis, references to the expected family contribution mean the federal amount. If the expected family contribution exceeds the price of attending, the student will not be eligible for any need-based aid. The expected family contribution is independent of where the student enrolls and depends entirely on the family's financial circumstances.

The formula is designed to compare ability to pay across families to promote the equitable distribution of available aid. In practice, families may contribute more or less than the amount established by the formula depending on their own perceptions of what they can afford and are willing to pay.

The formulas for determining the expected family contribution have been changed many times in an effort to create rules that are both fair and easy to understand (Baum 1999). Among the issues frequently debated are at what age should a student be considered independent, how the financial resources of a noncustodial parent should be treated, and what parental assets should be included in the calculation.

- *After adjusting for inflation, the average federal expected family contribution has declined over the past decade for low- and middle-income students.*

The 1992 amendments to the Higher Education Act introduced several important changes in how the expected family contribution is computed: home equity is no longer included in assets used to calculate the expected contribution; assets are no longer counted for parents with incomes under $50,000 who file a short federal tax form; the annual minimum student contribution was eliminated; and the required contribution from student earnings was reduced. The net result of these changes was that the average expected family contribution, after adjusting for inflation, was lower in 2000 than in 1990 for all full-time dependent students ex-

Table 2. Average price of attendance (in 1999 constant dollars) for full-time, full-year dependent undergraduates, by type of institution: 1989–90 and 1999–2000

Type of institution	1989–90	1999–2000
Public 2-year	$7,300	$8,500*
Public 4-year	10,000	12,400*
Private not-for-profit 4-year	19,400	24,400*
Private for-profit less-than-4-year	14,700	16,000

*Represents statistically significant change from 1989–90.

SOURCE: Wei, C.C., Li, X., and Berkner, L. (forthcoming). *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000* (NCES 2004–158), tables A-1.2, A-2.2, A-3.2, and A-4.2. Data from U.S. Department of Education, NCES, 1989–90 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS:90 and NPSAS:2000).

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

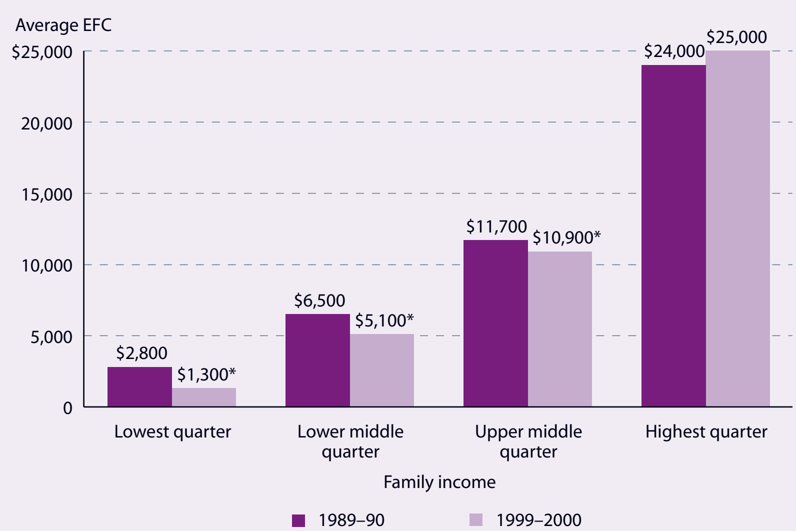
cept those in the highest income quarter, where no change was observed (figure 4).

Financial Aid Eligibility (Need)

As indicated earlier, the amount of need-based financial aid for which a student is eligible is calculated by subtracting the expected family contribution from the price of attending. The amount of need-based aid for which a student is eligible reflects both the choice of institution and the family's financial circumstances. At a given institution, a low-income student would generally have greater need than a high-income one, and a given student would have greater need at a high-priced institution than at a low-priced one. Thus, low-income students at the institutions with the highest prices typically have the greatest need.

Figure 5 presents the relationship between expected family contribution and price for families at various income levels in 2000 and shows the average price of attending the different types of institutions.[10] For any income group, the gap between the average price of attending and the average expected family contribution represents the amount of need-based aid for which the student would qualify. For example, students from families with incomes in the $50,000 to $54,000 range had an average expected family contribution of about $7,000. Therefore, on average, they would be eligible for about $1,500 in need-based aid at a public 2-year institution, $5,400 at a public 4-year institution, $9,000 at a private for-profit less-than-4-year institution, and $17,400 at a private not-for-profit 4-year institution. As discussed later, sufficient need-based aid is not always available to meet the students' needs.

Figure 4. Average expected family contribution (EFC) (in constant 1999 dollars) for full-time, full-year dependent undergraduates, by family income: 1989–90 and 1999–2000



*Represents statistically significant change from 1989–90.

NOTE: EFC refers to the amount required for federal aid eligibility purposes; this amount is the same at all institutions.

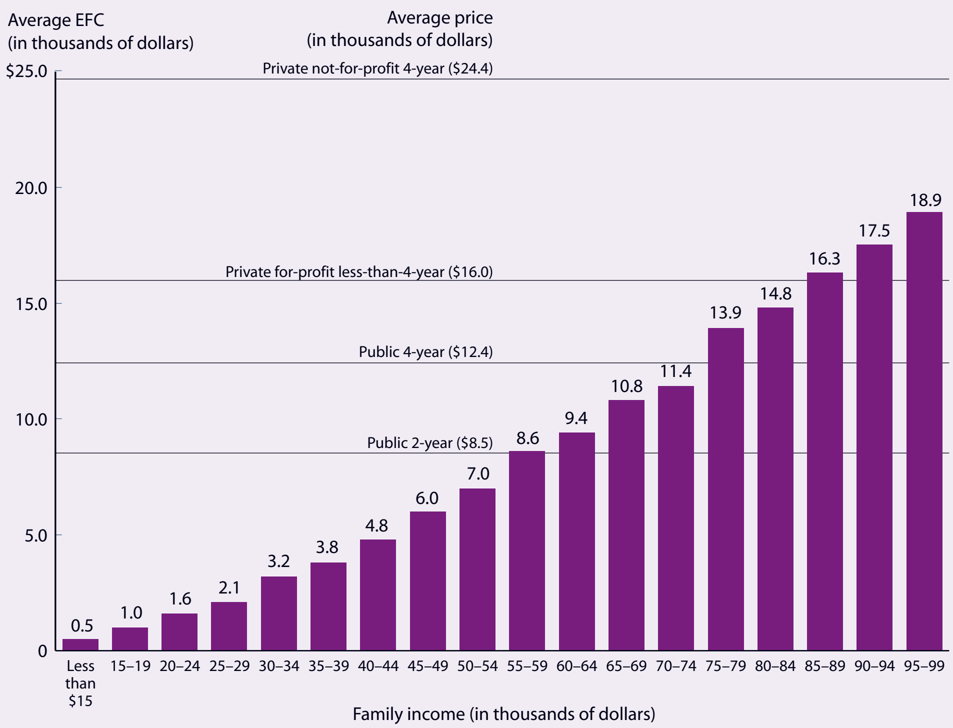
SOURCE: Wei, C.C., Li, X., and Berkner, L. (forthcoming). *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000* (NCES 2004–158), table 2. Data from U.S. Department of Education, NCES, 1989–90 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS:90 and NPSAS:2000).

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

Figure 5. Average expected family contribution (EFC) for full-time, full-year dependent undergraduates by family income and average price of attending, by type of institution, and percentage distribution of these students by family income: 1999–2000



Less than $15	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	85–89	90–94	95–99
8.3	4.5	4.9	5.0	5.1	4.8	5.2	5.5	5.6	4.9	5.0	4.8	3.7	3.8	3.4	2.9	2.7	2.2

Percentage of full-time, full-year dependent undergraduates in income category

NOTE: Average price of attending for public 4-year institutions includes out-of-state students. EFC refers to the amount required for federal aid eligibility purposes; this amount is the same at all institutions. EFC cannot be reliably estimated for families with high incomes because of lack of income data from students who do not apply for aid.

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

Students from families with annual incomes under about $55,000 had average expected family contributions that were less than the average price of attending even a public 2-year institution, and therefore they would have been eligible for some need-based aid at any type of institution. Similarly, on average, students from families with incomes between $55,000 and $74,999 would not have been eligible for need-based aid at public 2-year institutions, but would have been eligible at all other types of institutions (although possibly only for loans in some cases). Students from families with incomes of $85,000 or more typically would have been eligible for need-based aid only at the average private not-for-profit 4-year institution.

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

■ *Because prices have risen and expected family contribution has declined, average financial need has increased.*

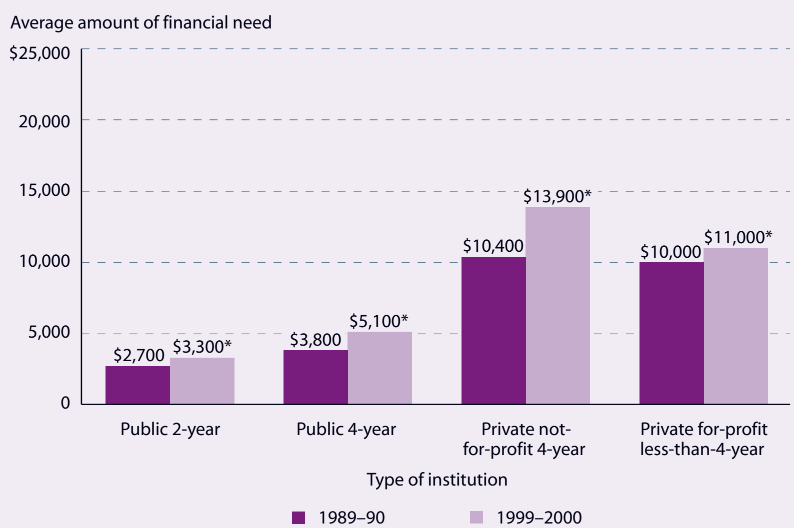
As described above, the 1990s brought an increase in the average price of attending college and a decrease in the average expected family contribution at most income levels after adjusting for inflation. Consequently, the amount of need-based aid for which the average full-time dependent student was eligible (i.e., average financial need) increased. For example, the average full-time dependent undergraduate at a public 4-year institution was eligible for $3,800 in aid in 1990 (in 1999 constant dollars) and for $5,100 in 2000 (figure 6). Average need increased at the other types of institutions as well.

Financial Aid

Once a student's financial need is established, a financial aid officer develops an aid package to meet as much of this need as possible. Aid packages consist mainly of grants, loans, and work-study.[11] The particular combinations of aid awarded vary systematically with family income, reflecting varying eligibility for need-based aid, and by type of institution, reflecting differences in prices of attending and aid resources. As income and price increase, so does reliance on loans generally.

Students do not always receive sufficient aid to meet their entire need for several reasons. First, the funds available may not be sufficient to cover all students' needs. Second, students may decline to take out some or all of the loans for which they are eligible and find other

Figure 6. Average amount of financial need (in constant 1999 dollars) for full-time, full-year dependent undergraduates, by type of institution: 1989–90 and 1999–2000



*Represents statistically significant change from 1989–90.
SOURCE: Wei, C.C., Li, X., and Berkner, L. (forthcoming). *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000* (NCES 2004–158), tables A-1.3, A-2.3, A-3.3, and A-4.3. Data from U.S. Department of Education, NCES, 1989–90 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS:90 and NPSAS:2000).

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

ways to cover their expenses such as working more, spending less, or contributing more than the amounts calculated in the expected family contribution formula. Finally, students who are eligible may not apply for aid or provide all the documentation required to complete the application process.

- *The percentages of students receiving financial aid and the average amounts received by aided students have both increased for all income groups and at all types of institutions.*

In 1990, 54 percent of all full-time dependent undergraduates received some type of financial aid (table 3). By 2000, 71 percent received aid. Among aid recipients, the average amount received (adjusted for inflation) grew as well (from $6,200 to $8,700), as did the percentage of the price of attending covered by financial aid (from 46 to 53 percent). This pattern of growth was evident for students in all income groups and at all types of institutions. It reflects the increased eligibility for aid, as described earlier, and the increased availability of both grants and loans, as described below.

Grants

- *The percentages of students receiving grants and the average amounts received by students with grant aid have increased.*

In 2000, 57 percent of all full-time dependent students received grants to help them pay their educational expenses, up from 45 percent in 1990 (table 4). The percentage receiving grants increased at all income levels. At least three-quarters of students in the lowest income quarter received grants in both years (77 percent in 1990 and 84 percent in 2000) (figure 7). At the highest income level, the percentage with

Table 3. Percentage of full-time, full-year dependent undergraduates who received financial aid, and among aided students, average amount received (in 1999 constant dollars) and average percentage of price of attendance covered by financial aid, by family income and type of institution: 1989–90 and 1999–2000

Family income and type of institution	Percentage with aid		Average amount		Percentage of price of attendance covered by aid	
	1989–90	1999–2000	1989–90	1999–2000	1989–90	1999–2000
Total	**53.8**	**71.1***	**$6,200**	**$8,700***	**45.5**	**52.9***
Family income						
Lowest quarter	81.1	86.8*	6,900	8,600*	55.6	62.0*
Lower middle quarter	58.3	73.4*	6,100	8,700*	45.3	53.3*
Upper middle quarter	49.5	68.0*	5,700	9,000*	38.1	50.1*
Highest quarter	29.4	57.9*	5,500	8,300*	32.9	43.4*
Type of institution						
Public 2-year	37.1	50.6*	2,400	3,200*	33.9	39.0*
Public 4-year	47.5	70.8*	4,700	6,600*	45.5	52.7*
Private not-for-profit 4-year	71.3	84.8*	9,200	14,400*	49.2	59.7*
Private for-profit less-than-4-year	78.8	91.1*	6,100	8,000*	42.6	49.1*

*Represents statistically significant change from 1989–90.

SOURCE: Wei, C.C., Li, X., and Berkner, L. (forthcoming). *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000* (NCES 2004–158), tables 3, 4, A-1.4, A-1.5, A-2.4, A-2.5, A-3.4, A-3.5, A-4.4, and A-4.5. Data from U.S. Department of Education, NCES, 1989–90 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS:90 and NPSAS:2000).

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

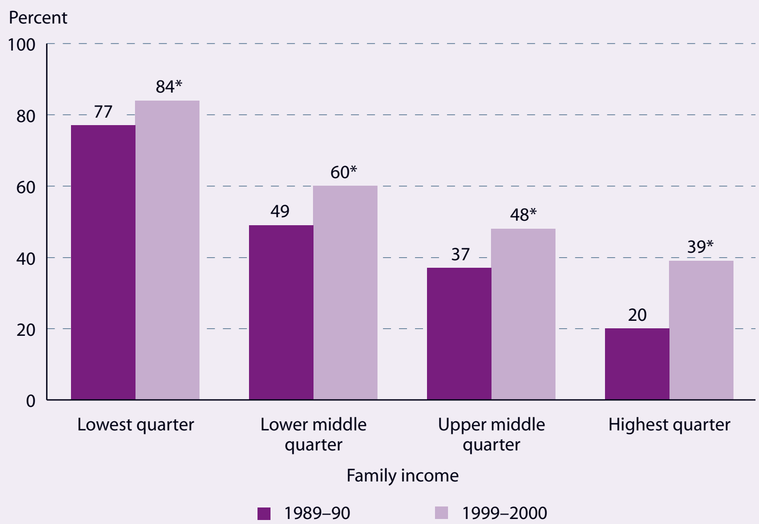
Table 4. Percentage of full-time, full-year dependent undergraduates who received grants, and among those with grants, average amount received (in 1999 constant dollars), by family income and type of institution: 1989–90 and 1999–2000

Family income and type of institution	Percentage with grants 1989–90	Percentage with grants 1999–2000	Average amount 1989–90	Average amount 1999–2000
Total	**44.8**	**56.9***	**$4,200**	**$5,400***
Family income				
Lowest quarter	77.0	83.8*	4,600	5,500*
Lower middle quarter	48.8	60.1*	3,900	5,300*
Upper middle quarter	36.6	47.5*	3,900	5,700*
Highest quarter	20.3	38.5*	4,200	5,300*
Type of institution				
Public 2-year	33.0	43.6*	1,900	2,400*
Public 4-year	36.5	51.7*	3,200	3,800*
Private not-for-profit 4-year	65.2	75.7*	6,200	9,000*
Private for-profit less-than-4-year	57.1	63.4	2,900	2,900

*Represents statistically significant change from 1989–90.

SOURCE: Wei, C.C., Li, X., and Berkner, L. (forthcoming). *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000* (NCES 2004–158), tables 5, A-1.10, A-2.10, A-3.10, and A-4.10. Data from U.S. Department of Education, NCES, 1989–90 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS:90 and NPSAS:2000).

Figure 7. Percentage of full-time, full-year dependent undergraduates who received grants, by family income: 1989–90 and 1999–2000



*Represents statistically significant change from 1989–90.

SOURCE: Wei, C.C., Li, X., and Berkner, L. (forthcoming). *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000* (NCES 2004–158), table 5. Data from U.S. Department of Education, NCES, 1989–90 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS:90 and NPSAS:2000).

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

grants roughly doubled (from 20 to 39 percent) between 1990 and 2000. The percentage receiving grants increased at all types of institutions except private for-profit less-than-4-year institutions, where the apparent increase is not statistically significant. The average grant increased from $4,200 to $5,400 overall; it also increased for each income group and at most types of institutions. The exception was private for-profit less-than-4-year institutions, where the average grant was $2,900 in both years (table 4).

Although no statistically significant difference was measured in the average grant amounts received in 2000 by low- and high-income students ($5,500 and $5,300, respectively), low-income students would typically receive more grant aid than high-income students at a given institution. The average amount of grant aid received by an income group reflects the prices of attending the institutions they select and merit as well as need. In 2000, high-income students were more likely than low-income ones to attend higher priced institutions (Berkner et al. 2002) and to receive merit aid at private not-for-profit 4-year institutions (Horn and Peter 2003). Both of these patterns tend to bring the averages for the income groups closer together.

The federal Pell grant program, state grant programs, and institutional grant aid are the major sources of grant aid for undergraduates. In the 1990s, Pell grant awards were stable, and state and institutional grant aid increased.

■ *Pell grants were generally at about the same level in 1990 and 2000.*

The Pell grant program is the federal government's primary need-based grant program. The amount awarded to a Pell recipient is equal to the maximum Pell grant minus the expected family contribution.[12] The maximum award is established annually by congressional appropriation (up to the limit specified in the Higher Education Act). In 2002–03 constant dollars, it was $3,354 in 1989–90, declined to $2,765 by 1995–96, then began to increase, reaching $3,383 in 1999–2000 and $4,000 in 2002–03 (The College Board 2003b). Thus, the maximum amounts in 1990 and 2000 after adjusting for inflation were about the same.

At public 2-year institutions, the apparent change in the percentage of full-time dependent students receiving Pell grants (from 20 to 24 percent) is not statistically significant, but the average amount received rose from $1,700 to $2,200 (figure 8). At other types of institutions, no statistically significant increases were measured in the percentages of full-time dependent students receiving Pell grants in 1990 and 2000: about 21 percent at public 4-year institutions, 24 percent at private not-for-profit 4-year institutions, and 50 percent at private for-profit institutions. The average amounts received (adjusted for inflation) were in the $2,100 to $2,200 range both years.

The increase in the average amount at public 2-year institutions was partly a consequence of a change to the eligibility formula for Pell grants during the 1992 Reauthorization of the Higher Education Act that removed the cap limiting awards to 60 percent of the student budget. This change benefited students at public 2-year institutions, but had little effect on students at other types of institutions where higher budgets meant that student awards had not been limited by the cap.

■ *State grants have increased.*

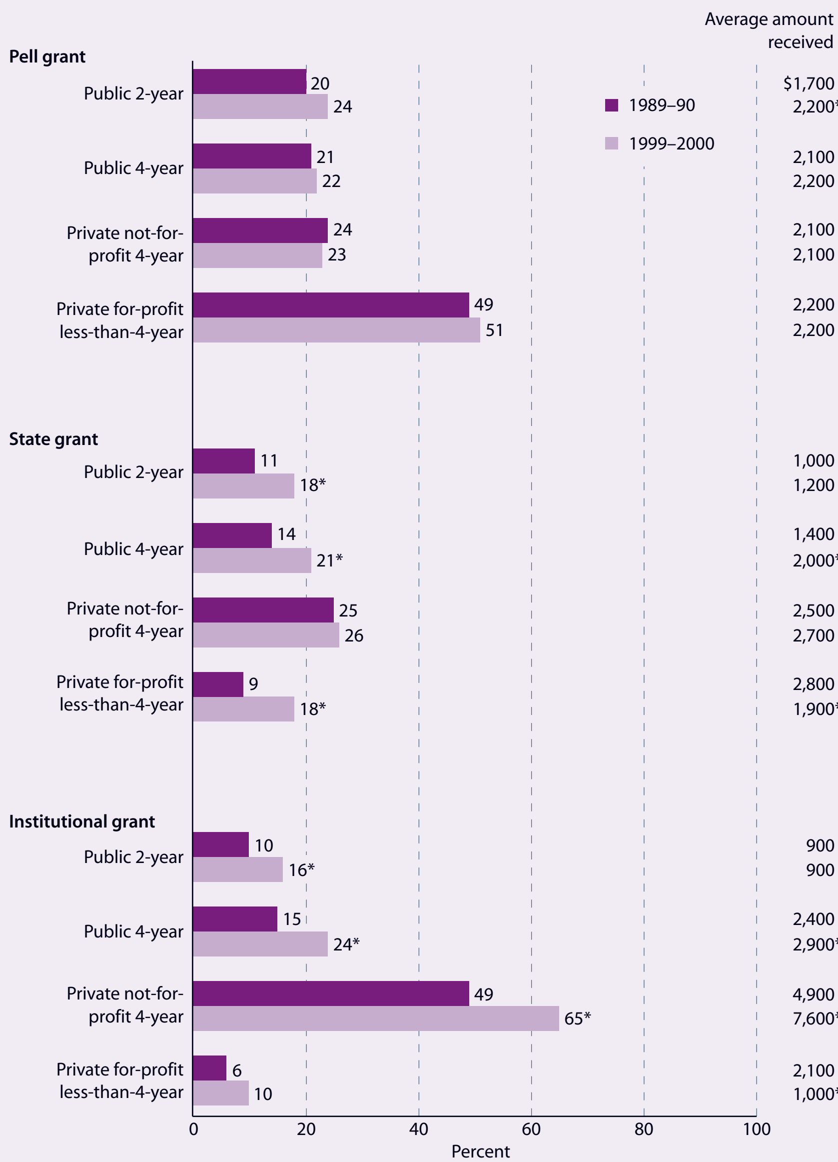
Between 1990 and 2000, the percentage of full-time dependent students receiving state grants increased from 11 to 18 percent at public 2-year institutions, 14 to 21 percent at public 4-year institutions, and 9 to 18 percent at private for-profit less-than-4-year institutions (figure 8). Students at private not-for-profit 4-year institutions were the most likely group to receive state aid in both 1990 and 2000, but

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

Figure 8. Percentage of full-time, full-year dependent undergraduates who received grants, and for those with grants, average amount received (in 1999 constant dollars), by source of grant and type of institution: 1989–90 and 1999–2000



*Represents statistically significant change from 1989–90.

NOTE: At public institutions, the distinction between state and institutional aid is not always clear cut because some institutional aid is state funded.

SOURCE: Wei, C.C., Li, X., and Berkner, L. (forthcoming). *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000* (NCES 2004–158), tables A-1.11, A-1.12, A-2.11, A-2.12, A-3.11, A-3.12, A-4.11, and A-4.12. Data from U.S. Department of Education, NCES, 1989–90 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS:90 and NPSAS:2000).

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

no statistically significant increase over time was measured. The average amount received (adjusted for inflation) increased for students at public 4-year institutions (from $1,400 to $2,000) and decreased for students at private for-profit less-than-4-year institutions (from $2,800 to $1,900).

■ *Institutional aid has increased.*

Full-time dependent students at all types of institutions except private for-profit less-than-4-year ones were more likely to receive institutional grant aid in 2000 than in 1990 (figure 8). In addition, the average amount received (adjusted for inflation) increased for students at both types of 4-year institutions, from $2,400 to $2,900 in the public sector, and from $4,900 to $7,600 in the private not-for-profit sector. At private for-profit less-than-4-year institutions, the average amount declined, and at public 2-year institutions, it was $900 in both years.

Net Price and Net Tuition After Grants

Because grant aid does not have to be repaid, it reduces the price that recipients pay to attend college. Therefore, in addition to looking at the increases in the total price of attending (table 2) and tuition and fees (figure 2) between 1990 and 2000, it is important to examine the changes in net price (total price minus grants) and net tuition and fees (tuition and fees minus grants). In addition to providing a more accurate indication of the price of attending college, these measures allow us to address whether the increases in grant aid just described were sufficient to offset the increases in the total price of attending or even the increases in tuition and fees.

■ *Net price after grants increased.*

Between 1990 and 2000, after grants are taken into account, the average net price of attending for full-time dependent undergraduates increased (after adjusting for inflation) at all four types of institutions (table 5). The net price increases mean that, on average, the grant increases shown in table 4 were not large enough to offset the total price increases that occurred in the 1990s. Average net price appeared to increase for all income groups, although the increases were not statistically significant for students in the lowest income quarter at public 2-year or private for-profit less-than-4-year institutions.

■ *Net tuition and fees after grants also increased.*

The average net tuition and fees after grants were computed for 1990 and 2000 to determine whether, on average, grant increases during this period were sufficient to cover the increases in tuition and fees.[13] At public 2-year, public 4-year, or private not-for-profit 4-year institutions, they were not: at each type of institution, after adjusting for inflation, the average net tuition and fees after grants was greater in 2000 than in 1990 (table 5). The average net tuition and fees after grants was generally greater in 2000 than in 1990 for students in each income group at public 2-year and public and private not-for-profit 4-year institutions.[14] At private for-profit less-than-4-year institutions, the apparent changes in the average tuition and fees (figure 2) and net tuition and fees (table 5) were not statistically significant.

Loans

Dependent undergraduates and their families have access to two major federally sponsored loan programs: the Stafford loan program for students and the Parent Loan for Undergraduate Students (PLUS) program. Unlike grants, loans do not reduce the price of attending college because borrowers must eventually repay their loans. Nevertheless, loans provide students a way to finance their educational expenses and thus provide college access to students who still lack the personal financial resources to enroll after receiving any grants for which they qualify.

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

Table 5. Average net price and average net tuition and fees (in 1999 constant dollars) after grants (if any), by type of institution and family income: 1989–90 and 1999–2000

Family income	Average net price 1989–90	Average net price 1999–2000	Average net tuition 1989–90	Average net tuition 1999–2000
		Public 2-year		
Total	**$6,700**	**$7,500***	**$800**	**$1,000***
Lowest quarter	5,700	6,100	300	500*
Lower middle quarter	7,100	7,900*	900	1,200*
Upper middle quarter	7,200	8,200*	1,000	1,300*
Highest quarter	6,800	8,400*	1,000	1,300
		Public 4-year		
Total	**$8,900**	**$10,500***	**$2,100**	**$2,900***
Lowest quarter	7,000	7,800*	1,000	1,300*
Lower middle quarter	8,600	10,200*	2,000	2,600*
Upper middle quarter	9,300	11,500*	2,400	3,500*
Highest quarter	10,100	12,200*	2,800	4,100*
		Private not-for-profit 4-year		
Total	**$15,500**	**$17,700***	**$8,200**	**$9,400***
Lowest quarter	10,800	12,000*	4,200	4,700
Lower middle quarter	13,500	16,000*	6,500	7,800*
Upper middle quarter	15,300	17,700*	8,000	9,300*
Highest quarter	20,000	22,400*	12,200	13,600*
		Private for-profit less-than-4-year		
Total	**$13,100**	**$15,700***	**$5,700**	**$6,300**
Lowest quarter	11,600	13,100	4,500	4,300
Lower middle quarter	14,100	17,100*	6,700	7,500
Upper middle quarter	14,900	17,700*	7,100	8,600*
Highest quarter	15,200	19,600*	7,800	9,200

*Represents statistically significant change from 1989–90.

SOURCE: Wei, C.C., Li, X., and Berkner, L. (forthcoming). *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000* (NCES 2004–158), tables A-1.1, A-2.1, A-3.1, and A-4.1. Data from U.S. Department of Education, NCES, 1989–90 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS:90 and NPSAS:2000).

As part of the 1992 Reauthorization of the Higher Education Act, substantial changes were made to the Stafford loan program that affected both the percentage of students who borrowed and the average amounts they borrowed. One important change affecting the percentage who borrow is the introduction of unsubsidized Stafford loans for all students enrolled at least half time regardless of financial need. Previously, only students demonstrating financial need could borrow through the Stafford loan program. These loans were subsidized, meaning that the federal government paid the interest until the student started repayment as well as guaranteeing them.[15] The subsidized program continued for students with demonstrated financial need, but the introduction of unsubsidized loans (which the federal government guarantees but does not pay the interest for) means that all full-time dependent students can borrow.

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

Another important change to the Stafford loan program, affecting the average amount borrowed, was higher loan limits. Before the 1992 reauthorization, dependent students could borrow $2,625 during each of their first 2 years, and $4,000 thereafter, up to a maximum of $17,250. Since the reauthorization, the limits have been $2,625 for the first year, $3,500 for the second year, and $5,500 thereafter, up to a maximum of $23,000 (U.S. Department of Education 2000). Students may take out subsidized loans up to the maximum allowed to meet their established financial need and then add unsubsidized loans up to the program's maximum limits. For students without financial need, all loans are unsubsidized.

Finally, the changes in need analysis previously presented reduced the average expected family contribution and therefore increased both the number of students eligible for subsidized loans and the amount they could borrow. This likely increased both the percentage who borrowed and the average amount borrowed.

- *The percentage of students who borrowed increased, and among those who borrowed, the average amount increased as well.*

The percentage of full-time dependent students who borrowed increased from 30 to 45 percent overall (table 6) and for all income quarters except the lowest (figure 9). This includes all student borrowing for the academic year through federal, state, institutional, and private loan programs and parental borrowing through the federal PLUS program.

In 1990, when only need-based subsidized Stafford loans were available, the percentage of full-time dependent students who borrowed declined as family income increased, reflecting their decreasing eligibility for loans (figure 9). In 2000, in contrast, after unsubsidized loans and expanded eligibility took effect, about half of all students in the lowest, lower middle-, and upper middle-income quarters borrowed. The rate at which students in the highest income

Table 6. Percentage of full-time, full-year dependent undergraduates who took out loans, and among those who borrowed, average amount, by family income and type of institution: 1989–90 and 1999–2000

Family income and type of institution	Percentage with loans		Average amount	
	1989–90	1999–2000	1989–90	1999–2000
Total	**30.1**	**45.4***	**$3,900**	**$6,100***
Family income				
Lowest quarter	46.0	48.9	3,500	5,200*
Lower middle quarter	35.8	50.0*	3,800	5,700*
Upper middle quarter	27.5	49.3*	4,200	6,400*
Highest quarter	13.1	34.5*	4,800	7,400*
Type of institution				
Public 2-year	8.2	14.2*	2,200	3,200*
Public 4-year	26.0	46.6*	3,300	5,300*
Private not-for-profit 4-year	44.7	63.1*	4,500	7,600*
Private for-profit less-than-4-year	66.1	74.4	4,700	7,200*

*Represents statistically significant change from 1989–90.

NOTE: Includes all student borrowing through federal, state, institutional, and private loan programs, and parental borrowing through the Parent Loan for Undergraduate Students (PLUS) program.

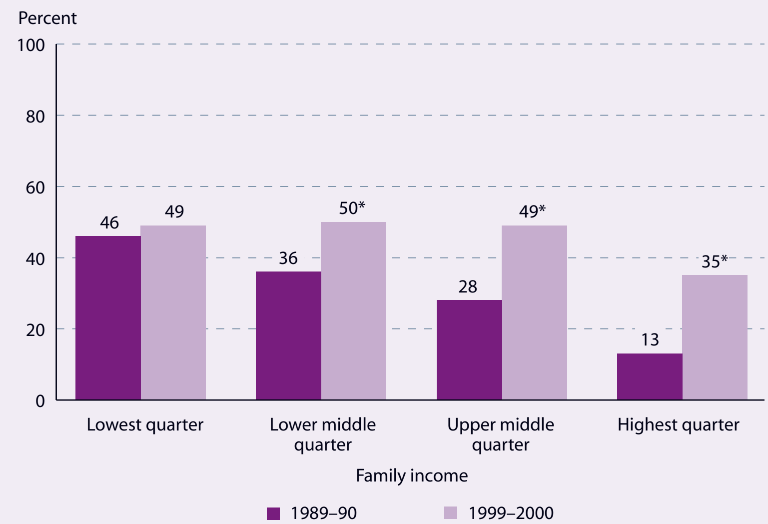
SOURCE: Wei, C.C., Li, X., and Berkner, L. (forthcoming). *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000* (NCES 2004–158), tables 7, A-1.6, A-2.6, A-3.6, and A-4.6. Data from U.S. Department of Education, NCES, 1989–90 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS:90 and NPSAS:2000).

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

Figure 9. Percentage of full-time, full-year dependent undergraduates who received loans, by family income: 1989–90 and 1999–2000



*Represents statistically significant change from 1989–90.

NOTE: Includes all student borrowing through federal, state, institutional, and private loan programs, and parental borrowing through the Parent Loan for Undergraduate Students (PLUS) program.

SOURCE: Wei, C.C., Li, X., and Berkner, L. (forthcoming). *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000* (NCES 2004–158), table 7. Data from U.S. Department of Education, NCES, 1989–90 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS:90 and NPSAS:2000).

quarter borrowed continued to be the lowest among all the income groups, but it rose from 13 percent in 1990 to 35 percent in 2000.

Among students who took out loans, the average amount borrowed through all loan programs (adjusted for inflation) grew from $3,900 in 1990 to $6,100 in 2000 (table 6). The average amount borrowed increased between 1990 and 2000 for students in each income group, reflecting the higher average price of attending (table 2) and the higher loan limits in effect in 2000. In both years, the average amount borrowed increased with income (table 6). This pattern reflects a combination of factors, including variation in the prices of attending the institutions selected by students in each income group and the decreasing likelihood of receiving grant aid as income rises (shown in figure 7).

Net Price After Grants and Loans

One measure of the net price of attending college, already presented, is the total price of attending minus grants. This represents the actual price students must pay (because they do not have to repay grant aid). Another measure of net price is the total price of attending minus all grants and loans. This measure represents the outlay that students and their families must make in a given year to cover their expenses (or, more accurately, the outlay calculated by the need analysis, which, as already indicated, may not be the same as actual outlays).

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

- *Average net price after grants and loans increased at public 2-year institutions, but not at other types of institutions; the effect on income groups varied.*

The changes in net price after grants and loans between 1990 and 2000 represent the net effect of multiple factors, including price increases, smaller expected family contributions (and thus increased eligibility for need-based aid), more state and institutional grant aid, expanded eligibility for federal loans, and higher federal loan limits. At public 2-year institutions, the average net price paid by full-time dependent undergraduates (adjusted for inflation) was about $500 higher in 2000 than in 1990 ($7,000 vs. $6,500) (table 7). For students in the lowest and lower middle-income quarters, the apparent increases are not statistically significant, but they are for the upper middle- and highest income quarters.

At public 4-year institutions, the overall net price after grants and loans for full-time de-

Table 7. Average net price (in 1999 constant dollars) after grants and loans, by type of institution and family income: 1989–90 and 1999–2000

Family income	1989–90	1999–2000
	Public 2-year	
Total	**$6,500**	**$7,000***
Lowest quarter	5,400	5,600
Lower middle quarter	6,900	7,200
Upper middle quarter	7,100	7,800*
Highest quarter	6,700	8,100*
	Public 4-year	
Total	**$8,000**	**$8,000**
Lowest quarter	5,700	5,200*
Lower middle quarter	7,500	7,400
Upper middle quarter	8,500	8,600
Highest quarter	9,600	10,200*
	Private not-for-profit 4-year	
Total	**$13,400**	**$12,800**
Lowest quarter	8,400	7,400*
Lower middle quarter	10,800	10,800
Upper middle quarter	12,900	12,200
Highest quarter	19,000	17,900
	Private for-profit less-than-4-year	
Total	**$10,000**	**$8,800***
Lowest quarter	8,700	7,400*
Lower middle quarter	10,300	9,300
Upper middle quarter	11,500	9,700
Highest quarter	13,500	12,800

*Represents statistically significant change from 1989–90.

NOTE: Includes students who received no financial aid.

SOURCE: Wei, C.C., Li, X., and Berkner, L. (forthcoming). *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000* (NCES 2004–158), tables A-1.2, A-2.2, A-3.2, and A-4.2. Data from U.S. Department of Education, NCES, 1989–90 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS:90 and NPSAS:2000).

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

pendent students (adjusted for inflation) was $8,000 in both 1990 and 2000. There was, however, a decline in the average net price for students in the lowest income quarter and an increase for those in the highest quarter. At private not-for-profit 4-year institutions, the average net price actually decreased for those in the lowest income quarter (from $8,400 to $7,400), but the apparent decreases overall and for those in the upper middle- and highest income quarters are not statistically significant.

At private for-profit less-than-4-year institutions, the average net price for full-time dependent students declined from $10,000 to $8,800 overall. The decline is statistically significant for students in the lowest income quarter, but the apparent decreases for those in the other income quarters are not statistically significant.

- *Except at public 2-year institutions, increases in financial aid compensated for increases in price when both grants and loans are considered.*

Figure 10 shows the relative contributions of current outlays by students and their families (i.e., net price) and grants and loans to the total price of attending college at each type of institution in 1990 and 2000. Note that the average grant and loan amounts shown here differ from the amounts shown in other tables and figures because the averages in figure 10 were computed including students with no financial aid, rather than just aided students.

As just described, the average net price for full-time dependent students (adjusted for inflation) increased only at public 2-year institutions (by about $500). It remained stable at 4-year institutions and declined at private for-profit less-than-4-year institutions. This means that, except at public 2-year institutions, increases in financial aid compensated for the increases in the prices of attending. At public 2-year institutions and at public and private not-for-profit 4-year institutions, there were increases in both the average amounts that students received in grants and took out in loans. At private for-profit less-than-4-year institutions, the average amount received in grants did not increase significantly, but the average amount taken out in loans did.

As noted earlier, the average net price, considering only grants, increased between 1990 and 2000 at each type of institution and, within each type of institution, for almost all income groups. The fact that the average net price after grants and loans did not increase as widely is due to increased borrowing. Therefore, although students and their families did not have to shoulder most of the burden of price increases through current outlays for educational expenses, they will have to pay back the part covered by loans in the future.

- *The grant/loan balance shifted only at public 4-year institutions.*

In 1990, the average amount received in grants at public 4-year institutions (computed including both aided and nonaided students) was greater than the average amount taken out in loans ($1,200 vs. $900) (figure 10); in 2000, the pattern was reversed ($1,900 in grants and $2,500 in loans). At public 2-year and private not-for-profit 4-year institutions, however, the average amount received in grants was larger than the average amount taken out in loans in both years. At private for-profit less-than-4-year institutions, the average amount received in grants was less than the average amount taken out in loans in both years.

When considering net price, it is important to understand that families' choices about borrowing affect their net price. Students who have not taken out the maximum allowable Stafford loan or whose parents have not taken out a PLUS loan could reduce their net price with additional borrowing. Thus, to some ex-

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

Figure 10. Average net price, grants, loans, and total price (in 1999 constant dollars) for full-time, full-year dependent undergraduates, by type of institution: 1989–90 and 1999–2000

*Represents statistically significant change from 1989–90.

NOTE: Averages computed for all students, including those who did not receive financial aid. Detail may not sum to totals because of rounding.

SOURCE: Wei, C.C., Li, X., and Berkner, L. (forthcoming). *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000* (NCES 2004–158), tables A-1.2, A-2.2, A-3.2, A-4.2, A-1.6, A-2.6, A-3.6, A-4.6, A-1.10, A-2.10, A-3.10, A-4.10. Data from U.S. Department of Education, NCES, 1989–90 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS:90 and NPSAS:2000).

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

tent, the average net price in 2000 reflects the level of debt families were willing to assume for educational expenses. However, there are many reasons why it may be unwise for students to borrow the maximum allowed. Students' ability to repay their loans after they leave school depends on their being able to obtain a well-paying job, which depends in part on economic conditions when they finish their education. The uncertainties surrounding the ability to meet repayment obligations are a particular problem for students whose academic success is uncertain or whose families lack the resources to help them financially if they have difficulty repaying their loans.

Expected Family Contribution Versus Net Price After Grants and Loans

As already described, the expected family contribution represents what families are expected to pay according to the Federal Methodology for need analysis, and the net price after grants and loans is the current outlay that students and their families have to make to cover their educational expenses. Therefore, a comparison of the expected family contribution and net price gives an indication of the extent to which the financial aid system is meeting students' financial needs, at least as defined by the Federal Methodology. Although expected family contribution is an imperfect indicator of ability to pay, it is the only yardstick available.

- *On average, once grants and loans were taken into account, students in the highest income quarter appeared to have sufficient resources to pay for college, while those in the lowest income quarter still paid more than their expected family contribution.*

Figure 11 displays the relationship between expected family contribution and net price by income level at each type of institution. For full-time dependent students in the highest income quarter at all types of institutions and in the upper middle-income quarter at public 2- and 4-year institutions, the average net price was lower than the average expected family contribution in both 1990 and 2000. In other words, after grants were awarded and loans were taken out, on average these families should have had sufficient financial resources to pay for college.

For students in the lowest income quarter at each type of institution and in the lower middle-income quarter at private not-for-profit 4-year and private for-profit less-than-4-year institutions, the average net price was well above the average expected family contribution in both 1990 and 2000. That is, after receiving grants and loans, families had to provide much more than expected by the Federal Methodology used for need analysis. At these income levels, they were unlikely to have savings or other assets to use. They may have made up the deficit through some combination of strategies such as additional work, credit card borrowing, greater than expected contributions from parents, contributions from other relatives or friends, or cutting expenses by adopting a reduced standard of living (Choy and Berker 2003).

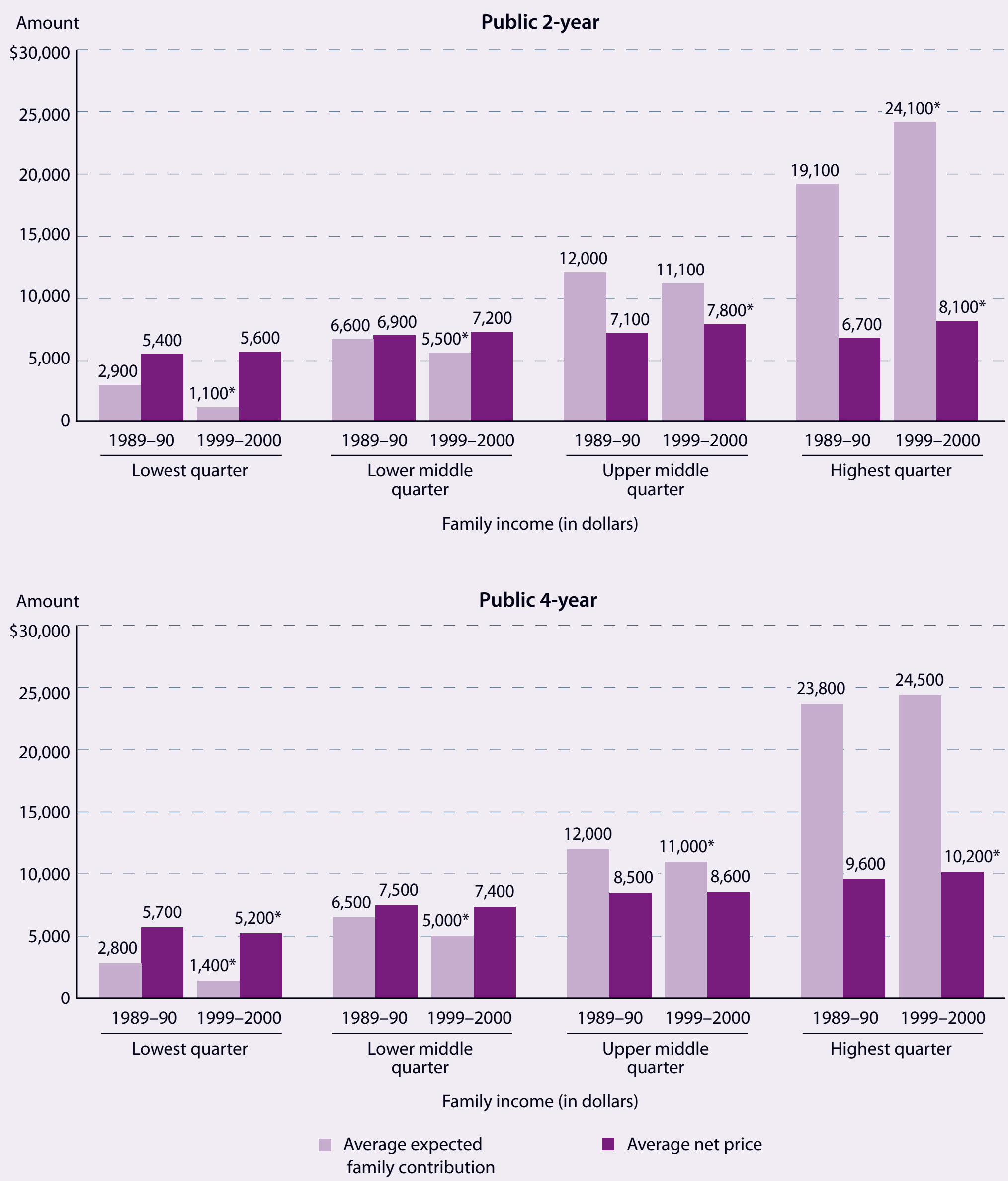
The gap between expected family contribution and net price is often referred to as "unmet" or "remaining" need. However, the significance of this gap should be interpreted cautiously. First, as indicated above, net price could be reduced for some families if they borrowed more. If students and their families decline to borrow the maximum allowed, their need is not technically "unmet," although in practice there may be good reasons why additional borrowing is unwise for some families. Second, the fact that students with unmet need are enrolled means that somehow they found the money to attend even though it was beyond the amount expected using the Federal Methodology to determine need. They may have worked more, obtained

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

Figure 11. Average expected family contribution (EFC) and net price (both in 1999 constant dollars) after grants and loans, by type of institution and family income: 1989–90 and 1999–2000

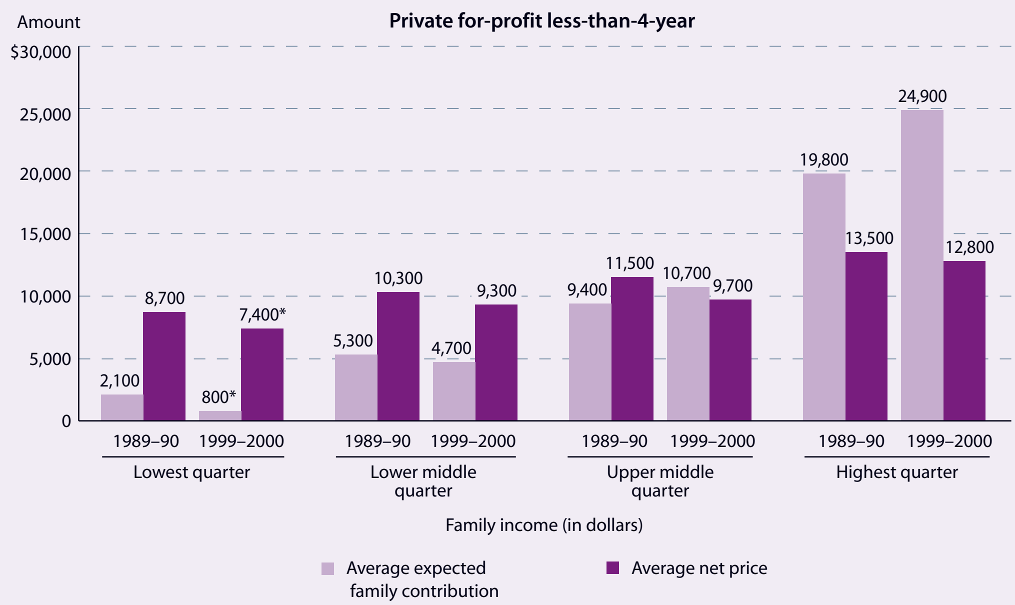


Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

Figure 11. Average expected family contribution (EFC) and net price (both in 1999 constant dollars) after grants and loans, by type of institution and family income: 1989–90 and 1999–2000—Continued



*Represents statistically significant change from 1989–90.

SOURCE: Wei, C.C., Li, X., and Berkner, L. (forthcoming). *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000* (NCES 2004–158), tables A1.2, A2.2, A3.2, and A4.2. Data from U.S. Department of Education, NCES, 1989–90 and 1999–2000 National Postsecondary Student Aid Studies (NPSAS:90 and NPSAS:2000).

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

funds from sources not included in the expected family contribution calculation (such as grandparents or a noncustodial parent), reduced their standard of living, or used some combination of these and other strategies. For these students, need is not truly unmet because they are enrolled, but their enrollment may cause serious financial hardship.

Summary

After adjusting for inflation, the average amount that full-time dependent undergraduates at public 2- and 4-year institutions and at private not-for-profit 4-year institutions were charged for tuition and fees was higher in 2000 than in 1990. These higher prices, combined with a reduced expected family contribution for low- and middle-income students and their families, meant that the amount of need-based financial aid for which the average student was eligible was greater in 2000 than in 1990.

Financial aid patterns for full-time dependent undergraduates changed during the decade as well. The percentage receiving aid and the average amount that aided students received (adjusted for inflation) increased for all income groups and at all types of institutions. These increases represent both increased grant aid and increased borrowing.

Grant aid reduces the price of attending because it does not have to be repaid. The percentages of students receiving grants and the average amounts received by students with grant aid increased for all income groups and for students at public 2- and 4-year institutions and at private not-for-profit 4-year institutions. The average net price after grants increased at each type of institution. The average net price after grants appeared to increase for all income groups, although the increases were not statistically significant for students in the lowest income quarter at public 2-year or at private for-profit less-than-4-year institutions. The increases in net price after grants between 1990 and 2000 mean that the increases in grant aid were not enough to offset the price increases during this decade.

Loans reduce the current outlay required to cover educational expenses and thus increase access to postsecondary education. However, because they must be repaid, they do not reduce the price of attending, but simply postpone paying part of it. The percentage of full-time dependent students who borrowed to pay their educational expenses increased from 30 percent in 1990 to 45 percent in 2000. The percentage who borrowed increased for all income quarters except the lowest. By 2000, about half of the students in the lowest, lower middle-, and upper middle-income quarters and 35 percent of those in the highest income quarter borrowed. The average amounts borrowed by each income group were higher in 2000 than in 1990. The increases in borrowing between 1990 and 2000 reflect not only the need to cover price increases not covered by increases in grant aid but also wider eligibility for subsidized loans, the introduction of unsubsidized loans not tied to need, and higher loan limits. Students who were not permitted to participate in federal loan programs in 1990 were allowed to do so in 2000, and everyone was allowed to borrow more.

The combined result of increases in price, grants, and loans was that the average net price after grants and loans increased for some full-time dependent students and decreased for others: it increased for those at public 2-year institutions, remained stable for those at 4-year institutions, and declined for those at private for-profit less-than-4-year institutions. Within type of institution, the effect varied by income. Average net price after grants and loans declined for low-income students except at public 2-year institutions and increased for high-income students at public 2- and 4-year institutions.

Paying for College

Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

Notes

[1]The Higher Education Act was reauthorized again in 1998 with only minor changes. The next reauthorization is scheduled for 2004. The Stafford loan program is the major source of funds for undergraduate borrowing.

[2]See NASSGAP (2003) for a comprehensive state-by-state description of programs and funding levels.

[3]More information on the NPSAS study and products can be found at *http://nces.ed.gov/surveys/npsas/*

[4]The estimates of participation in student aid programs and the amounts of aid received include students in the 50 states, the District of Columbia, and the Commonwealth of Puerto Rico. Students who were not U.S. citizens or permanent residents were excluded because they are not eligible for federal aid. Students who attended more than one institution (6 percent; Horn, Peter, and Rooney 2002) were also excluded because of the difficulty in matching information on price of attending and financial aid for these students. Students who attended private for-profit 4-year institutions were also excluded because just 1 percent of all full-time dependent students attended this type of institution (NPSAS: 2000 Undergraduate Data Analysis System).

[5]In this analysis, "full-time, full-year" means enrolled full time for 8 or more months at a public 2-year, public 4-year, or private not-for-profit 4-year institution; at a private for-profit less-than-4-year institution, it means enrolled full time for 6 or more months.

[6]In 1989–90, the corresponding percentages were 10, 44, 55, and 17 (1989–90 and 1999–2000 National Postsecondary Student Aid Studies [NPSAS:90 and NPSAS:2000]).

[7]The U.S. median family income for a 4-person family was $62,200 in 2000 (U.S. Census Bureau, "Median Income for 4-Person Families, by State"; *http://www.census.gov/hhes/income/4person.html).*

[8]In 1989–90, the quarter averages (in 1999 constant dollars) were $14,000, $40,000, $62,500, and $122,100.

[9]Dollar amounts for 1989–90 were multiplied by 1.343548 to obtain their equivalent in 1999 constant dollars.

[10]To illustrate how many students fall into each income category, figure 5 also shows the percentage distribution of students by family income.

[11]Qualified students may receive certain other types of aid, such as ROTC or veterans' benefits for dependents and survivors.

[12]The 1992 Reauthorization of the Higher Education Act changed how the Pell grant is awarded in several ways, but these changes affected mainly independent students (National Association of Student Financial Aid Administrators 2002).

[13]If a student's grants amounted to more than the student's tuition and fees, the value for net tuition and fees after grants for that student was set to zero to indicate that the student's entire tuition and fees were covered by grant aid.

[14]The apparent increases are not statistically significant for students in the highest income quarter at public 2-year institutions or the lowest income quarter at private not-for-profit 4-year institutions; because of the small sample sizes for these groups, the estimates have large standard errors.

[15]Repayment normally begins 6 months after students graduate, leave school, or drop below half-time attendance status.

Paying for College
Changes Between 1990 and 2000 for Full-Time Dependent Undergraduates

Continued

References

Baum, S. (1999). Need Analysis: How We Decide Who Gets What. In J.E. King (Ed.), *Financing a College Education: How It Works, How It's Changing* (pp. 48–63). Phoenix, AZ: The American Council on Education and the Oryx Press.

Berkner, L., Berker, A., Rooney, K., and Peter, K. (2002). *Student Financing of Undergraduate Education: 1999–2000* (NCES 2002–167). U.S. Department of Education, NCES. Washington, DC: U.S. Government Printing Office.

Choy, S., and Berker, A. (2003). *How Families of Low- and Middle-Income Undergraduates Pay for College: Full-Time Dependent Students in 1999–2000* (NCES 2003–162). U.S. Department of Education, NCES. Washington, DC: U.S. Government Printing Office.

The College Board. (2003a). *Trends in College Pricing: 2003*. Washington, DC: The College Entrance Examination Board.

The College Board. (2003b). *Trends in Student Aid: 2003*. Washington, DC: The College Entrance Examination Board.

Hauptman, A.M. (2001). Reforming the Ways in Which States Finance Higher Education. In D.E. Heller (Ed.), *The States and Public Higher Education Policy: Affordability, Access, and Accountability* (pp. 64–80). Baltimore: The Johns Hopkins University Press.

Horn, L., and Peter, K. (2003). *What Colleges Contribute: Institutional Aid to Full-Time Undergraduates Attending 4-Year Colleges and Universities* (NCES 2003–157). U.S. Department of Education, NCES. Washington, DC: U.S. Government Printing Office.

Horn, L., Peter, K., and Rooney, K. (2002). *Profile of Undergraduates in U.S. Postsecondary Education Institutions: 1999–2000* (NCES 2002–168). U.S. Department of Education, NCES. Washington, DC: U.S. Government Printing Office.

National Association of State Student Grant and Aid Programs (NASSGAP). (2003). *33rd Annual Survey Report on State-Sponsored Student Financial Aid: 2001–2002 Academic Year*. Albany, NY: New York State Higher Education Services Corp.

National Association of Student Financial Aid Administrators. (2002). *Encyclopedia of Student Financial Aid*. Washington, DC: Author.

Redd, K. (2000, December). *Discounting Toward Disaster: Tuition Discounting, College Finances, and Enrollments of Low-Income Undergraduates*. New Agenda Series 2(2). Indianapolis, IN: USA Group Foundation.

Spencer, A.C. (1999). The New Politics of Higher Education. In J.E. King (Ed.), *Financing a College Education: How It Works, How It's Changing* (pp. 101–119). Phoenix, AZ: The American Council on Education and the Oryx Press.

U.S. Department of Education. (2000). *Student Financial Aid Handbook: 1999–2000*. Washington, DC: Author.

U.S. Department of Education, NCES. (2003). *Digest of Education Statistics 2002* (NCES 2003–060). Washington, DC: U.S. Government Printing Office.

U.S. General Accounting Office. (1996). *Higher Education: Tuition Increasing Faster Than Household Income and Public Colleges' Costs* (GAO/HEHS-96-154). Washington, DC: U.S. Government Printing Office.

U.S. General Accounting Office. (1998). *Higher Education: Tuition Increases and Colleges' Efforts to Contain Costs* (GAO/HEHS-98-227). Washington, DC: U.S. Government Printing Office.

U.S. General Accounting Office. (2002). *Student Aid and Tax Benefits: Better Research and Guidance Will Facilitate Comparison of Effectiveness and Student Use*. Washington, DC: Author.

Wei, C.C., Li, X., and Berkner, L. (forthcoming). *A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000* (NCES 2004–158). U.S. Department of Education, NCES. Washington, DC: U.S. Government Printing Office.

THIS PAGE INTENTIONALLY LEFT BLANK