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# **NATIONAL CENTER FOR EDUCATION STATISTICS**

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**Statistical Analysis Report**

**September 1997**

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**Postsecondary Education Descriptive Analysis Reports**

## **Institutional Aid 1992-93**

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**U.S. Department of Education  
Office of Education Research and Improvement**

**NCES 98-104**

## Foreword

This report describes undergraduates enrolled in postsecondary education for the academic year 1992-93. It relies on data from the 1992-93 National Postsecondary Student Aid Study (NPSAS: 93), the third in a series of surveys conducted by the U. S. Department of Education. The NPSAS surveys provide representative information describing all postsecondary students enrolled during the survey year and include detailed information about the cost of postsecondary education and how students pay those costs.

The report begins with an essay that reviews the context in which institutional aid became more prevalent and how characteristics of both students and the institutions they attend relate to receipt of institutional aid. Tables follow the essay to provide detailed information about the awarding of institutional aid. These tables describe packaging of institutional aid, those who receive it and average award size.

Estimated values provided in the report were produced using the NPSAS: 93 Data Analysis System (DAS). The DAS is a microcomputer application that allows users to specify and generate their own tables from the NPSAS: 93 data. This software system produces design-adjusted standard errors necessary for testing the statistical significance of differences shown in the tables. For more information about the DAS, readers should consult appendix B of this report.

## Highlights

This report examines institutional aid awards among students who were enrolled in postsecondary education in 1992-93, using nationally representative data on student financial aid and background characteristics. Features of the institutions that these students attended, as well as characteristics of the students themselves, were examined in relation to the presence and size of institutional aid awards they received. The highlights here summarize the results of these analyses.

### **Context:**

- Institutional aid has increased at a faster rate since 1985 than any other source of student financial aid, while the real value of government aid awards declined, real tuition costs rose, and family income remained about the same.
- Institutional aid provided \$7.5 billion to students in 1992-93. Twelve percent of all undergraduates received institutional aid in 1992-93 (table 2, table 16).

### **Relationship between institutional characteristics and receipt of institutional aid:**

- Receipt of institutional aid varied by the level of the institution attended: undergraduates in less-than-4-year public and private, not-for-profit institutions were less likely to receive institutional aid than those in similar 4-year institutions (table 2).
- Receipt and amount of institutional aid also varied by the control of the institution attended. Full-time undergraduates in private 4-year institutions were more than twice as likely to receive institutional aid as undergraduates in public 4-year institutions. Students attending private, for-profit institutions were less than half as likely to receive aid as students at public 4-year institutions (table 2). The average institutional aid award to undergraduates who received this type of aid in public 4-year institutions was \$1,755, compared to \$4,658 to students at private 4-year institutions (table 4).
- The size of institutional aid awards received varied by the Carnegie classification of the school attended among students at both public and private institutions. Undergraduates attending public research and doctoral granting institutions received larger average institutional aid awards than those attending public comprehensive and specialized institutions. Students attending private research and doctoral granting institutions received larger average institutional aid awards than those attending institutions in all other Carnegie Code categories (table 5).
- The average institutional aid award received by full-time undergraduates in 4-year institutions increased as tuition increased in both public and private, not-for profit institutions (table 18, table 21).

- There was no significant difference in the proportion of full-time undergraduates receiving institutional aid in private 4-year institutions with low or high endowment levels; the average amount of institutional aid increased with endowment (table 7).

### **Student characteristics of institutional aid recipients in 4-year institutions:**

- Several characteristics associated with “traditional” undergraduates were also associated with a greater likelihood of receiving institutional aid. Part-time undergraduates were less likely to receive institutional aid than those attending full time (table 2). Full-time undergraduates who were less than 24 years old were more likely to receive institutional aid than those in any other age bracket. Full-time undergraduates living on campus were more likely to receive institutional aid than those living off campus or with their parents (table 12).
- In both public and private 4-year institutions, full-time undergraduates with a 3.50 or higher grade point average were more likely to receive institutional aid than undergraduates with a GPA below 3.50 (table 11).
- Black, non-Hispanic, but not Hispanic, full-time undergraduates in public institutions were more likely to receive institutional aid than white, non-Hispanic undergraduates (table 13). Neither black, non-Hispanic nor Hispanic full-time undergraduates in private, not-for profit, 4-year institutions differed significantly in their probability of receiving institutional aid compared to white, non-Hispanic undergraduates.

### **Student income and packaging of aid:**

- Full-time undergraduates in the lowest income quartile attending public 4-year institutions were more likely to receive institutional aid than undergraduates in higher income quartiles. Comparable students attending private 4-year institutions were significantly more likely to receive this aid than those in the highest income quartile (table 8).
- Eighteen percent of the full-time undergraduate institutional aid recipients in private 4-year institutions received institutional aid alone and 32 percent received it with a Pell Grant. Thirty-five percent of the undergraduates in public 4-year institutions received institutional aid by itself and 38 percent received it with a financial aid package that contained a Pell Grant (table 10).

## **Acknowledgments**

Writing these reports is a team effort. Our thanks go to all the individuals who helped produce this report. Robert Harmon, Barry Christopher, and Mary Lee of JBL Associates formatted tables, checked statistical statements and edited text. Dennis Carroll of NCES provided the guidance and recommendations that come from long years of experience. Laura Horn of MPR Associates, as always, had good ideas that helped shape the issues and tables. Ken Redd of NAICU was an able reviewer and critic. Special thanks to Mary Frase of NCES for her diligent edit and review efforts that greatly improved this report. Ellen Bradburn of the Education Statistics Services Institute also provided technical review. Final reviews were furnished by Robert Burton of NCES, Melanie Esten of NAICU, Dan Madzellan of OPE, John Oberg of OLCA, and Linda Zimbler of NCES.

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## Introduction

While the economic landscape for postsecondary institutions and individuals has shifted over the last decade, institutional aid has become an increasingly prevalent part of the postsecondary student financial aid package. During this decade college and university tuition increased faster than family income and federal student aid.<sup>1</sup> During the same period, grant aid from institutional sources increased. Colleges and universities provided \$7.5 billion in institutional aid to undergraduates in 1992-93. By 1995-96, the total had increased to \$10 billion.<sup>2</sup> This report focuses on the relationship between receipt of institutional aid and the characteristics of undergraduates and the institutions they attend. Understanding who received this type of aid helps to illuminate its place in the financial aid package and the cost-benefit assessment made by students attending postsecondary institutions.

Government regulations do not limit or constrain institutional aid awards, so they can be made with more institutionally specific discretion than any other type of student financial aid. Institutions may award aid to help achieve any number of educational or enrollment goals. However, the data used for this report do not allow for definition of institutional motives. Instead, its focus is on the characteristics of the recipients of aid, following a discussion of the economic trends accompanying the rise in institutional aid awards and the institutional context in which these awards take place.

Because of its discretionary nature, institutional aid can raise policy questions. It is, simultaneously, an educational investment and a price discount.<sup>3</sup> Small, tuition-dependent institutions may offer tuition discounts to fill their entering classes. Highly selective institutions, on the other hand, can fill their classes at full tuition, but may offer institutional aid to certain students to assure a diverse student body. Colleges and universities may also use offers of merit-based aid to increase the enrollment of talented undergraduates. There is heated competition for these student stars. For example, National Merit Scholar finalists report receiving unsolicited offers of institutional aid from institutions they have not even contacted.<sup>4</sup>

Institutional aid can pose a difficult financial problem for private, not-for-profit colleges and universities. Every time an institution raises tuition, a larger share of their increased income must be dedicated to institutional aid to help the expanding number of students who otherwise could not afford to enroll. In 1988, the median discount package in private, not-for-profit institutions was 14 percent of tuition. By 1993 it had grown to 18 percent.<sup>5</sup> As noted later, tuition in these institutions was increasing faster than the cost of living during this period. This tuition/aid spiral may have affected the long-term financial health of some of these institutions.

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<sup>1</sup> The College Board. *Trends in Student Aid: 1986 to 1996*. (Washington, D.C.: 1996).

<sup>2</sup> *Ibid.*

<sup>3</sup> Bowen, W. and Breneman, D. "Student Aid: Price Discount or Educational Investment?" *Finance in Higher Education*. (Needham Heights, MA: Ginn Press, 1992). pp. 303-307.

<sup>4</sup> Richard Moll, "The Scramble to Get the New Class," *Change*, (March/April 1994), p. 11.

<sup>5</sup> Davis, J. *College Affordability, A Closer Look at the Crises*. (Washington, D.C.: Sallie Mae Foundation, 1997).

The claim has been made, most often to document the negative effects of insufficient federal aid, that awarding too much institutional aid can undercut an institution's operating budget. Insufficient aid may drive potential students away. Increasing student loans as a source of financial aid for most middle-income students runs the risk of increasing their debt to an unacceptable level. There may be a psychological ceiling beyond which the requirement for more borrowing will drive students away from the institution. Excessive use of institutional aid to attract students may be evidence of an institution in trouble and not the cause of that trouble.

On the other hand, tuition discounts in the form of institutional aid can fill otherwise empty slots with students who pay at least the marginal cost of their education. If the semester starts with empty seats, the tuition income is lost for the year. From this perspective, strategic use of institutional aid is a rational response to difficult market conditions.

Public colleges and universities that have traditionally offered low tuition to all students also give tuition discounts and institutional aid to some undergraduates. As tuition in public colleges and universities has increased, institutional aid has become a more important part of the student aid package. However, public colleges and universities do not have as much institutional autonomy to define tuition and institutional aid awards as do private, not-for-profit institutions.<sup>6</sup> Given these differences, most of the relationships in this report are examined separately for public and for private, not-for-profit institutions. Undergraduates attending public and private, not-for-profit institutions were found to differ in the probability and amount of institutional aid they received (table 2, table 4). Undergraduates attending private, not-for-profit 4-year institutions were more likely to receive institutional aid than those attending institutions in other sectors (table 2).

## **Structure of Report**

This section describes features of the data employed in the report, limits subsequent analyses to certain segments of the undergraduate population, and identifies multivariate models used later in the report. Next, the economic and institutional context surrounding the rise in institutional aid over the past decade is discussed. Then, relationships of the receipt of institutional aid to characteristics of students and the institutions they attended among full-time undergraduates attending 4-year institutions in 1992-93 are illuminated. Finally, multivariate analyses are conducted to further explore these relationships. A detailed table compendium follows the main text.

### **Data and Definitions**

This report uses data from the 1992-93 National Postsecondary Student Aid Study (NPSAS: 93) which is based on a representative sample of students enrolled during that academic year. Those data are used to profile the use of institutional aid by this student population. Institutional aid may be in the form of work, loans, fellowship scholarships, or tuition discounts.

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<sup>6</sup> Stine, Glen R. "Financial Aid Tuition Trends in the 1980's: A Review." *Finance in Higher Education*. (Needham Heights, MA: Ginn Press, 1991), p. 356.

Eighty-nine percent of institutional aid is in the form of grants. Of the remaining 11 percent, 4 percent is in the form of loans and 7 percent is in the form of work-study.<sup>7</sup>

Several new definitions of student financial aid packages have been added to the NPSAS: 93 Data Analysis System (DAS) to complete this analysis. A variable distinguishing among the following student financial aid packages containing institutional aid has been added:

- Institutional aid only;
- Institutional aid and Pell (with Pell Grant in any combination with other Title IV and non-Title IV aid);
- Institutional aid and Title IV, no Pell (with any other Title IV and non-Title IV aid and no Pell Grant);
- Institutional aid and other, no Title IV.

These newly defined student aid packages describe combinations of institutional aid with other types of aid. (For a comprehensive review of student aid packaging, see National Center for Education Statistics [NCES], *Packaging of Undergraduate Student Financial Aid: 1989-90*, NCES 95-313.) An additional variable identifies the total amount, in dollars, of institutional aid received.

Two other variables have been added to the NPSAS: 93. First, participating institutions have been classified by their *Carnegie Classification code*, which divides higher education institutions into eleven general categories.<sup>8</sup> These categories reflect the admission selectivity of institutions and their educational objectives. Using these categories provides greater sensitivity to an institution's mission than type and control designations by themselves. Second, *endowment per full-time equivalent (FTE) student* was constructed using Integrated Postsecondary Education Data System (IPEDS) data and added to the list of institutional characteristics. Endowment per FTE student is a measure of institutional strength for private, not-for-profit institutions. The *endowment per FTE student* variable provides an institutional characteristic that might be associated with the receipt of institutional aid in the private, not-for-profit sector. Endowment provides institutions with income resources beyond tuition. This may give highly endowed institutions more financial flexibility than those with lower endowment. Roughly one-third of the undergraduates sampled attended private, not-for-profit institutions.

It should be noted that data for this report were collected just before the changes in student aid programs authorized by Title IV of the Higher Education Act took effect in 1993-94. Among the results of these changes were that more students became eligible to borrow and the amounts students could borrow increased. These legislative changes may affect the use and packaging of institutional aid in ways that are not reflected by the data used herein.

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<sup>7</sup> Calculation done using the 1992-93 National Postsecondary Student Aid Study (NPSAS: 93) Undergraduate Data Analysis System.

<sup>8</sup> Carnegie Foundation. *A Classification of Institutions of Higher Education*. (Princeton, NJ, 1987).

## Focus of Analysis

Institutional aid is a major source of grant assistance. Among all sources of student aid included in this study, it is the third most utilized, ahead of state aid and federal work/study (table 1). According to the College Board, \$6.2 billion were awarded in Pell Grants and \$7.5 billion were awarded in institutional aid in 1992-93. Assuming that 89 percent of institutional aid is in the form of grants, \$6.7 billion dollars would be grant aid. Twelve percent of all undergraduates received institutional aid in 1992-93 (table 2).

**Table 1--Percentage of undergraduates who received different types of aid and average award: 1992-93**

	Percent	Average award
Type of aid		
Federal grants	22.6	\$1,915
Federal loans	19.2	3,311
Institutional aid	12.1	2,833
State aid	10.4	1,371
Federal work-study	3.1	1,275

SOURCE: U.S. Department of Education, National Center for Education Statistics 1992-93, National Postsecondary Student Aid Study (NPSAS: 93), Undergraduate Data Analysis System.

Institutional aid recipients were concentrated in only a few enrollment categories. This made institutional aid statistically unimportant in some institutions, but very important in others. For each sector,<sup>9</sup> undergraduates in less-than-4-year institutions were less likely to receive institutional aid than undergraduates in 4-year institutions (table 2). For example, institutional aid was less common for students in public community colleges (public, less-than-4-year) than in public 4-year institutions. Eight percent of the full-time undergraduates in public, less-than-4-year institutions received institutional aid, compared to 18 percent of full-time undergraduates in public 4-year schools.

Private, for-profit institutions are limited in their use of institutional aid by their accrediting standards. According to accreditation standards in this sector, any tuition discount of institutional aid must be announced publicly in advance along with the rules for its award. These institutions cannot use last minute offers of institutional aid to adjust tuition as a strategy for increasing enrollment. This requirement may help explain the limited use of institutional aid in the private, for-profit sector. Five percent of the full-time undergraduates in private, for-profit institutions received institutional aid. For-profit institutions are generally excluded from the remainder of the analyses in this report.

<sup>9</sup> There were not enough students in for-profit institutions to report separately by level.

**Table 2--Percentage of all undergraduates who received institutional aid according to type and control of institution, by attendance patterns: 1992-93**

	Public		Private, not-for-profit		Private, for-profit	All institutions
	Less-than-4-year	4-year	Less-than-4-year	4-year		
Total	4.5	13.6	17.7	36.6	4.4	12.1
Attendance patterns, fall 1992						
Full-time	8.1	17.5	23.1	47.1	5.3	20.4
Part-time	3.3	6.1	14.8	13.3	3.0	5.0

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93), Undergraduate Data Analysis System.

Table 2 also shows that part-time undergraduates were less likely to receive institutional aid than those attending full-time do. On average, 5 percent of part-time undergraduates received institutional aid. Thus, given the concentration of aid recipients in certain categories of institution, most of the later tables do not include part-time undergraduates.

Institutional aid is received by more than 1 in 6 students in private, less-than-4-year, not-for-profit institutions. However, relatively few students are represented by this category: according to IPEDS, 0.6 percent of students were enrolled in private, not-for-profit, less-than 4-year institutions.<sup>10</sup> This small number makes it difficult to draw any precise conclusions about their use of aid or to explore variations in institutional aid by other characteristics within this category. The rest of the report concentrates on full-time undergraduates attending public or private 4-year institutions.<sup>11</sup>

Most of the tables in this report present two types of information. The first is the percent share of undergraduates receiving institutional aid, and the second is the average amount of institutional aid awarded to recipients with different characteristics. Besides institutional traits, relevant student and family attributes such as race/ethnicity, sex, age, dependency, income, year in school, and grade point average (GPA) are included. Examining these student characteristics helps to shed light on how different types of students receive institutional aid.

### Linear Regression Models

According to the cross tabulations in this report, receipt of institutional aid is related to a variety of institutional and student characteristics. This report's approach to controlling for group differences by cross tabulation has certain limitations. For example, sample size limits the number of cells into which data can be grouped usefully. Also, interrelationships exist among the variables that cannot be accounted for in cross tabulations.

<sup>10</sup> U.S. Department of Education, National Center for Education Statistics. *Digest Education Statistics, 1995*. (Washington, D.C. : 1995).

<sup>11</sup> Because for-profit institutions are not analyzed in detail in this report, private, not-for-profit institutions are referred to simply as "private institutions" hereafter.

Linear models allow analysts to examine several variables simultaneously while controlling for the overlapping effects of interrelated variables. One such model, linear regression, was used in this report to estimate these effects (adjusted means).<sup>12</sup> To control interrelationships that may be overlooked in the tabular analysis, the regression model takes the effects of all variables into account simultaneously. By estimating the interrelatedness of several variables, regression models can test individual parameters while holding the influence of other variables constant. The results of the linear model are presented after the tabular analysis.

## **Economic and Institutional Context of Institutional Aid**

Institutional aid can play two roles: educational benefit and marketing tool. This dual character distinguishes it from student aid provided by outside, disinterested parties. In addition, institutional aid does not have the specific public mission of federal aid to improve educational opportunity for low-income students. The ambiguous character of institutional aid and the nature of the available data limit conclusions regarding institutional goals. However, we can consider possible recipients of this type of aid as part of the context in which the increase in awards of institutional aid has occurred.

### Categories of Possible Institutional Aid Recipients

Colleges and universities may help assure the economic or cultural diversity of their student body by providing extra financial incentives to low-income or minority undergraduates. Most institutions make a good-faith effort to increase the economic and cultural diversity of their student body. With this goal they may offer institutional aid to low-income or minority undergraduates.

Institutions may also wish to use institutional aid to increase the affordability of their schools for both low- and middle-income prospective students. For low-income students, such institutional aid might be packaged with need-based federal aid. For middle-income undergraduates, institutional aid might be awarded to undergraduates who did not receive Pell Grants.

Another possible use of institutional aid involves making an attractive first-year offer of aid. It may be that colleges and universities provide larger institutional aid packages to first year undergraduates and reduce the aid when the students return for their second year. The current analysis found limited evidence of this front-loading of institutional aid. More detail on this subject is provided later in this report.

Finally, institutional aid may be used to attract outstanding scholars, athletes or artists to an institution. This report explores this issue, although the data do not provide information to identify outstanding athletes or artists. As will be shown later, institutional aid appears to have rewarded academically superior undergraduates, and these undergraduates tended to receive institutional aid regardless of need.

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<sup>12</sup> Appendix B contains a description of the means adjustment method.



There is evidence that some private colleges and universities have used institutional aid to maximize enrollment at the minimum institutional cost. An article in the *Wall Street Journal* describes the use of statistical models in structuring institutional aid offers to students.<sup>13</sup> These offers are based on two factors: the probability that the student will enroll and the attractiveness of the student to the institution. For example, early admission students may receive a less generous aid offer than those who apply later because students who apply early are more likely to attend. The article suggests that 60 percent of the private institutions use statistical models to help maximize enrollment. Most families do not know about these models or how they work. For this reason, families with a similar financial profile may have a different net cost of attendance at the same institution.

While these possible uses of institutional aid may suggest characteristics to explore in relation to the receipt of such aid, the data used in this report cannot shed light on whether institutions actively engage in such strategies. NPSAS: 93 data do not provide any direct information about institutional motives or strategies. A given student might be targeted for institutional aid for more than one of the above reasons. For example, a student could have a high grade point average and financial need simultaneously. Further, these are cross-sectional data for students at the institutions they actually attended, rather than evidence of the array of awards made by institutions to different students, or the choices of financial aid packages available to each student *before* selecting an institution to attend. Thus, while possible institutional motives might suggest student characteristics of interest, this report does not evaluate the strategies, if any, of institutions in their awards of institutional aid.

#### Financial Issues and Institutional Characteristics

Tuition in 4-year institutions has been growing faster than family income or federal grants. Figure 1 shows the relationship between trends in federal grants, tuition in public and private institutions, and median family income. Between 1985 and 1994 tuition increased faster than inflation, while family income and federal grants per full-time equivalent (FTE) student in 1994 were close to 1985 levels.<sup>14</sup>

Increasing the number or size of institutional aid awards per aided student raises different financial issues depending on the wealth of an institution. In a study of the effects of student aid on small private institutions, the authors found “significant annualized real increase in unrestricted financial aid.”<sup>15</sup> They interpret their results as follows:

*These institutions seem to be directing their discretionary income, generated principally through tuition increases, into financial aid for the purpose of replacing lost government aid. (p. 10)*

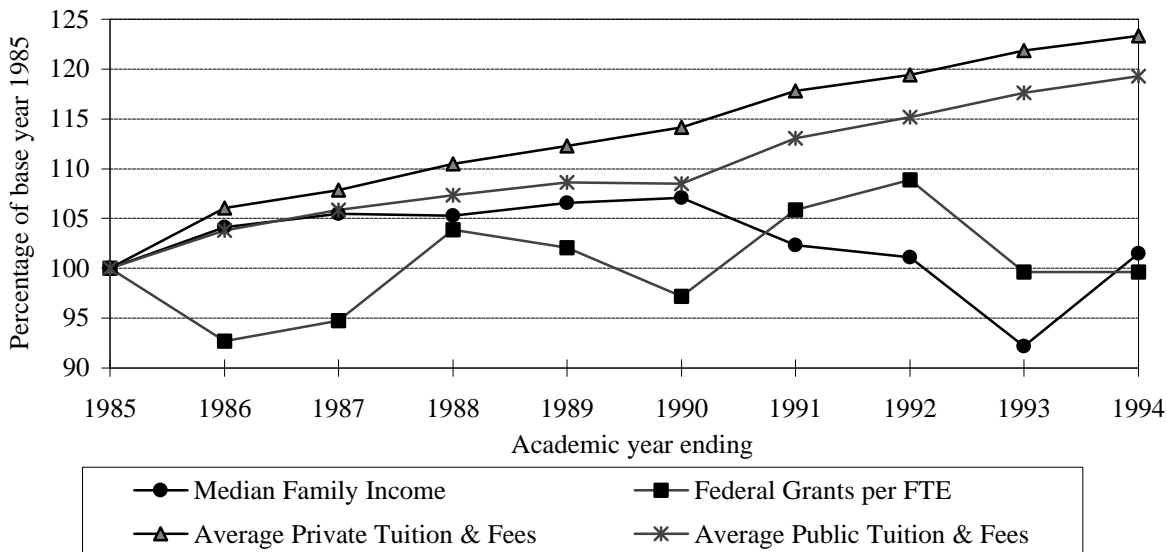
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<sup>13</sup> Stecklow, S. "Expensive Lessons." *The Wall Street Journal*. (New York: April 1, 1996), p. 1.

<sup>14</sup> This was calculated by dividing the aggregate dollar amount of federal grant aid awarded by the U.S. Department of Education by the annual FTE enrollment.

<sup>15</sup> Warne, T. and Kern, K. *Federal Student Aid and the Financing of Colleges and Universities: Some Impacts on Small Private Colleges in the 1980s*. (Philadelphia, PA: Institute for Research on Higher Education, University of Pennsylvania, 1989).

**Figure 1--Median family income, federal grants, and average tuition and fees at private, not-for-profit and public 4-year institutions (in constant 1994 dollars) as a percent of the same for 1985: 1985-1994**



SOURCES: U.S. Department of Education, National Center for Education Statistics. Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment in Colleges and Universities" survey, various years. U. S. Department of Commerce, Bureau of the Census. *Statistical Abstract of the United States 1995*, 115th edition. (Washington, D.C.: 1995).

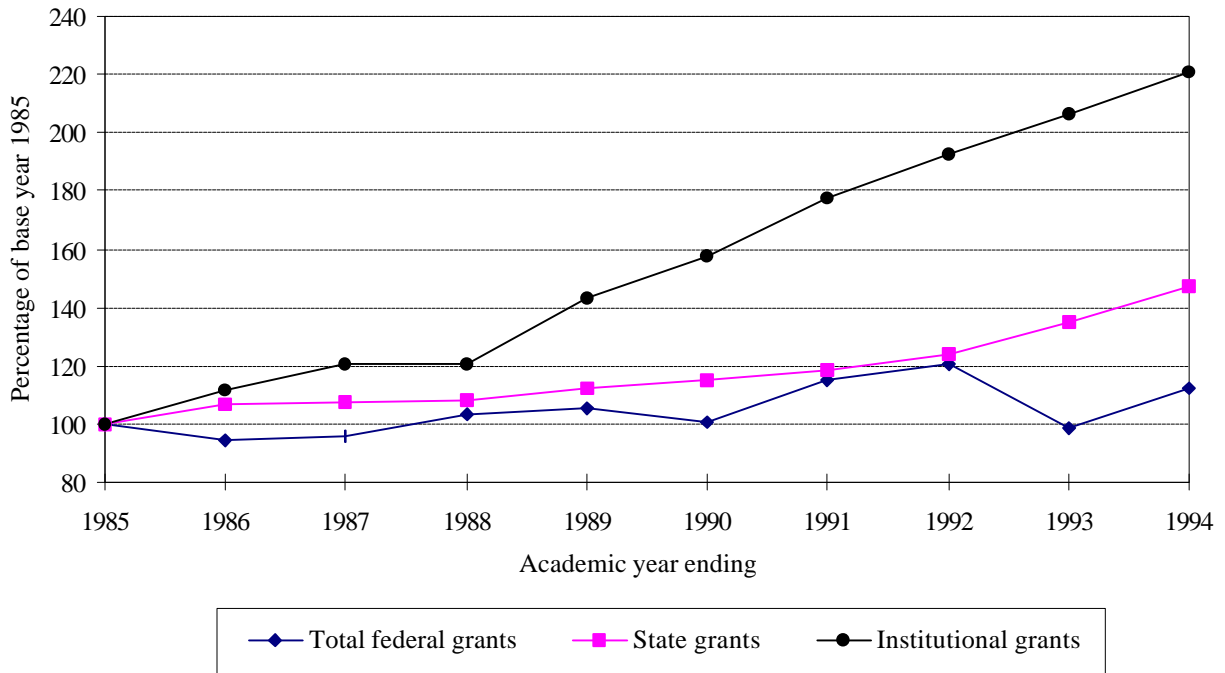
It is also possible that competitive pressures will force financially weak institutions to commit an expanding share of their income to institutional aid to the point where they face financial difficulties. The wealth of private institutions is indicated in analyses below by tuition and by endowment per full-time equivalent student.

### Growth of Institutional Aid

Figure 2 shows that the amount of institutional aid awarded has grown faster over the last ten years than any other source of undergraduate grant aid. According to The College Board, institutional aid provided \$7.5 billion in student aid in 1992-93. That represents nearly 20 percent of all student aid awarded in the year.<sup>16</sup> Institutional aid grew by 121 percent in constant dollars between 1985 and 1994, over eight times as much as the 15 percent increase in federal grant aid. State grants increased faster than federal grants, but fell well short of the increase in institutional aid (detailed tables with dollar amounts are included in the table compendium).

<sup>16</sup> The College Board. *Trends in Student Aid 1984 to 1994*, and *Trends in Student Aid 1986-1996*. (Washington D.C. : 1994 and 1996).

**Figure 2--Grant awards to undergraduates as a percent of 1985 grant awards (in constant 1994 dollars), by source: 1985-1994**



SOURCE: The College Board. *Trends in Student Aid, 1985 to 1995*. (Washington, D.C.: 1995).

Including loans and College Work-Study as part of the federal share changes the trends somewhat. Federal aid increased by 66 percent in constant dollars between 1985 and 1994. Comparing this increase to the 23 percent increase for tuition at private institutions (figure 1) is misleading. Liberalized eligibility has expanded the number of awards, but the purchasing power of maximum awards has declined. According to The College Board, the constant dollar value of the maximum Pell Grant dropped from \$2,864 in 1985 to \$2,268 in 1994, while the number of awards increased by 32 percent. The number of Stafford loans increased by 49 percent, but the maximum award slipped by \$119 in constant dollars.<sup>17</sup>

Administrators at private postsecondary institutions have expressed concern about declines in the three federal campus-based financial aid programs (College Work Study, Supplemental Educational Opportunity Grant [SEOG], and Perkins Loans).<sup>18</sup> These programs do not provide as many aid dollars as the Pell Grant and Federal Family Education Loan (FFEL) programs, but they allow greater latitude in selecting recipients. The combined constant value of campus-based program awards dropped from \$2.3 billion to \$2.2 billion between 1984 and 1993. The number of awards grew from 2.1 million to 2.4 million and average award size declined from \$1,095 to \$917. (The SEOG program accounted for all the increases in the number of awards.)<sup>19</sup>

<sup>17</sup> The College Board. *Trends in Student Aid 1985 to 1995*. (Washington D.C.: 1995).

<sup>18</sup> St. John, E. "Changes in Pricing Behavior During the 1980's." *Journal of Higher Education*. (1992). p. 63.

<sup>19</sup> The College Board. *Trends in Student Aid 1984 to 1994*. (Washington, D.C.: 1994).

Besides the declining value of maximum student financial aid awards, family income and wages have not kept pace with the increased cost of undergraduate education, nor has the minimum wage kept up with increases in the price of education. As seen in figure 1, inflation adjusted median family income (in families with children 6 to 17 years old) only gained 1.5 percent between 1985 and 1994. Undergraduates cannot meet the same share of their education costs by working at minimum wage jobs as they could in the past. In 1980 the minimum wage was \$3.10, and it took 504 hours of work to pay the average tuition of \$1,562. The minimum wage was \$4.25 in 1991, and it took 850 hours to pay the average tuition of \$3,613 (the average tuition combines public and private institutions reported in the Higher Education General Information System [HEGIS] or IPEDS for that year).

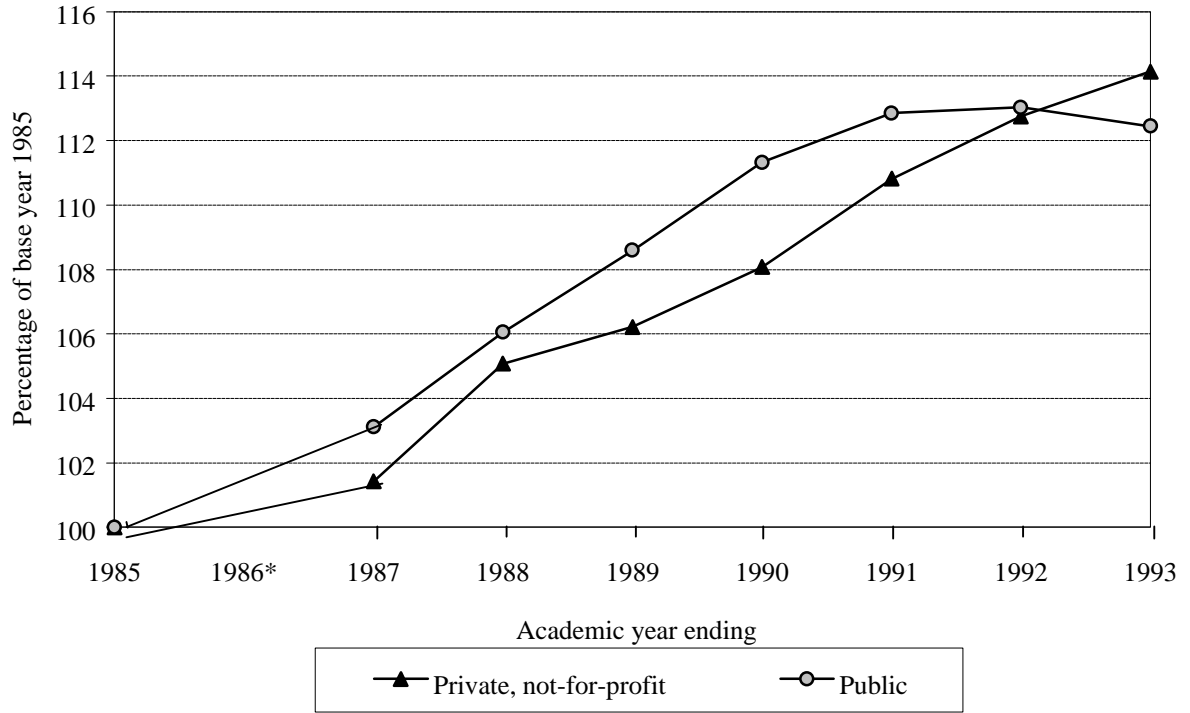
These financial trends have combined to increase the demand for institutionally funded student aid. While family ability to pay has not increased, there has been a decline in the value of maximum federal student aid awards and tuition increases have exceeded inflation. One result of these intersecting trends is an increasing unmet need among enrolled undergraduates. The major resource available to fill the resulting gap is institutional aid.

Despite the fact that the purchasing power of maximum student aid awards declined, family income was nearly constant, and tuition and postsecondary enrollment increased. The share of high school graduates who enrolled in colleges and universities in the fall following graduation increased from 52.7 percent in 1983 to 61.9 percent in 1992. This growing participation rate more than offset the 8.4 percent decline in the number of high school graduates between 1983 and 1992.<sup>20</sup> Enrollment of full-time undergraduates in private institutions increased from 1.75 million in 1985 to 2.0 million in 1993. By 1993, this rate of increase outstripped the percent increase in full-time undergraduates in public 4-year institutions (figure 3). In total, over 700,000 more undergraduates in 1992 enrolled in 4-year institutions than in 1983. Strategic use of institutional aid may have stimulated enrollment in the face of accelerating tuition by selectively reducing the cost of attendance for applicants who were reluctant or unable to pay the full tuition.

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<sup>20</sup> U.S. Department of Education, National Center for Education Statistics. *Digest of Education Statistics, 1993*. (Washington, D.C.: 1993).

**Figure 3--Full-time enrollment as a percent of 1985 full-time enrollment in public and private, not-for-profit, 4-year institutions: 1985-1993**



\*No data reported for 1986.

SOURCE: U.S. Department of Education, National Center for Education Statistics. Integrated Postsecondary Education Data System. "Fall Enrollment in Colleges and Universities" survey, various years.

## Results from NPSAS: 93 Data

### Institutional Perspective

Institutional aid raises different questions in public and private institutions. In part, this difference is due to the fact that states often control tuition policy and monitor expenditures of public institutions. Several states make tuition waivers or institutional aid awards available to specific categories of undergraduates, often with no institutional discretion (table 3). None of these categories account for many awards by themselves, but in combination they could result in a sizable share of the institutional awards given in a public institution.

**Table 3--Number of states where students were eligible for institutional aid in public institutions, by student type: 1993**

Student type	Number of states
Dependents of deceased police officers and fire fighters	25
Senior citizens	22
Veterans, National Guard	21
Institutional faculty/staff	19
Graduate teaching assistants	17
Students who qualify for need-based aid	13
Students who qualify for merit aid	12
Dependents of faculty/staff	11
Student athletes	8
State employees or dependents	8
Other types	17

SOURCE: Lenth, C. *The Tuition Dilemma- State Policies and Practices in Pricing Public Higher Education*. State Higher Education Executive Officers. (Denver, CO: 1993).

Another way in which public and private institutions differ is their dependence on tuition. Public 4-year institutions are generally less dependent on tuition as a source of revenue than private 4-year institutions. As discussed above, undergraduates attending public 4-year colleges and universities were less likely to receive institutional aid than undergraduates in private 4-year institutions (table 2). Thirty-seven percent of the undergraduates in private 4-year colleges and universities received institutional aid compared to 14 percent of those in public 4-year institutions. The dollar amount of awards received also varied by school type and control. The average institutional aid award to students in public 4-year institutions was \$1,755, compared to \$4,658 in private 4-year institutions (table 4). Both the share of the undergraduate student body receiving institutional aid and the amount of the awards is larger in private 4-year institutions than in public 4-year institutions.

**Table 4--Average institutional aid awarded to all undergraduate recipients according to type and control of institution, by attendance patterns: 1992-93**

	Public		Private, not-for-profit		Private, for-profit	All institutions
	Less-than-4-year	4-year	Less-than-4-year	4-year		
Total	\$843	\$1,755	\$1,107	\$4,658	\$1,605	\$2,832
Attendance intensity-fall 1992						
Full-time	983	1,871	1,304	4,969	1,671	3,271
Part-time	835	1,054	1,065	2,920	699	1,410

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93). Undergraduate Data Analysis System.

### Institutions by Carnegie Classification

The Carnegie Classification system provides a standardized method for classifying colleges and universities with some consideration for their educational mission. A detailed listing of the different Carnegie Codes and their meaning is provided in the glossary. To make comparisons possible, table 5 consolidates the detailed categories into four groups of institutions: universities, comprehensive, liberal arts, and specialized. The listing does not include any less-than-4-year institutions. To be classified as a university, an institution must award at least ten doctoral degrees a year. Comprehensive institutions award at least 20 master's degrees a year. Liberal arts colleges are primarily undergraduate programs with at least 40 percent of their programs in liberal arts. Specialized institutions offer at least 50 percent of their degrees in one field.

The results show there was no significant difference in the proportion of undergraduates receiving institutional aid in the different types of institutions, but there was a difference in the average amount of institutional aid awarded to recipients. Undergraduates attending public research and doctoral granting institutions received larger awards than undergraduates attending public comprehensive and specialized institutions. Full-time undergraduates attending private research and doctoral granting institutions received larger awards than those attending institutions in all other Carnegie Code categories (table 5). Research and doctoral institutions in both sectors provide their undergraduates with larger institutional aid amounts than other types of institutions. Overall, undergraduates attending private institutions received an average award 2.6 times larger than undergraduates attending public institutions.

**Table 5--Percentage of full-time undergraduates who received institutional aid and average award amount per recipient according to institutional control, by Carnegie code: 1992-93**

	Public 4-year		Private, not-for-profit, 4-year	
	Percent	Average award	Percent	Average award
Total	17.5	\$1,871	47.1	\$4,969
Carnegie code				
Research I and II/ Doctoral granting I and II	18.9	2,148	45.1	6,703
Comprehensive I and II	15.2	1,573	46.5	4,189
Liberal arts I and II	23.1	1,153	53.0	4,528
Religious and specialized schools	18.9	1,146	45.5	3,297

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93). Undergraduate Data Analysis System.

### Financial Characteristics of Institutions

As noted earlier, institutional aid is a significant and growing share of the budget in private 4-year institutions. Financially weaker institutions may try to help low-income students enroll by offering more institutional aid than they can afford. It is not possible to use student data to draw conclusions about institutional strength. However, as far as institutional characteristics were associated with student receipt of institutional aid, it is possible to identify some relationships that could be useful when considering this issue.

#### *Tuition*

In 1988 the proportion of tuition revenue dedicated to institutional aid was 14 percent in private 4-year institutions. In 1992-93, institutional aid in these institutions represented an estimated 18 percent of tuition.<sup>21</sup> This represents a 29 percent increase in 5 years.

An indicator of the relationship between tuition paid by undergraduates in private 4-year institutions and receipt of institutional aid can be seen in table 6.<sup>22</sup> Fifty-eight percent of the undergraduates attending institutions in the middle tuition range received institutional aid compared to 49 percent in the higher and 33 percent in the lower tuition group. The average award increased as tuition increased. Private 4-year institutions with tuition of \$12,500 or more provided an average institutional award of \$7,368 to half the full-time undergraduates. Private institutions in the middle tuition range appeared to provide more undergraduates with institutional aid, but those with the highest tuition offered the largest average awards.

<sup>21</sup> Davis, J. College Affordability, A Closer Look at the Crises

<sup>22</sup> The sample divides roughly into thirds, with one-third of the private, not-for-profit, 4-year institutions having tuition below \$7,500, one-third falling between \$7,500 and \$12,499 and the final third \$12,500 or more.



**Table 6--Percentage of full-time undergraduates in private, not-for-profit, 4-year institutions who received institutional aid and average award per recipient, by tuition and fees: 1992-93**

	Percent	Average award
Total	47.1	\$4,969
Tuition and fees		
Less than \$7,500	33.0	2,535
\$7,500-\$12,499	58.0	4,146
\$12,500 or more	49.4	7,368

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93). Undergraduate Data Analysis System.

### Endowment

One measure of a private institution's ability to absorb the cost of awarding institutional aid is the amount of endowment available to the school. Endowment dollars provide a source of aid funds outside of tuition revenues. Endowment per FTE student for private institutions attended by students in this sample was grouped into three categories: \$500 or less, \$501 to \$4,500, and \$4,501 or more (table 7). These endowment levels divided private 4-year institutions into three groups of about equal size. While there was no significant difference in the proportion of full-time undergraduates receiving institutional aid in private 4-year institutions by endowment level, the average amount of institutional aid increased with endowment. Higher-endowment institutions offered their undergraduates larger award amounts than lower-endowment institutions. Lowest endowment schools offered smaller awards than schools in the middle range; those in the top range offered larger average awards than institutions in the middle.

These results suggest that smaller endowments in tuition-dependent private 4-year institutions did not stop them from making institutional aid awards but may have constrained the average size of an award.

**Table 7--Percentage of full-time undergraduates who received institutional aid in private, not-for-profit, 4-year institutions and average award per recipient by institutional endowment per full-time equivalent student enrollment: 1992-93**

	Percent	Average award
Total	47.1	\$4,969
Endowment per full-time equivalent student		
\$500 or less	50.2	2,904
\$501-\$4,500	47.4	4,197
\$4,501 or more	50.9	5,773

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93). Undergraduate Data Analysis System.

It is not possible to conclude from the results shown in table 7 that the award of institutional aid threatened the financial well being of any set of institutions. However, wealthier institutions, as identified by this indicator, provided larger average institutional aid awards than those institutions with more limited financial resources.

## **Student Characteristics**

### **Student Income**

Most federal and state student financial aid is awarded based on need. This policy represents the public interest in equalizing opportunity to attend a postsecondary institution. Because an institution has discretion in the award of institutional aid, it may or may not award aid based on family income. In both public 4-year and private, not-for profit, 4-year institutions there was a relationship between income and receipt of institutional aid.

In this report income is discussed in terms of quartiles and ranges, which are calculated separately based on students' dependency status. The income quartiles then combine dependent and independent undergraduates in one income variable. Income ranges are reported separately according to dependency status. Dependent undergraduates' income is based on family income. Independent undergraduates are ranked according to student income. Stating the differences in terms of income ranges rather than income quartiles permits a more detailed exploration of the relationship of income to institutional aid awards.

Review of the percent of full-time undergraduates who received institutional aid by income quartiles<sup>23</sup> shows that undergraduates in the lowest income quartile attending public 4-year institutions were more likely to receive institutional aid than those in higher income groups (table 8). Undergraduates in the lowest income quartile who attended private 4-year institutions were not significantly more or less likely to receive institutional aid than undergraduates in any except the highest income quartile. Students in the highest income quartile at these institutions were less likely to receive institutional aid than undergraduates in any of the lower three quartiles.

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<sup>23</sup> Income quartiles include all undergraduates regardless of type of institution.

**Table 8--Percentage of full-time undergraduates who received institutional aid at 4-year institutions and average award per recipient, according to institutional control, by income quartiles: 1992-93**

	Percent	Average award
Total	27.0	\$3,609
	Public 4-year	
Income quartiles		
0-24	23.8	1,563
25-49	19.2	1,894
50-74	15.3	2,248
75-100	12.3	2,022
	Private, not-for-profit, 4-year	
Income quartiles		
0-24	52.8	4,607
25-49	59.8	5,209
50-74	54.9	5,636
75-100	35.0	4,616

NOTE: Income quartiles were calculated based on all undergraduates regardless of type of institution.

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93). Undergraduate Data Analysis System.

The lowest two income ranges (under \$40,000) of dependent undergraduates at public 4-year institutions were more likely to receive institutional aid than those in the next higher two ranges (above \$40,000) (table 9). The award size for these low-income undergraduates was smaller than for undergraduates in the higher ranges. The independent undergraduates with the lowest incomes were more likely to receive institutional aid than independent undergraduates with higher incomes. Both dependent and independent undergraduates in the lowest income range attending public 4-year institutions were more likely to receive institutional aid than those with the highest income.

The story is different for private institutions. Dependent undergraduates in the lowest income range showed no significant difference in probability of receiving institutional aid than those in other income ranges; although, those in the middle two ranges were more likely to receive aid than undergraduates in the highest income range.<sup>24</sup> Independent undergraduates with income below \$5,000 were more likely to receive institutional aid than those with income of \$20,000 and above. There was no significant difference between the lowest income independent undergraduates and those with income between \$5,000 and \$19,999.

<sup>24</sup> The apparent difference in the likelihood of receiving aid, between the lowest and highest income ranges of dependent undergraduates, was not statistically significant.

**Table 9--Percentage of full-time undergraduates who received institutional aid, and average award per recipient, according to institutional control, by dependency status and income level: 1992-93**

	Public 4-year		Private, not-for-profit, 4-year	
	Percent	Average award	Percent	Average award
Total	17.5	\$1,871	47.1	\$4,969
Income and dependency status				
Dependent <sup>1</sup>				
Less than \$20,000	26.6	1,525	52.6	4,809
\$20,000-\$39,999	23.0	1,789	66.8	5,556
\$40,000-\$69,999	15.8	2,391	56.6	5,549
\$70,000 or more	12.8	2,110	32.9	4,736
Independent <sup>2</sup>				
Less than \$5,000	24.7	1,561	48.8	3,892
\$5,000-\$19,999	16.2	1,378	40.9	3,565
\$20,000-\$49,999	11.3	1,119	24.0	2,641
\$50,000 or more	5.5	---	25.5	2,887

--- Sample size is too small for a reliable estimate.

<sup>1</sup> Family income

<sup>2</sup> Student income

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93). Undergraduate Data Analysis System.

### Packaging of Student Financial Aid

The relationship between other forms of student financial aid and institutional aid provides another way to describe the use of institutional aid. Recipients of Pell Grants receive this aid on the basis of financial need. Other Title IV aid excluding Pell Grants is awarded to recipients who lack financial resources to pay the full cost of education at an institution. Still other students may be awarded no need-based federal or state aid. Table 10 describes the percentage of full-time undergraduates who received institutional aid who also received other types of aid.

Eighteen percent of the undergraduate institutional aid recipients in private 4-year institutions received institutional aid alone. About 82 percent received institutional aid in a package that included other aid (32 percent institutional and Pell, 40 percent institutional and Title IV, no Pell, 10 percent institutional and other, no Title IV). Undergraduates who received institutional aid were more likely to receive it in combination with either a Pell Grant or other Title IV aid rather than by itself.

The packaging of institutional aid in public institutions differed from that observed in private 4-year institutions. Thirty-five percent of the undergraduates in public 4-year institutions with institutional aid received no other aid. Another 38 percent received institutional aid as part of a package containing a Pell Grant. The remaining 27 percent received institutional aid with other aid, but no Pell Grant (17 percent institutional and Title IV, no Pell, 10 percent institutional

and other, no Title IV). Public 4-year undergraduates were nearly twice as likely to receive institutional aid by itself as undergraduates in private 4-year institutions.

**Table 10--Percentage distribution of full-time undergraduates and average award per recipient according to type of aid package, by institutional control: 1992-93**

	Public 4-year		Private, not-for-profit, 4-year	
	Percentage	Average award	Percentage	Average award
Total	17.5	\$1,871	47.1	\$4,969
Type of aid package				
Institutional aid only	34.8	2,402	18.2	5,938
Institutional and Pell	37.7	1,427	31.7	4,234
Institutional and Title IV, no Pell	17.3	1,617	40.0	5,101
Institutional and other, no Title IV	10.3	2,124	10.1	5,007

NOTE: Percentages may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93). Undergraduate Data Analysis System.

The differences between the two sectors in the packaging of institutional aid with other aid reflect the dissimilarities in their use of student financial aid and their cost of attendance. The differences in the receipt of institutional aid between undergraduates in public 4-year and private 4-year institutions are discussed in the table compendium. More detailed information about packaging of institutional aid with other aid is provided in tables 18, 19, 21 and 22.

#### Grade Point Average

Earlier it was suggested that institutional aid may be used by institutions to attract and retain outstanding undergraduates. College and university grade point average (GPA) is the only academic achievement measure reported in this study. In public 4-year institutions, undergraduates with a 3.50 or higher grade point average were more likely to receive institutional aid than those in the lower GPA ranges (table 11). Thirty-two percent of the higher GPA undergraduates received institutional aid compared to 16 percent of the middle GPA undergraduates. In private 4-year institutions there was also a significant difference in the probability of receiving institutional aid between undergraduates with the highest grade point averages and those with 2.00 to 3.49 GPAs. Full-time undergraduates with a GPA of 3.50 or higher, who attended either public or private institutions, were more likely to receive institutional aid than undergraduates with a GPA between 2.00 and 3.49.

**Table 11--Percentage of full-time undergraduates who received institutional aid and average award per recipient according to institutional control, by cumulative grade point average: 1992-93**

	Public 4-year		Private, not-for-profit	
	Percent	Average award	Percent	Average award
Total	17.5	\$1,871	47.1	\$4,969
Cumulative grade point average				
Less than 2.00	13.0	2,108	45.6	4,606
2.00-3.49	16.2	1,824	47.0	4,749
3.50 or higher	31.6	1,976	56.3	5,335

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93). Undergraduate Data Analysis System.

### Traditional Undergraduates

Several other student characteristics, in addition to income and grade point average, were associated with the receipt of institutional aid. One-third of undergraduates could be classified as “traditional” in 1993.<sup>25</sup> This means that in addition to being enrolled full-time in a 4-year college or university, they had the following attributes:

- under 24 years old;
- dependent on their parents for support;
- single; and
- living on campus.

The undergraduate population with these attributes represented a minority of the enrolled postsecondary population, but the results reported in the following sections suggest that in most cases, undergraduates with each of these attributes had a higher probability of receiving institutional aid than undergraduates without them.

The probability of receiving institutional aid varied by age. In both public and private 4-year institutions, full-time undergraduates who were 23 years or younger were more likely to receive institutional aid than undergraduates in the next two higher age groups (table 12). In private 4-year institutions, full-time undergraduates 23 years or younger were more likely to receive institutional aid than all older age groups; 50 percent of the full-time undergraduates 23 years or younger, compared to 34 percent of undergraduates between 24 and 31 years old, 32 percent of those aged 32 to 39, and 29 percent of those aged 40 or older. In public 4-year institutions, 18 percent of those under 24 received institutional aid compared to 15 percent of those between 24 and 31 years old and 11 percent of those aged 40 and older.

In private 4-year institutions, full-time dependent undergraduates were more likely to receive aid than independent undergraduates, 50 percent compared to 37 percent. The proportion

<sup>25</sup> Horn, L. and Preno, M. National Center for Education Statistics. *Profile of Undergraduates in U.S. Postsecondary Education Institutions: 1992-93*. U.S. Department of Education. (Washington, D.C. : 1995).

receiving institutional aid was not significantly different when comparing these two groups of undergraduates in public 4-year institutions. Eighteen percent of the dependent and 17 percent of the independent full-time undergraduates received institutional aid.

The results also reveal that married undergraduates in private 4-year institutions were less likely to receive institutional aid than undergraduates who were single. Fifty percent of the unmarried undergraduates in private 4-year institutions received institutional aid compared to 35 percent of those who were married. Marital status did not make a significant difference in public 4-year institutions: 18 percent of married undergraduates and 16 percent of the unmarried undergraduates received institutional aid.

The last characteristic that describes traditional undergraduates is that they lived on campus. In both sectors, undergraduates living on campus were more likely to receive institutional aid than those living off campus or with relatives.

**Table 12--Percentage of full-time undergraduates who received institutional aid according to institutional control, by selected student characteristics: 1992-93**

	Public 4-year	Private, not-for-profit, 4-year
Total	17.5	47.1
Dependency status		
Dependent	17.7	49.9
Independent	16.8	37.3
Marital Status		
Not married	15.9	49.5
Married	17.9	35.4
Separated	11.9	23.7
Age as of 12/31/92		
23 years or younger	18.2	50.1
24-31	14.6	34.0
32-39	15.0	32.0
40 or more	11.4	29.0
Local residence		
On campus	24.3	57.3
Off campus	15.8	38.4
With parents or other relative	13.0	36.0

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93). Undergraduate Data Analysis System.

The comparisons in table 12 show that the characteristics defining a traditional, 4-year, full-time undergraduate tended to be associated with a higher probability of receiving institutional aid than those who did not possess each of the characteristics. Living on campus and being younger were associated with higher probability of receiving institutional aid in both public and

private 4-year institutions. The difference in probability of receiving institutional aid extended to marital status and dependency in private but not public institutions.

### Race/Ethnicity of Undergraduates and Institutional Aid

If institutional aid was being used to help enroll more underrepresented minorities such as black, non-Hispanic or Hispanic undergraduates, such students would be more likely to have received institutional aid than white, non-Hispanic undergraduates. This was observed in public 4-year colleges and universities, but not in private 4-year institutions (table 13). Sixteen percent of the white<sup>26</sup> undergraduates in public 4-year colleges and universities received institutional aid compared to 24 percent of the black and 27 percent of the Hispanic undergraduates, although only the difference between white and black undergraduates was significant. In private 4-year institutions, 50 percent of the white undergraduates received institutional aid compared to 37 percent of Asian/Pacific Islander undergraduates. The proportion receiving institutional aid was not significantly different between white undergraduates and either black or Hispanic undergraduates in private 4-year institutions.<sup>27</sup>

**Table 13--Percentage of full-time undergraduates who received institutional aid according to institutional control, by race/ethnicity: 1992-93**

	Public 4-year	Private, not-for-profit, 4-year
Total	17.5	47.1
Race-ethnicity of student		
White, non-Hispanic	16.1	50.5
Black, non-Hispanic	23.9	39.3
Hispanic	27.3	30.0
Asian/Pacific Islander	15.3	37.3
American Indian/Alaskan Native	27.1	36.1

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93). Undergraduate Data Analysis System.

### Award by Academic Year

As noted earlier, there is a possibility that colleges and universities offer institutional aid to attract undergraduates but withdraw the aid in subsequent years. No significant difference was found in the receipt of institutional aid between undergraduates in their first year compared to those in subsequent academic years in private or public 4-year institutions (tables 17, 20). The multivariate analysis reported later suggests that first-year undergraduates in private institutions may be more likely to have received institutional aid than undergraduates in later academic years. The evidence that institutions systematically offered undergraduates institutional aid packages in their first year of attendance and then deny them aid in later years is mixed.

<sup>26</sup> The terms “white” and “black” are used to refer to white, non-Hispanic and black, non-Hispanic students.

<sup>27</sup> Some of the apparent differences in the tables are not statistically significant.



## Analysis of Institutional Aid after Controlling for Background Variation

The results reported in the descriptive tables suggest that some attributes of full-time undergraduates were associated with a higher probability of receiving institutional aid in both public and private 4-year institutions. Those attributes include being under 24 years of age, living on campus, and having a grade point average of 3.50 or higher. Other undergraduate characteristics were associated with receiving institutional aid in one of the sectors:

- Undergraduates in public 4-year colleges and universities from the lowest income quartile were more likely to receive institutional aid than those in other income quartiles. Among students at private 4-year institutions, undergraduates in the lowest income quartile were significantly more likely to receive institutional aid than those in the highest quartile (table 8).

In private 4-year institutions, dependent undergraduates were more likely to receive institutional aid than independent undergraduates. There was no significant difference in the likelihood of receiving institutional aid in public 4-year institutions by dependency status (table 9).

- Unmarried undergraduates attending private 4-year institutions were more likely to receive institutional aid than those who were married. This was not the case in public 4-year institutions where unmarried undergraduates were not significantly more or less likely than married ones to receive institutional aid (table 12).
- In public institutions, black, non-Hispanic undergraduates were more likely to receive institutional aid than white, non-Hispanic undergraduates (table 13). These groups of undergraduates were not significantly different in this respect in private 4-year institutions.

The cross tabulations show the simple relationships between pairs of variables, but do not control for associations between several variables simultaneously. Multivariate analysis, as discussed previously, permits estimation of the same relationships controlling for the effects of other variables. In these analyses, adjusted percentages of students who received institutional aid are estimated using the results of a linear regression model, which is discussed in detail in appendix B.

The linear regression model was applied separately to full-time undergraduates who attended public and private 4-year institutions. Table 14 displays the adjusted percentages for full-time undergraduates who received institutional aid at public 4-year institutions. Table 15 shows the adjusted percentages of full-time undergraduates who received institutional aid at private 4-year institutions.

The linear regression results are consistent with some findings reported in the cross tabulations, but change the interpretation of other relationships. Differences between the cross tabulation and linear regression findings arise because linear regression controls for interrelationships among variables. Several characteristics associated with being a “traditional” undergraduate – age, dependency status, living on campus, and marital status – were related to the probability of receiving institutional aid in the tables shown above for at least one sector.

After adjusting for background variation, being under 24 years of age was associated with a greater likelihood of receiving institutional aid in both public and private 4-year institutions compared to two of three older age groups. After adjusting the means, undergraduates at both public and private institutions who lived on campus were also more likely to have received institutional aid than were those who lived off campus or with relatives. However, marital status no longer was associated with the likelihood of receiving institutional aid for undergraduates in private 4-year institutions, nor was being a dependent undergraduate.

The finding from the cross tabulations that white, non-Hispanic undergraduates in private 4-year institutions did not receive institutional aid at a rate significantly different from blacks and Hispanics (table 13) also differed after controlling for interrelationships among variables. The adjusted means suggest that blacks at these institutions were less likely to receive aid than whites. Consistent with the earlier finding, Asian/Pacific Islander undergraduates were also less likely than white students to receive institutional aid at private institutions.

In public 4-year institutions, the adjusted percentages confirm that black, non-Hispanic undergraduates were more likely to receive institutional aid than white non-Hispanics. The multivariate model also found that Hispanic and American Indian/Alaskan Native undergraduates were more likely than white, non-Hispanic undergraduates to receive institutional aid in public 4-year institutions.

Another change from the cross tabulations was the finding that undergraduates in the second income quartile in private 4-year institutions were more likely to receive institutional aid than the lowest income quartile undergraduates (table 8). Also, undergraduates in the third income quartile were less likely to receive institutional aid than those in the lowest quartile. The adjusted means confirm that being in the lowest income group in public 4-year institutions was associated with a greater likelihood of receiving institutional aid compared with all three of the higher quartile income groups.

In the cross tabulations, there was no significant difference in the probability of receiving institutional aid between first year undergraduates and those in later years (table 17, table 20). After adjusting the means, first year undergraduates in private institutions were more likely to receive institutional aid than second, third and fourth year undergraduates at those institutions. The adjusted means for public institutions indicate that fourth year undergraduates were more likely to receive institutional aid than first year undergraduates.

Finally, those full-time undergraduates having a GPA of 3.50 or higher were more likely to have received institutional aid than undergraduates with GPAs below 2.00. This result was also consistent with the earlier results.

**Table 14--Percentage of full-time undergraduates at public 4-year institutions who received institutional aid, and the adjusted percentage after taking into account the covariation of the variables listed in the table: 1992-93<sup>1</sup>**

	Unadjusted percentage <sup>2</sup>	Adjusted percentage <sup>3</sup>	WLS coefficient <sup>4</sup>	Standard error <sup>5</sup>
Total	17.5	17.5	0.094	0.000
Age as of 12/31/92				
23 years or younger	18.2	18.4	+	+
24-31	14.6 *	13.0 *	-0.054	0.015
32-39	15.0	14.0	-0.044	0.025
40 or more	11.4 *	11.0 *	-0.074	0.031
Dependency status				
Dependent	17.7	17.7	+	+
Independent	16.8	16.8	-0.009	0.016
Endowment per full-time equivalent student				
\$500 or less	15.4	15.9	+	+
\$501-\$4,500	19.2 *	19.4	0.035	0.023
\$4,501 or more	18.8	18.8	0.029	0.047
Enrollment in 1992				
Less than 1,000	6.0	8.3	+	+
1,000-2,499	30.7	29.3	0.211	0.189
2,500-4,999	19.1 *	19.2	0.109	0.268
5,000-7,499	19.9 *	19.3	0.110	0.265
7,500-9,999	14.7	15.9	0.076	0.305
10,000 or more	16.8 *	16.8	0.085	0.293
Gender				
Male	16.9	17.4	+	+
Female	18.1	17.5	0.001	0.005
Cumulative grade point average				
Less than 2.00	13.0	14.1	+	+
2.00-3.49	16.2	15.7	0.016	0.009
3.50 or higher	31.6 *	31.3 *	0.172	0.011
Local residence				
On campus	24.3	23.8	+	+
Off campus	15.8 *	16.4 *	-0.074	0.009
With parents or other relative	13.0 *	12.3 *	-0.114	0.016
Income quartiles				
0-24	23.8	23.8	+	+
25-49	19.2	19.6 *	-0.042	0.007
50-74	15.3 *	14.9 *	-0.089	0.007
75-100	12.3 *	10.7 *	-0.131	0.012
Race-ethnicity of student				
White, non-Hispanic	16.1	16.4	+	+
Black, non-Hispanic	23.9 *	22.6 *	0.063	0.027
Hispanic	27.3	27.0 *	0.106	0.030
Asian/Pacific Islander	15.3	15.5	-0.009	0.018
American Indian/Alaskan Native	27.1	27.5 *	0.111	0.043

**Table 14--Percentage of full-time undergraduates at public 4-year institutions who received institutional aid, and the adjusted percentage after taking into account the covariation of the variables listed in the table: 1992-93<sup>1</sup>--Continued**

	Unadjusted percentage <sup>2</sup>	Adjusted percentage <sup>3</sup>	WLS coefficient <sup>4</sup>	Standard error <sup>5</sup>
Marital status				
Not married	17.9	17.3	+	+
Married	15.9	19.2	0.019	0.012
Separated	11.9	11.2	-0.062	0.055
Tuition and fees				
Less than \$1,000	11.8	11.9	+	+
\$1,000-\$1,999	16.2	16.6 *	0.047	0.024
\$2,000-\$7,499	18.8 *	18.5 *	0.066	0.026
\$7,500-\$12,499	21.0 *	19.6 *	0.078	0.033
\$12,500 or more	24.6 *	25.1	0.133	0.096
Undergraduate class level				
1st year-freshman	18.5	16.9	+	+
2nd year-sophomore	16.4	15.9	-0.010	0.007
3rd year-junior	17.5	17.9	0.010	0.007
4th year or more-senior	17.4	18.7 *	0.018	0.009

\*p<=.05

+Not applicable to reference group.

<sup>1</sup> The first group in each category is the reference group for comparison.

<sup>2</sup> Estimates from NPSAS: 93 Data Analysis System.

<sup>3</sup> Percentages adjusted for differences associated with other variables in the table (see appendix B for details)

<sup>4</sup> Weighted least squares (WLS) coefficient (see appendix B for details).

<sup>5</sup> Standard error of WLS coefficient, adjusted for design effect (see appendix B for details).

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93). Undergraduate Data Analysis System.

**Table 15--Percentage of full-time undergraduates at private, not-for-profit, 4-year institutions that received institutional aid, and the adjusted percentage after taking into account the covariation of the variables listed in the table: 1992-93<sup>1</sup>**

	Unadjusted percentage <sup>2</sup>	Adjusted percentage <sup>3</sup>	WLS coefficient <sup>4</sup>	Standard error <sup>5</sup>
Total	47.1	47.1	0.572	0.000
Age as of 12/31/92				
23 years or younger	50.1	48.9	+	+
24-31	34.0 *	37.5 *	-0.114	0.035
32-39	32.0 *	39.7 *	-0.092	0.041
40 or more	29.0 *	39.9	-0.090	0.048
Dependency status				
Dependent	49.9	47.7	+	+
Independent	37.3 *	45.1	-0.025	0.041
Endowment per full-time enrollment categories				
\$500 or less	50.2	45.9	+	+
\$501-\$4,500	47.4	46.6	0.007	0.067
\$4,500 or more	50.9	47.5	0.016	0.070
Enrollment in 1992				
Less than 1,000	44.7	50.3	+	+
1,000-2,499	54.1	52.3	0.020	0.065
2,500-4,999	50.5	48.6	-0.017	0.059
5,000-7,499	38.0	40.4	-0.099	0.059
7,500-9,999	43.7	43.7	-0.066	0.069
10,000 or more	39.6	40.0	-0.103	0.062
Gender				
Male	46.5	46.7	+	+
Female	47.6	47.4	0.007	0.010
Cumulative grade point average				
Less than 2.00	45.6	44.6	+	+
2.00-3.49	47.0	45.1	0.005	0.018
3.50 or higher	56.3	55.1 *	0.105	0.021
Local residence				
On campus	57.3	54.2	+	+
Off campus	38.4 *	43.8 *	-0.103	0.017
With parents or other relative	36.0 *	34.3 *	-0.198	0.029
Income quartiles				
0-24	52.8	56.0	+	+
25-49	59.8	59.3 *	0.033	0.013
50-74	54.9	42.7 *	-0.033	0.016
75-100	35.0 *	29.3 *	-0.267	0.024
Race-ethnicity of student				
White, non-Hispanic	50.5	49.9	+	+
Black, non-Hispanic	39.3	39.4 *	-0.105	0.048
Hispanic	30.0	36.2	-0.137	0.100
Asian/Pacific Islander	37.3 *	39.5 *	-0.104	0.025
American Indian/Alaskan Native	36.1	45.8	-0.041	0.088

**Table 15--Percentage of full-time undergraduates at private, not-for-profit, 4-year institutions that received institutional aid, and the adjusted percentage after taking into account the covariation of the variables listed in the table: 1992-93<sup>1</sup>--Continued**

	Unadjusted percentage <sup>2</sup>	Adjusted percentage <sup>3</sup>	WLS coefficient <sup>4</sup>	Standard error <sup>5</sup>
<b>Marital status</b>				
Not married	49.5	46.9	+	+
Married	35.4 *	50.3	0.034	0.027
Separated	23.7 *	35.8	-0.111	0.079
<b>Tuition and fees (amount for terms attended)</b>				
Less than \$7,500	33.0	34.4	+	+
\$7,500-\$12,499	58.0 *	56.4 *	0.219	0.035
\$12,500 or more	49.4 *	49.5 *	0.151	0.052
<b>Undergraduate class level</b>				
1st year-freshman	52.1	49.8	+	+
2nd year-sophomore	48.9	46.7 *	-0.031	0.013
3rd year-junior	45.1	45.5 *	-0.043	0.013
4th year or more-senior	42.6 *	46.0 *	-0.037	0.011

\*p<=.05

+Not applicable to reference group.

<sup>1</sup> The first group in each category is the reference group for comparison.

<sup>2</sup> Estimates from NPSAS: 93 Data Analysis System.

<sup>3</sup> Percentages adjusted for differences associated with other variables in the table (see appendix B for details)

<sup>4</sup> Weighted least squares (WLS) coefficient (see appendix B for details).

<sup>5</sup> Standard error of WLS coefficient, adjusted for design effect (see appendix B for details).

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93). Undergraduate Data Analysis System.

## **Summary and Conclusions**

Institutional aid is a significant source of aid for postsecondary undergraduates. Twelve percent of all undergraduates received institutional aid in 1992-93. Institutional aid, most of which was in the form of grants, has increased faster than grants provided by the federal government or the states over the last decade. Most of this growth has taken place in 4-year institutions. Within each sector, undergraduates attending 4-year colleges and universities were more likely to receive institutional aid than those attending other institutions.

This study has shown that undergraduates with certain characteristics were more likely to receive institutional aid than others. Institutional aid was especially prevalent in private 4-year institutions. The average institutional aid award amount varied among types of undergraduates. Forty-seven percent of the full-time undergraduates attending private 4-year institutions received institutional aid, with an average award size of \$4,969. The average award for full-time undergraduates in this sector was over 2.6 times larger, on average, than that received by those in public 4-year institutions. Undergraduates in private 4-year institutions received an average award of \$4,658, while recipients in public 4-year institutions received \$1,755.

### **Institutional Aid Associated with Undergraduate Characteristics**

A traditional undergraduate is defined as one who attended school full-time, was unmarried, dependent, less than 24 years of age, attended a 4-year institution and lived on campus. Undergraduates with each of these characteristics were more likely to receive institutional aid than those without them in at least one sector. For example, 20 percent of full-time undergraduates received institutional aid compared to 5 percent of those attending school part-time. Fifty percent of the full-time undergraduates under age 24 in private 4-year institutions received institutional aid compared to 34 percent of those between 24 and 31 years old. In public 4-year institutions, 18 percent of those under 24 received institutional aid compared to 15 percent of those between 24 and 31 years old. Those full-time undergraduates who lived on campus were more likely to receive institutional aid than those living off campus. Among full-time undergraduates at private 4-year institutions, unmarried students were more likely to receive institutional aid than married students, and dependent students were more likely to do so than independent students.

There was also a relationship between the receipt of institutional aid and GPA of undergraduates in 4-year institutions. Undergraduates with a grade point average of 3.50 or higher were more likely to receive institutional aid than those with lower grade point averages. Grade point average was the only measure of achievement available. It is not possible to identify whether other types of student accomplishment were related to the award of institutional aid.

In private 4-year institutions, undergraduates from the highest income quartile were less likely to receive institutional aid than those in the lower three quartiles. In public 4-year institutions, undergraduates from the lowest income quartile were more likely to receive institutional aid than those in the three higher quartile income groups.

Race/ethnicity played a role in the awarding of institutional aid. Black undergraduates were more likely to receive institutional aid than white undergraduates in public 4-year institutions. Four-year institutions may have awarded institutional aid, in part, to help achieve an ethnically diverse distribution of undergraduates. Alternatively, this could be explained by the fact that black undergraduates were more likely to be low income than white undergraduates.<sup>28</sup>

A look at the packaging of institutional aid with other student financial aid provided further evidence of the type of undergraduate who received institutional aid. In public 4-year institutions, 35 percent of the undergraduates awarded institutional aid received no other aid. Thirty-eight percent of them received institutional aid in a package with a Pell Grant. However, 18 percent of the undergraduates who received institutional aid in private 4-year institutions received only this type of aid, and 32 percent received it with a Pell Grant. Another 40 percent received it with Title IV aid but no Pell Grant.

### **Institutional Aid and Institutional Characteristics**

As noted above, students at 4-year institutions were more likely to have received institutional aid than students at other types of institutions. Also, students at private institutions were more likely to have received this type of aid than were students at public institutions.

In addition, the results identify endowment and tuition as institutional revenue characteristics that were associated with the award of institutional aid. The data suggest that the proportion of undergraduates who received institutional aid while attending private 4-year colleges and universities with higher levels of endowment was similar to those attending institutions with lower levels. However, undergraduates attending institutions with higher endowment received larger average institutional awards than those attending institutions with lower endowment.

Another possible indicator of institutional resources among private 4-year institutions was the average tuition charged. Undergraduates attending private colleges and universities with tuition at or above \$12,500 were less likely to receive institutional aid than those attending institutions with tuition between \$7,500 and \$12,499 but more likely to receive larger average awards.

In sum, both characteristics of students and the institutions they attended were associated with the likelihood of having received institutional aid and with the size of the institutional aid awards among those undergraduates who received them. The table compendium, which follows the summary and conclusions section, summarizes the results already discussed here. It also provides a more detailed exploration of the possible relationships between student and institutional characteristics and the receipt and size of institutional aid awards.

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<sup>28</sup> Horn, L. and Preno, M. National Center for Education Statistics. *Profile of Undergraduates in U.S. Postsecondary Education Institutions: 1992-93*. U.S. Department of Education. (Washington, D.C. : 1995). p. 86.



## Table Compendium

Tables 16-22 provide more detailed information about the award of institutional aid than those in the main body of the report. Besides providing more detail, these tables may suggest other issues that might be investigated further. The following bullets emphasize results found in the tables in this section as well as results already discussed in the above essay.

### All Undergraduates<sup>29</sup> (table 16)

- Twelve percent of all undergraduates received institutional aid.
- The average institutional aid award was \$2,832.
- Full-time undergraduates were four times as likely to receive institutional aid as part-time undergraduates (20 percent compared to 5 percent).
- The average institutional aid award was \$3,271 for full-time undergraduate recipients and \$1,410 for part-time recipients.
- Dependent undergraduates were more likely to receive institutional aid than independent undergraduates and the average amount received was larger.
- Undergraduates who were not married were more likely to receive institutional aid than married or separated undergraduates. Those who were not married receive a larger average institutional aid award than undergraduates who were married or separated.
- Those undergraduates who were under 24 were more likely to receive institutional aid than those who were older.
- Undergraduates who lived on campus were more likely to receive institutional aid than those who lived off campus or with their parents.

### Full-Time Undergraduates in Private, Not-for-Profit, 4-Year Institutions

#### Institutional Characteristics

- Undergraduates attending institutions with high levels of endowment (at least \$4,501 per student) were not significantly more likely to receive institutional aid than those attending institutions with low levels of endowment (under \$500 per student) (table 17).

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<sup>29</sup> Table 16 includes part-time undergraduates and students enrolled in less-than-4-year institutions.

- Institutions with tuition between \$7,500 and \$12,499 provided institutional aid to a higher proportion of undergraduates than institutions with tuition above \$12,500 or below \$7,500.
- Undergraduates attending institutions with enrollment below 1,000 received less institutional aid than undergraduates in institutions with enrollments of 5,000 or more (\$3,454 compared to \$5,517, \$6,518, and \$6,454) (table 18).
- Undergraduates attending Research I universities received the largest average institutional aid award compared to other types of institutions with the exception of Research II, Doctoral Granting II, and Liberal Arts I (\$7,826 compared to \$5,096, \$4,282, \$3,811, \$3,076, \$1,621, and \$3,852).
- Those undergraduates who received institutional aid with no other aid received a larger amount than those who received institutional aid with a Pell Grant (\$5,938 compared to \$4,234).

- Student Characteristics

- Undergraduates who were resident on campus were more likely to receive institutional aid than those who lived off-campus (57 percent compared to 38 percent and 36 percent). (table 17)
- Undergraduates residing on campus received a larger average institutional aid award than those living off campus or with relatives (\$5,620 compared to \$4,185 and \$3,768). (table 18)
- Dependent undergraduates were more likely to receive institutional aid than independent undergraduates (50 percent compared to 37 percent). Consistent with this is the fact that unmarried undergraduates were more likely to receive institutional aid than those who were married or separated (50 percent compared to 35 and 24 percent). (table 17)
- Dependent undergraduates received larger awards than independent undergraduates (\$5,288 compared to \$3,473). (table 18)
- Not married undergraduates received larger awards than those who were married (\$5,079 compared to \$2,874).
- Undergraduates less than 24 years old received larger institutional aid amounts than older undergraduates (\$5,212 compared to \$3,361, \$3,090 and \$2,724).
- White, non-Hispanic undergraduates were more likely to receive institutional aid than Asian/Pacific Islanders (51 percent compared to 37 percent). (table 17)

- Asian/Pacific Islanders received larger average institutional aid awards than white, non-Hispanics and black, non-Hispanics (\$6,774 compared to \$4,885 and \$4,531). (table 18)
- There is no significant difference in the percent of undergraduates receiving institutional aid among first, second, third and fourth year undergraduates (52, 49, 45 and 43 percent). (table 17) The adjusted means suggest that first year undergraduates were more likely to receive institutional aid than those in later years. (table 16)
- Undergraduates with grade point averages of 3.50 or higher were more likely to receive aid than those with a 2.00-3.49 GPA. (table 17)

### **Full-Time Undergraduates in Public 4-Year Institutions**

#### Institutional Characteristics

- Eighteen percent of the undergraduates received institutional aid (table 20).
- Undergraduates attending institutions with tuition below \$7,500 were less likely to receive institutional aid than those attending institutions with tuition of \$12,500 or more (17 percent compared to 25 percent).
- Undergraduates attending institutions with tuition of at least \$12,500 received an average institutional aid award of \$4,937 that was higher than the average institutional aid awards for those attending institutions with tuition less than \$12,500 (\$1,763 and \$3,207). (table 21)

#### Student Characteristics

- Institutions were more likely to provide institutional aid to dependent undergraduates with income below \$20,000 (27 percent) compared to those with income over \$40,000 (16 and 13 percent). (table 20)
- Undergraduates with a 3.50 or higher grade point average (GPA) were more likely to receive institutional aid than those with lower GPA (32 percent compared to 16 and 13 percent).
- White, non-Hispanic undergraduates were less likely than black, non-Hispanics to receive institutional aid (16 percent compared to 24 percent).
- Undergraduates living on campus were more likely to receive institutional aid (24 percent) than those living off campus (16 and 13 percent).

- Thirty-five percent of the institutional aid recipients received institutional aid by itself and another 38 percent received institutional aid in a package with a Pell Grant. These two packages accounted for 73 percent of the institutional aid recipients in public 4-year colleges and universities. (table 22)
- Undergraduates under 24 years old received a larger average institutional aid award (\$1,962) than undergraduates ages 24 to 31 (\$1,424). (table 21)
- Dependent undergraduates received larger awards than independent undergraduates (\$2,011 compared to \$1,411).
- Undergraduates who were not married received a larger award than those who were married (\$1,888 compared to \$1,163).
- Undergraduates living on campus received a larger average award than those living off campus (\$2,285 compared to \$1,744, and \$1,262).

**Table 16--Percentage distribution of undergraduates according to receipt of institutional aid and average award per recipient, by selected student characteristics: 1992-93**

	No institutional aid	Received institutional aid	Average award
Total	87.9	12.1	\$2,832
Gender			
Male	87.6	12.4	3,052
Female	88.1	11.9	2,664
Race-ethnicity of student			
White, non-Hispanic	87.9	12.1	2,826
Black, non-Hispanic	87.8	12.2	2,576
Hispanic	89.9	10.1	2,283
Asian/Pacific Islander	89.5	10.5	4,074
American Indian/Alaskan Native	87.1	12.9	2,007
Dependency status			
Dependent	82.9	17.1	3,441
Independent	92.4	7.6	1,569
Marital status			
Not married	85.7	14.3	3,042
Married	94.1	5.9	1,334
Separated	91.2	8.8	1,127
Endowment per full-time equivalent student			
\$500 or less	89.7	10.3	1,616
\$501-\$4,500	79.2	20.8	2,811
\$4,501 or more	62.0	38.0	5,220
Tuition and fees			
Less than \$7,499	91.1	8.9	1,534
\$7,500-\$12,499	58.9	41.1	4,029
\$12,500 or more	52.8	47.2	7,228
Age as of 12/31/92			
23 years or younger	83.9	16.1	3,224
24-31	93.0	7.0	1,561
32-39	93.8	6.2	1,323
40 or more	94.6	5.4	1,140
Cumulative grade point average			
Less than 2.00	91.8	8.2	2,316
2.00-3.49	86.6	13.4	2,830
3.50 or higher	85.7	14.3	2,945
Enrollment in 1992			
Less than 1,000	89.8	10.2	2,258
1,000-2,499	78.2	21.8	3,630
2,500-4,999	85.2	14.8	2,739
5,000-7,499	87.7	12.3	3,212
7,500-9,999	90.8	9.2	3,000
10,000 or more	89.6	10.4	2,443

**Table 16--Percentage distribution of undergraduates according to receipt of institutional aid and average award per recipient, by selected student characteristics: 1992-93--Continued**

	No institutional aid	Received institutional aid	Average award
<b>Local residence</b>			
On campus	65.2	34.8	4,268
Off campus	90.8	9.2	2,030
With parents or other relative	92.0	8.0	1,913
<b>Income and dependency status</b>			
Dependent <sup>1</sup>			
Less than \$20,000	80.2	19.8	2,714
\$20,000-\$39,999	80.2	19.8	3,362
\$40,000-\$69,999	83.6	16.4	3,907
\$70,000 or more	84.5	15.5	3,492
Independent <sup>2</sup>			
Less than \$5,000	84.2	15.8	1,997
\$5,000-\$19,999	90.6	9.4	1,624
\$20,000-\$49,999	95.0	5.0	1,148
\$50,000 or more	96.6	3.4	1,353
<b>Income quartiles</b>			
0-24	83.7	16.3	2,418
25-49	87.2	12.8	2,891
50-74	89.7	10.3	3,174
75-100	90.4	9.6	3,096
<b>Undergraduate class level</b>			
1st year-freshman	91.0	9.0	2,654
2nd year-sophomore	87.6	12.4	2,805
3rd year-junior	81.7	18.3	3,281
4th year or more-senior	84.7	15.3	2,781
<b>Carnegie code</b>			
Research I	78.5	21.5	3,646
Research II	80.3	19.7	3,728
Doctoral granting I	78.9	21.1	3,473
Doctoral granting II	83.2	16.8	3,868
Comprehensive I	84.2	15.8	2,541
Comprehensive II	68.2	31.8	3,120
Liberal arts I	51.8	48.2	6,399
Liberal arts II	70.0	30.0	2,492
Religious	60.5	39.5	1,552
Specialized schools	94.6	5.4	1,072
<b>Attendance status-fall 1992</b>			
Full-time	79.6	20.4	3,271
Part-time	95.0	5.0	1,410
<b>Institutional level and control</b>			
Public, less-than-2-year	99.1	0.9	742
Public, 2-year	95.3	4.7	844
Public, 4-year, non-doctoral granting	89.1	10.9	1,348
Public, 4-year, doctoral granting	84.4	15.6	1,964
Private, not-for-profit, less-than-4-year	82.3	17.7	1,107
Private, not-for-profit, 4-year non-doctoral granting	65.5	34.5	3,942
Private, not-for-profit, 4-year, doctoral granting	60.4	39.6	5,551
Private, for-profit, less-than-2-year	95.6	4.4	1,520
Private, for-profit, 2-year or more	95.7	4.3	1,728

<sup>1</sup> Family income

<sup>2</sup> Student income

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93). Undergraduate Data Analysis System.

**Table 17--Percentage distribution of full-time undergraduates at private, not-for-profit, 4-year institutions according to receipt of institutional aid, by selected student and institutional characteristics: 1992-93**

	No institutional aid	Received institutional aid
Total	52.9	47.1
Gender		
Male	53.5	46.5
Female	52.4	47.6
Race-ethnicity of student		
White, non-Hispanic	49.5	50.5
Black, non-Hispanic	60.7	39.3
Hispanic	70.0	30.0
Asian/Pacific Islander	62.7	37.3
American Indian/Alaskan Native	64.0	36.0
Dependency status		
Dependent	50.1	49.9
Independent	62.7	37.3
Marital status		
Not married	50.5	49.5
Married	64.6	35.4
Separated	76.3	23.7
Endowment per full-time equivalent student		
\$500 or less	49.8	50.2
\$501-\$4,500	52.6	47.4
\$4,501 or more	49.1	50.9
Tuition and fees		
Less than \$7,499	67.0	33.0
\$7,500-\$12,499	42.0	58.0
\$12,500 or more	50.6	49.4
Age as of 12/31/92		
23 years or younger	49.9	50.1
24-31	66.0	34.0
32-39	68.0	32.0
40 or more	71.0	29.0
Cumulative grade point average		
Less than 2.00	54.4	45.6
2.00-3.49	53.0	47.0
3.50 or higher	43.7	56.3

**Table 17--Percentage distribution of full-time undergraduates at private, not-for-profit, 4-year institutions according to receipt of institutional aid, by selected student and institutional characteristics: 1992-93--Continued**

	No institutional aid	Received institutional aid
Enrollment in 1992		
Less than 1,000	55.3	44.7
1,000-2,499	45.9	54.1
2,500-4,999	49.5	50.5
5,000-7,499	62.0	38.0
7,500-9,999	56.3	43.7
10,000 or more	60.4	39.6
Local residence		
On campus	42.7	57.3
Off campus	61.6	38.4
With parents or other relative	64.0	36.0
Income and dependency status		
Dependent <sup>1</sup>		
Less than \$20,000	47.4	52.6
\$20,000-\$39,999	33.2	66.8
\$40,000-\$69,999	43.4	56.6
\$70,000 or more	67.1	32.9
Independent <sup>2</sup>		
Less than \$5,000	51.2	48.8
\$5,000-\$19,999	59.1	40.9
\$20,000-\$49,999	76.0	24.0
\$50,000 or more	74.5	25.5
Income quartiles		
0-24	47.2	52.8
25-49	40.2	59.8
50-74	45.1	54.9
75-100	65.0	35.0
Undergraduate class level		
1st year-freshman	47.9	52.1
2nd year-sophomore	51.1	48.9
3rd year-junior	54.9	45.1
4th year or more-senior	57.4	42.6



**Table 17--Percentage distribution of full-time undergraduates at private, not-for-profit, 4-year institutions according to receipt of institutional aid, by selected student and institutional characteristics: 1992-93--Continued**

	No institutional aid	Received institutional aid
Carnegie code		
Research I	52.8	47.2
Research II	59.7	40.3
Doctoral granting I	56.1	43.9
Doctoral granting II	52.9	47.1
Comprehensive I	56.4	43.6
Comprehensive II	36.0	64.0
Liberal arts I	44.5	55.5
Liberal arts II	48.6	51.4
Religious	51.9	48.1
Specialized schools	55.2	44.8

<sup>1</sup> Family income

<sup>2</sup> Student income

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93), Undergraduate Data Analysis System.

**Table 18--Average institutional aid award to full-time undergraduates in private, not-for-profit, 4-year institutions according to aid package, by selected student and institutional characteristics: 1992-93**

	Type of institutional aid package				Average institutional aid award
	Institutional aid only	Institutional aid & Pell	Institutional aid & Title IV, no Pell	Institutional aid & other, no Title IV	
Total	\$5,938	\$4,234	\$5,101	\$5,007	\$4,969
Gender					
Male	5,976	4,397	5,251	5,342	5,146
Female	5,878	4,111	4,966	4,714	4,812
Race-ethnicity of student					
White, non-Hispanic	5,801	4,218	4,874	5,064	4,885
Black, non-Hispanic	6,995	3,334	5,566	---	4,531
Hispanic	---	4,561	6,109	---	5,169
Asian/Pacific Islander	---	5,945	7,845	---	6,774
American Indian/Alaskan Native	---	---	---	---	---
Dependency status					
Dependent	6,038	4,927	5,241	4,959	5,288
Independent	5,030	2,820	3,927	5,431	3,473
Marital status					
Not married	6,050	4,416	5,198	5,127	5,079
Married	3,176	2,152	3,393	---	2,874
Separated	---	---	---	---	---
Endowment per full-time equivalent student					
\$500 or less	3,935	2,332	2,792	---	2,904
\$501-\$4,500	5,588	3,202	4,364	4,908	4,197
\$4,501 or more	6,297	5,402	5,866	5,406	5,773
Tuition and fees					
Less than \$7,500	3,611	1,940	2,301	3,411	2,535
\$7,500-\$12,499	5,416	3,756	3,723	4,680	4,146
\$12,500 or more	8,054	7,519	7,062	7,331	7,368
Age as of 12/31/92					
23 years or younger	6,081	4,673	5,203	5,095	5,212
24-31	5,295	2,790	3,904	---	3,361
32-39	---	2,805	3,828	---	3,090
40 or more	---	2,222	---	---	2,724
Cumulative grade point average					
Less than 2.00	---	4,357	4,355	---	4,606
2.00-3.49	6,100	4,145	4,831	4,209	4,749
3.50 or higher	5,935	4,108	5,556	5,799	5,335
Enrollment in 1992					
Less than 1,000	4,400	3,199	3,353	3,532	3,454
1,000-2,499	5,359	4,036	4,715	4,309	4,515
2,500-4,999	5,224	3,693	4,575	5,094	4,533
5,000-7,499	6,400	5,070	5,378	5,759	5,517
7,500-9,999	7,990	5,621	5,374	---	6,518
10,000 or more	7,482	5,637	6,404	5,641	6,454

**Table 18--Average institutional aid award to full-time undergraduates in private, not-for-profit, 4-year institutions according to aid package, by selected student and institutional characteristics: 1992-93**  
**--Continued**

	Type of institutional aid package				Average institutional aid award
	Institutional aid only	Institutional aid & Pell	Institutional aid & Title IV, no Pell	Institutional aid & other, no Title IV	
<b>Local residence</b>					
On campus	6,602	5,140	5,627	5,122	5,620
Off campus	4,942	3,292	4,550	4,626	4,185
With parents or other relative	4,865	3,088	3,483	5,107	3,768
<b>Income and dependency status</b>					
<b>Dependent<sup>1</sup></b>					
Less than \$20,000	---	4,450	4,931	---	4,809
\$20,000-\$39,999	6,437	5,201	5,758	5,784	5,556
\$40,000-\$69,999	6,496	5,801	5,349	4,822	5,549
\$70,000 or more	5,356	---	4,221	4,414	4,736
<b>Independent<sup>2</sup></b>					
Less than \$5,000	---	3,116	---	---	3,892
\$5,000-\$19,999	5,045	2,820	4,871	---	3,565
\$20,000-\$49,999	---	1,960	2,709	---	2,641
\$50,000 or more	---	---	---	---	2,887
<b>Income quartiles</b>					
0-24	7,529	4,056	5,746	6,223	4,607
25-49	6,271	4,706	5,220	5,878	5,209
50-74	7,195	4,221	5,464	5,090	5,636
75-100	5,201	3,397	4,416	4,133	4,616
<b>Undergraduate class level</b>					
1st year-freshman	5,967	4,703	5,598	5,244	5,348
2nd year-sophomore	6,171	4,130	5,236	4,301	4,960
3rd year-junior	6,072	4,298	4,883	5,206	4,950
4th year or more-senior	5,587	3,761	4,600	5,059	4,548
<b>Carnegie code</b>					
Research I	6,856	8,343	7,982	---	7,826
Research II	7,436	5,770	5,662	---	6,317
Doctoral granting I	7,455	4,147	3,982	---	5,096
Doctoral granting II	8,559	6,264	6,007	---	6,492
Comprehensive I	5,280	3,561	3,981	5,139	4,282
Comprehensive II	5,321	2,919	3,270	---	3,811
Liberal arts I	6,402	6,949	6,686	5,251	6,585
Liberal arts II	4,027	2,743	3,017	3,708	3,076
Religious	---	---	---	---	1,621
Specialized schools	---	2,225	3,777	---	3,852

--- Sample size is too small for a reliable estimate.

<sup>1</sup> Family income

<sup>2</sup> Student income

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93), Undergraduate Data Analysis System.

**Table 19--Percentage distribution of full-time undergraduates in private, not-for-profit, 4-year institutions according to institutional aid package, by selected student and institutional characteristics: 1992-93**

	Institutional aid only	Institutional aid & Pell	Institutional aid & Title IV, no Pell	Institutional aid & other, no Title IV
Total	18.2	31.7	40.0	10.1
Gender				
Male	19.2	29.7	41.2	10.0
Female	17.4	33.5	39.0	10.2
Race-ethnicity of student				
White, non-Hispanic	18.8	28.1	42.2	10.9
Black, non-Hispanic	11.2	54.6	27.5	6.7
Hispanic	9.3	45.9	38.3	6.4
Asian/Pacific Islander	18.6	31.0	41.0	9.4
American Indian/ Alaskan Native	---	---	---	---
Dependency status				
Dependent	19.9	25.8	43.3	11.0
Independent	10.3	59.4	24.4	6.0
Marital status				
Not married	16.4	32.1	42.1	9.5
Married	13.3	43.0	32.8	11.0
Separated	---	---	---	---
Endowment per full-time equivalent student				
\$500 or less	18.3	33.8	39.1	8.7
\$501-\$4,500	16.4	36.2	37.8	9.7
\$4,501 or more	19.8	28.1	41.7	10.4
Tuition and fees				
Less than \$7,500	19.7	44.0	24.1	12.1
\$7,500-\$12,499	11.9	17.6	32.3	38.2
\$12,500 or more	18.1	23.6	51.4	7.0
Age as of 12/31/92				
23 years or younger	19.2	27.9	42.1	10.8
24-31	9.5	62.3	23.8	4.4
32-39	7.5	55.6	28.3	8.6
40 or more	19.2	57.4	21.1	2.3
Cumulative grade point average				
Less than 2.00	14.0	41.2	33.9	11.0
2.00-3.49	15.6	34.2	42.9	7.4
3.50 or higher	25.6	25.1	31.2	18.2
Enrollment in 1992				
Less than 1,000	13.7	44.8	26.3	15.2
1,000-2,499	16.1	39.3	35.6	9.0
2,500-4,999	20.4	25.4	44.6	9.7
5,000-7,499	16.9	27.4	42.5	13.3
7,500-9,999	21.9	21.4	45.0	11.7
10,000 or more	23.4	19.2	50.3	7.1

**Table 19--Percentage distribution of full-time undergraduates in private, not-for-profit, 4-year institutions according to institutional aid package, by selected student and institutional characteristics: 1992-93--Continued**

	Institutional aid only	Institutional aid & Pell	Institutional aid & Title IV, no Pell	Institutional aid & other, no Title IV
Local residence				
On campus	18.8	28.5	42.4	10.3
Off campus	17.9	35.1	38.7	8.3
With parents or other relative	16.4	38.4	32.3	13.0
Income and dependency status				
Dependent <sup>1</sup>				
Less than \$20,000	5.1	79.2	13.7	2.0
\$20,000-\$39,999	6.9	44.9	41.7	6.5
\$40,000-\$69,999	21.7	6.1	57.6	14.6
\$70,000 or more	41.4	1.3	41.3	16.0
Independent <sup>2</sup>				
Less than \$5,000	6.7	72.7	13.5	7.2
\$5,000-\$19,999	10.8	61.7	23.9	3.6
\$20,000-\$49,999	11.0	43.2	35.6	10.3
\$50,000 or more	24.5	6.3	64.4	4.8
Undergraduate class level				
1st year-freshman	17.1	30.3	40.7	11.9
2nd year-sophomore	20.4	34.3	35.9	9.4
3rd year-junior	18.0	30.1	42.9	9.0
4th year or more-senior	18.0	32.6	39.9	9.5
Carnegie code				
Research I	16.1	21.8	54.0	8.1
Research II	30.3	18.1	40.5	11.1
Doctoral granting I	23.7	23.4	43.8	9.1
Doctoral granting II	19.7	20.1	52.6	7.5
Comprehensive I	21.6	24.6	43.0	10.8
Comprehensive II	22.5	31.3	36.9	9.3
Liberal arts I	17.9	30.0	43.2	9.0
Liberal arts II	11.5	50.1	26.8	11.7
Religious	19.4	29.4	17.6	33.6
Specialized schools	21.4	33.3	41.9	3.5

--- Sample size is too small for a reliable estimate.

<sup>1</sup> Family income

<sup>2</sup> Student income

NOTE: Percentages may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93), Undergraduate Data Analysis System.

**Table 20--Percentage distribution of full-time undergraduates at public 4-year institutions according to receipt of institutional aid, by selected student and institutional characteristics: 1992-93**

	No institutional aid	Received institutional aid
Total	82.5	17.5
Gender		
Male	83.1	16.9
Female	81.9	18.1
Race-ethnicity of student		
White, non-Hispanic	83.9	16.1
Black, non-Hispanic	76.1	23.9
Hispanic	72.7	27.3
Asian/Pacific Islander	84.7	15.3
American Indian/Alaskan Native	72.9	27.1
Dependency status		
Dependent	82.3	17.7
Independent	83.2	16.8
Marital status		
Not married	82.1	17.9
Married	84.1	15.9
Separated	88.1	11.9
Endowment per full-time equivalent student		
\$500 or less	84.6	15.4
\$501-\$4,500	80.8	19.2
\$4,501 or more	81.2	18.8
Tuition and fees		
Less than \$7,500	82.6	17.4
\$7,500-\$12,499	79.0	21.0
\$12,500 or more	75.4	24.6
Age as of 12/31/92		
23 years or younger	81.8	18.2
24-31	85.4	14.6
32-39	85.0	15.0
40 or more	88.6	11.4
Cumulative grade point average		
Less than 2.00	87.0	13.0
2.00-3.49	83.8	16.2
3.50 or higher	68.4	31.6
Enrollment in 1992		
Less than 1,000	94.0	6.0
1,000-2,499	69.3	30.7
2,500-4,999	80.9	19.1
5,000-7,499	80.1	19.9
7,500-9,999	85.3	14.7
10,000 or more	83.2	16.8

**Table 20--Percentage distribution of full-time undergraduates at public 4-year institutions according to receipt of institutional aid, by selected student and institutional characteristics: 1992-93**  
**--Continued**

	No institutional aid	Received institutional aid
Local residence		
On campus	75.7	24.3
Off campus	84.2	15.8
With parents or other relative	87.0	13.0
Income and dependency status		
Dependent <sup>1</sup>		
Less than \$20,000	73.4	26.6
\$20,000-39,999	77.0	23.0
\$40,000-\$69,999	84.2	15.8
\$70,000 or more	87.2	12.8
Independent <sup>2</sup>		
Less than \$5,000	75.3	24.7
\$5,000-\$19,999	83.8	16.2
\$20,000-\$49,999	88.7	11.3
\$50,000 or more	94.5	5.5
Income quartiles		
0-24	76.2	23.8
25-49	80.8	19.2
50-74	84.7	15.3
75-100	87.7	12.3
Undergraduate class level		
1st year-freshman	81.5	18.5
2nd year-sophomore	83.6	16.4
3rd year-junior	82.5	17.5
4th year or more-senior	82.6	17.4
Carnegie code		
Research I	79.9	20.1
Research II	81.6	18.4
Doctoral granting I	82.7	17.3
Doctoral granting II	83.6	16.4
Comprehensive I	85.0	15.0
Comprehensive II	79.4	20.6
Liberal arts I	75.1	24.9
Liberal arts II	77.1	22.9
Religious	---	---
Specialized schools	81.1	18.9

---Sample size is too small for a reliable estimate.

<sup>1</sup> Family income

<sup>2</sup> Student income

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93), Undergraduate Data Analysis System.

**Table 21--Average institutional aid award to full-time undergraduates at public 4-year institutions according to institutional aid package, by selected student and institutional characteristics: 1992-93**

	Type of institutional aid package				Average institutional aid award
	Institutional aid only	Institutional aid & Pell	Institutional aid & Title IV, no Pell	Institutional aid & other, no Title IV	
Total	\$2,402	\$1,427	\$1,617	\$2,124	\$1,871
Gender					
Male	2,702	1,483	1,663	2,083	2,032
Female	2,091	1,382	1,578	2,155	1,729
Race-ethnicity of student					
White, non-Hispanic	2,323	1,419	1,575	2,084	1,877
Black, non-Hispanic	3,092	1,756	1,822	---	2,062
Hispanic	1,787	797	---	---	1,134
Asian/Pacific Islander	2,915	1,649	---	---	1,971
American Indian/Alaskan Native	---	---	---	---	2,526
Dependency status					
Dependent <sup>1</sup>	2,478	1,514	1,729	2,122	2,011
Independent <sup>2</sup>	1,838	1,290	1,143	2,138	1,411
Marital status					
Not married	2,471	1,466	1,654	2,050	1,888
Married	1,447	1,070	959	---	1,163
Separated	---	---	---	---	---
Endowment per full-time equivalent student					
\$500 or less	2,455	1,332	1,612	2,170	1,850
\$501-\$4,500	2,352	1,824	1,931	2,295	2,122
\$4,501 or more	3,291	2,123	1,338	---	2,459
Tuition and fees					
Less than \$7,500	2,282	1,362	1,414	2,039	1,763
\$7,500-\$12,499	4,846	2,516	2,393	---	3,209
\$12,500 or more	---	---	---	---	4,937
Age as of 12/31/92					
23 years or younger	2,467	1,475	1,692	2,118	1,962
24-31	1,711	1,339	1,223	---	1,424
32-39	---	1,099	---	---	1,120
40 or more	---	1,166	---	---	941
Cumulative grade point average					
Less than 2.00	3,929	1,313	---	---	2,108
2.00-3.49	2,338	1,393	1,742	2,109	1,824
3.50 or higher	2,256	1,496	1,378	2,460	1,976
Enrollment in 1992					
Less than 1,000	---	---	---	---	---
1,000-2,499	2,715	759	1,503	---	1,170
2,500-4,999	1,464	1,561	1,364	---	1,479
5,000-7,499	2,082	1,577	1,166	---	1,636
7,500-9,999	1,845	1,521	2,160	---	1,787
10,000 or more	2,573	1,490	1,668	2,311	2,027



**Table 21--Average institutional aid award to full-time undergraduates at public 4-year institutions according to institutional aid package, by selected student and institutional characteristics: 1992-93**  
**--Continued**

	Type of institutional aid package				Average institutional aid award
	Institutional aid only	Institutional aid & Pell	Institutional aid & Title IV, no Pell	Institutional aid & other, no Title IV	
<b>Local residence</b>					
On campus	2,790	1,851	1,946	2,613	2,285
Off campus	2,399	1,315	1,400	1,804	1,744
With parents or other relative	1,583	924	1,234	1,457	1,262
<b>Income and dependency status</b>					
<b>Dependent<sup>1</sup></b>					
Less than \$20,000	---	1,381	2,108	---	1,525
\$20,000-\$39,999	2,414	1,609	1,353	2,196	1,789
\$40,000-\$69,999	2,757	2,007	1,854	2,132	2,391
\$70,000 or more	2,146	---	1,888	2,133	2,110
<b>Independent<sup>2</sup></b>					
Less than \$5,000	2,233	1,431	---	---	1,561
\$5,000-\$19,999	1,772	1,190	1,039	---	1,378
\$20,000-\$49,999	---	986	1,195	---	1,119
\$50,000 or more	---	---	---	---	---
<b>Income quartiles</b>					
0-24	2,137	1,415	1,694	---	1,563
25-49	2,743	1,467	1,482	2,324	1,894
50-74	2,647	1,368	1,834	1,878	2,248
75-100	2,169	---	1,508	2,085	2,022
<b>Undergraduate class level</b>					
1st year-freshman	2,231	1,505	1,785	1,896	1,844
2nd year-sophomore	2,681	1,535	1,384	2,673	2,104
3rd year-junior	2,701	1,360	1,546	2,115	1,909
4th year or more-senior	2,156	1,373	1,580	1,876	1,725

**Table 21--Average institutional aid award to full-time undergraduates at public 4-year institutions according to institutional aid package, by selected student and institutional characteristics: 1992-93**  
**--Continued**

	Type of institutional aid package				Average institutional aid award
	Institutional aid only	Institutional aid & Pell	Institutional aid & Title IV, no Pell	Institutional aid & other, no Title IV	
Carnegie code					
Research I	2,693	1,706	1,634	2,300	2,123
Research II	2,498	1,739	2,409	2,310	2,232
Doctoral granting I	2,608	1,300	---	---	2,168
Doctoral granting II	2,634	1,521	1,543	---	2,127
Comprehensive I	1,961	1,284	1,263	1,924	1,558
Comprehensive II	2,410	---	---	---	1,869
Liberal arts I	---	---	---	---	---
Liberal arts II	1,719	874	---	---	964
Religious	---	---	---	---	---
Specialized schools	---	916	---	---	1,146

--- Sample size is too small for a reliable estimate.

<sup>1</sup> Family income

<sup>2</sup> Student income

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93), Undergraduate Data Analysis System.

**Table 22--Percentage distribution of full-time undergraduates at public 4-year institutions according to institutional aid package, by selected student and institutional characteristics: 1992-93**

	Institutional aid only	Institutional aid & Pell	Institutional aid & Title IV, no Pell	Institutional aid & other, no Title IV
Total	34.8	37.7	17.3	10.3
Gender				
Male	37.9	35.6	17.1	9.4
Female	32.1	39.5	17.4	11.1
Race-ethnicity of student				
White, non-Hispanic	39.5	31.0	18.6	10.9
Black, non-Hispanic	20.4	55.7	13.8	10.2
Hispanic	18.2	65.2	9.5	7.2
Asian/Pacific Islander	28.6	49.6	15.7	6.1
American Indian/ Alaskan Native	15.3	61.4	13.6	9.8
Dependency status				
Dependent	40.0	29.9	18.2	11.8
Independent	17.7	63.0	14.1	5.2
Marital status				
Not married	32.7	39.0	18.1	10.2
Married	23.8	52.4	16.1	7.8
Separated	---	---	---	---
Endowment per full-time equivalent student				
\$500 or less	34.9	37.5	18.9	8.6
\$501-\$4,500	40.4	28.0	17.5	14.1
\$4,501 or more	43.1	31.7	17.7	7.5
Tuition and fees				
Less than \$7,500	35.3	38.4	16.2	10.0
\$7,500-\$12,499	30.3	25.7	29.0	15.0
\$12,500 or more	12.1	29.2	47.9	10.8
Age as of 12/31/92				
23 years or younger	38.0	33.4	17.3	11.3
24-31	14.7	62.8	17.6	5.0
32-39	15.4	67.6	13.0	4.0
40 or more	20.9	56.7	20.7	1.8
Cumulative grade point average				
Less than 2.00	29.6	43.5	17.1	9.8
2.00-3.49	33.2	41.5	17.5	7.8
3.50 or higher	42.8	24.7	14.7	17.9
Enrollment in 1992				
Less than 1,000	---	---	---	---
1,000-2,499	15.7	69.6	12.6	2.1
2,500-4,999	25.1	49.2	17.4	8.3
5,000-7,499	28.7	40.5	18.3	12.5
7,500-9,999	40.6	38.3	15.2	5.9
10,000 or more	38.0	32.8	17.8	11.5

**Table 22--Percentage distribution of full-time undergraduates at public 4-year institutions according to institutional aid package, by selected student and institutional characteristics: 1992-93**  
**--Continued**

	Institutional aid only	Institutional aid & Pell	Institutional aid & Title IV, no Pell	Institutional aid & other, no Title IV
Local residence				
On campus	33.8	33.8	19.5	12.9
Off campus	34.5	39.4	18.0	8.0
With parents or other relative	37.9	41.7	9.5	10.9
Income and dependency status				
Dependent <sup>1</sup>				
Less than \$20,000	7.0	82.7	9.3	0.9
\$20,000-\$39,999	23.2	47.1	21.5	8.2
\$40,000-\$69,999	53.5	4.9	24.7	17.0
\$70,000 or more	66.9	0.8	12.8	19.5
Independent <sup>2</sup>				
Less than \$5,000	15.9	77.6	4.7	1.8
\$5,000-\$19,999	17.4	62.3	14.5	5.8
\$20,000-\$49,999	21.2	29.5	37.5	11.8
\$50,000 or more	---	---	---	---
Income quartiles				
0-24	13.1	75.7	8.2	3.0
25-49	26.0	36.0	27.4	10.6
50-74	54.7	8.0	22.9	14.4
75-100	60.4	2.4	17.8	19.4
Undergraduate class level				
1st year-freshman	32.6	35.2	20.5	11.7
2nd year-sophomore	38.2	33.5	14.8	13.5
3rd year-junior	33.5	41.3	15.9	9.3
4th year or more-senior	35.4	39.7	17.0	8.0

**Table 22--Percentage distribution of full-time undergraduates at public 4-year institutions according to institutional aid package, by selected student and institutional characteristics: 1992-93**  
**--Continued**

	Institutional aid only	Institutional aid & Pell	Institutional aid & Title IV, no Pell	Institutional aid & other, no Title IV
Carnegie code				
Research I	36.0	32.8	18.5	12.7
Research II	37.2	29.6	22.2	11.0
Doctoral granting I	53.4	21.5	13.3	11.9
Doctoral granting II	42.4	36.5	12.0	9.0
Comprehensive I	32.9	41.0	17.5	8.6
Comprehensive II	36.9	28.4	17.7	17.0
Liberal arts I	---	---	---	---
Liberal arts II	11.8	74.4	9.0	4.7
Religious	---	---	---	---
Specialized schools	26.1	41.1	22.5	10.3

--- Sample size is too small for a reliable estimate.

- <sup>1</sup> Family income
- <sup>2</sup> Student income

NOTE: Percentages may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93), Undergraduate Data Analysis System.

## Appendix A: Glossary

This glossary is arranged in alphabetical order. The variables were taken directly from the NCES NPSAS: 93 Undergraduate Data Analysis System (DAS). This is an NCES software application that generates tables from the NPSAS: 93 data. A description of the DAS software can be found in appendix B. The labels in parentheses correspond to the names of the variables in the DAS.

### *Age as of 12/31/92 (AGE)*

23 years or younger	Student was 23 years old or younger as of 12/31/92.
24-31	Student was between 24 and 31 years old as of 12/31/92.
32-39	Student was between 32 and 39 years old as of 12/31/92.
40 or more	Student was 40 years old or older as of 12/31/92.

### *Attendance, intensity-fall 1992 (ATTEND)*

Student's attendance status, as defined by the institution, as of September 1992.

Full-time  
Part-time, greater than or equal to half time  
Part-time, less than half time  
Part-time, unknown  
Not enrolled

### *Carnegie code (CARNEGIE)*

Carnegie classification code for student's institution.

Research Universities I	These institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate, and give high priority to research. They award 50 or more doctoral degrees each year. In addition, they receive annually \$40 million or more in federal support.
Research Universities II	These institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate, and give high priority to research. They award 50 or more doctoral degrees each year and receive between \$15.5 and \$40 million in federal support annually.
Doctoral Universities I	These institutions offer a full range of baccalaureate programs and are

	committed to graduate education through the doctorate. They award at least 40 doctoral degrees in 5 or more disciplines annually.
Doctoral Universities II	These institutions offer a full range of baccalaureate programs and are committed to graduate education through the doctorate. They award at least 10 doctoral degrees in 3 or more disciplines annually, or 20 or more doctoral degrees in one or more disciplines.
Comprehensive I	These institutions offer a full range of baccalaureate programs and are committed to graduate education through the master's degree. They award 40 or more master's degrees annually in three or more disciplines.
Comprehensive II	These institutions offer a full range of baccalaureate programs and are committed to graduate education through the master's degree. They award 20 or more master's degrees annually in one or more disciplines.
Liberal Arts Colleges I	These institutions are primarily undergraduate schools with major emphasis on baccalaureate degree programs. They award 40 percent or more of their baccalaureate degrees in liberal arts fields and are restrictive in admissions.
Liberal Arts Colleges II	These institutions are primarily undergraduate schools with major emphasis on baccalaureate degree programs. They award less than 40 percent of their baccalaureate degrees in liberal arts fields or are less restrictive in admissions.
2-Year Colleges	These institutions offer associate of arts certificate or degree programs, and, with few exceptions, offer no baccalaureate degrees.
Professional and Specialized Institutions	These institutions offer a range of degrees from bachelor's to doctorate. At least 50 percent of the degrees awarded by these institutions are in a single discipline. Specialized institutions include: theological seminaries, Bible colleges and other institutions offering degrees in religion; medical schools and medical centers; other separate health profession schools; schools of engineering and technology; schools of business and management; schools of art, music, and design; schools of law; teachers' colleges; other specialized institutions; and tribal colleges and universities.

***Cumulative grade point average (GPA)***

Less than 2.00	Student had lower than a C average.
2.00-3.49	Student had a C to B+ average.
3.50 or higher	Student had a B+ to A average.

***Dependency status (DEPEND)***

Dependent      Students were financially dependent if they did not meet any of the criteria for independence (see below).

Independent    A student was considered independent by meeting one of the following criteria:

- Twenty-four or older as of 12/31/92.
- Was a veteran.
- Was an orphan or ward of the court.
- Had legal dependents, other than spouse.
- Was married, and not claimed by parents on 1992 tax returns.
- Was a graduate student and not claimed as a dependent by parents on 1992 tax return.
- Was a single undergraduate, not claimed as a dependent by parents on either 1991 or 1992 tax returns, and was self-sufficient for two years prior to receiving any federal aid.

***Endowment/FTE Categories (ENDCAT)***

The ratio of institutional endowment amount to full-time enrollment, based on Funds-functioning-as-endowment-balance from Part I of the 1992-93 IPEDS Finance Survey and Full-time equivalent student enrollment (FTE) calculated from the 1993 IPEDS Enrollment data. Endowment/FTE was calculated on an institutional basis for institutions which responded to both IPEDS surveys.

\$500 or less	Endowment/FTE if \$500 or less.
\$501 - \$4,500	Endowment/FTE is between \$501 and \$4,500.
\$4,501 or more	Endowment/FTE is \$4,501 or more.

***Enrollment in 1992 (ENROLL92)***

The number of students enrolled at the institution in 1992.



***Gender of student (GENDER)***

Male  
Female

***Income group (PCTALL)***

Family income percentile rank. Calculated separately for dependent and independent students, each ranking compares the student only to other students of the same dependency status. Uses parents' income if student is dependent, student's own income if student is independent.

***Income and dependency level (INCOME)***

The source of income for dependent students is their parents or guardians, whereas the source of independent students' income refers to their own assets or earnings including those of their spouse if they are married.

Dependent student:

Less than \$10,000	Income of less than \$10,000 in 1991.
\$10,000 to 19,999	Income between \$10,000 and \$19,999 in 1991.
\$20,000 to 39,999	Income between \$20,000 and \$39,999 in 1991.
\$40,000 to 69,999	Income between \$40,000 and \$69,999 in 1991.
\$70,000 or more	Income of \$70,000 or higher in 1991.

Independent student:

Less than \$5,000	Income of less than \$5,000 in 1991.
\$5,000 to 19,999	Income between \$5,000 and \$19,999 in 1991.
\$20,000 to 49,999	Income between \$20,000 and \$49,999 in 1991.
\$50,000 or more	Income of \$50,000 or higher in 1991.

***Institutional aid, total (INSTAMT)***

For those who received institutional aid, the total dollar amount of the institutional aid received.

***Institutional type-level and control (SECTOR\_B)***

Institutional type by level and control, combined. Institutional type concerns the institution's highest offering (length of program and type of certificate, degree or award), and control concerns the source of revenue and control of operations.

- Public, less-than-2-year
- Public, 2-year
- Public, 4-year, non-doctorate-granting
- Public, 4-year, doctorate-granting
- Private, not-for-profit, less-than-4-year
- Private, not-for-profit, 4-year, non-doctorate-granting
- Private, not-for-profit, 4-year, doctorate-granting
- Private, for-profit, less-than-2-year
- Private, for-profit, 2-years-or-more

***Local residence (LOCRES2)***

- |                                |   |
|--------------------------------|---|
| On campus                      | Institution-owned living quarters for students. These were typically residence halls or other facilities. |
| Off campus                     | Student lived off-campus in privately owned housing but not with his or her parents or other relatives.   |
| With parents or other relative | Student lived at home with parents or other relative.   |

***Marital status (SMARITAL)***

Student marital status as of NPSAS interview date.

- Not married
- Married
- Separated

***Number of dependents (RDEPENDS)***

Number of dependents student has. Refers to student's own family, rather than parent's family, regardless of whether student is dependent or independent. Does not include spouse or student.

***Race/ethnicity of student (RACE)***

American Indian/ Alaskan Native	A person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition.
Asian/Pacific Islander	A person having origins in any of the Asian or Pacific Islander original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or Pacific Islands. This includes people from China, Japan, Korea, the Philippine Islands, Samoa, India and Vietnam.
Black, non-Hispanic	A person having origins in any of the black racial groups of Africa, and not of Hispanic origin.
Hispanic	A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
White, non-Hispanic	A person having origins in any of the original peoples of Europe, North Africa, or the Middle East (except those of Hispanic origin).

***Tuition and fees-amount for terms attended (TUITION)***

Actual amount of tuition charged the student for the terms attended, as reported by the institution. Student report was used if institutional data were not available or if the student attended more than one institution during the academic year.

***Type of institutional aid package (INSTPACK)***

Identification of institutional and federal aid combinations received by students who were awarded institutional aid.

Institutional aid only:	Student received institutional aid only.
Institutional and Pell:	Student received institutional aid and Pell grant.
Institutional and Title IV:	Student received institutional aid and Title IV aid, but no Pell grant.
Institutional and other :	Student received institutional aid and other aid, but no Title IV aid.

***Undergraduate class level (YEAR\_R)***

Student's year in college or university:

1st year-freshman

2nd year-sophomore

3rd year-junior

4th year or more-senior

## Appendix B: Technical Notes and Methodology

### The 1992-93 National Postsecondary Student Aid Study

The need for a nationally representative database on postsecondary student financial aid prompted the U.S. Department of Education to conduct the *1986-87 National Postsecondary Student Aid Study* (NPSAS: 87). The study was updated in 1989-90 (NPSAS:90) and 1992-93 (NPSAS: 93). The NPSAS sample was designed to include students enrolled in all types of postsecondary education. It included students enrolled in public institutions, private institutions, and private, for-profit institutions. The sample included students at 4-year and 2-year institutions, as well as students enrolled in occupationally specific programs that lasted for less than 2 years. United States service academies were not included in the institutional sample because of their unique funding and tuition base, and certain other types of institutions were also excluded.<sup>30</sup>

NPSAS: 93 included a stratified sample of approximately 66,000 eligible students (about 52,000 of whom were undergraduates) from about 1,100 institutions. Students were included in the sample if they:

- attended a NPSAS-eligible institution;
- were enrolled between July 1, 1992 and June 30, 1993;
- were enrolled in one or more courses or programs including courses for credit, a degree or formal award program of at least 3 months' duration;
- were enrolled in an occupationally or vocationally specific program at least 3 months long.

Regardless of their postsecondary status, students who were also enrolled in high school were excluded.

The 1992-93 NPSAS survey sample, while representative and statistically accurate, was not a simple random sample. Instead, the survey sample was selected using a more complex three-step procedure with stratified samples and differential probabilities of selection at each level. First, postsecondary institutions were initially selected within geographical strata. Once institutions were organized by zip code and state, they were further stratified by control (i.e., public; private, not-for-profit; or private, for-profit) and offering (less-than-2-year, 2- to 3-year, 4-year non-doctorate-granting, and 4-year doctorate-granting). Sampling rates for students enrolled at different institutions and levels (undergraduate or other) varied, resulting in better data for policy purposes, but at a cost to statistical efficiency.

For each of the students included in the NPSAS sample, there were up to three sources of data. First, institutional registration and student financial aid records were extracted. Second, a Computer Assisted Telephone Interview (CATI) designed for each student was conducted. Finally, a CATI designed for the parents or guardians of a sub-sample of students was conducted.

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<sup>30</sup> Other excluded institutions were those offering only avocational, recreational, or remedial courses; those offering only in-house business courses; those offering only programs of less than 3 months' duration; and those offering only distance education courses.

Data from these three sources were synthesized into a single system with an overall response rate of about 85 percent.

For more information on the NPSAS survey, consult *Methodology Report for the 1993 National Postsecondary Student Aid Study* (Longitudinal Studies Branch, Postsecondary Education Statistics Division, Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, NCES 92-080, June 1992).

### **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 non-sampling errors. Sampling errors may occur because observations are made only on samples of students, not on entire populations. Non-sampling errors occur not only in sample surveys but also in complete censuses of entire populations.

Non-sampling errors can be attributed to a number of sources: inability to obtain complete information about all students in all institutions in the sample (some students or institutions refused to participate, or students participated but answered only certain items); ambiguous definitions; differences in interpreting questions; inability or unwillingness to give correct information; mistakes in recording or coding data; and other errors of collecting, processing, sampling, and estimating missing data.

### **Data Analysis System**

Most of the estimates presented in this report were produced using the NPSAS: 93 Data Analysis System (DAS) for undergraduates. The DAS software makes it possible for users to specify and generate their own tables from the NPSAS data. With the DAS, users can recreate or expand upon the tables presented in this report. In addition to the table estimates, the DAS calculates proper standard errors<sup>31</sup> and weighted sample sizes for these estimates. For example, table B.1 presents the standard errors that correspond to table 19 in the text. If the number of valid cases is too small to produce an estimate, the DAS prints the message "low-N" instead of the estimate.

In addition to tables, the DAS will also produce a correlation matrix of selected variables to be used for linear regression models. Also produced with the correlation matrix are the design effects (DEFT) for all the variables identified in the matrix. Since statistical procedures generally compute regression coefficients based on simple random sample assumptions, the standard errors must be adjusted with the design effects to take into account the NPSAS stratified sampling method. (See discussion under "Statistical Procedures" below for the adjustment procedure.)

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<sup>31</sup> The NPSAS: 93 sample is not a simple random sample, and therefore, simple random sample techniques for estimating sampling errors cannot be applied to these data. The NPSAS: 93 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.

For more information about the NPSAS: 93 Data Analysis System, contact:

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## Statistical Procedures

Two types of statistical procedures were employed in this report: testing differences between means, and adjustment of means after controlling for covariation among a group of variables. Each procedure is described below.

### Differences Between Means

The descriptive comparisons were tested in this report using Student's *t* statistics. Differences between estimates are tested against the probability of a Type I error, or significance level. The significance levels were determined by calculating 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, for comparisons using these tables' estimates, with the following formula:

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

where  $E_1$  and  $E_2$  are the estimates to be compared and  $se_1$  and  $se_2$  are their corresponding standard errors. Note that this formula is valid only for independent estimates. When the estimates were not independent (for example, when comparing the percentages across a percentage distribution; in this report, across a row in a table), a covariance term was added to the denominator of the *t*-test formula.

There are hazards in reporting statistical tests for each comparison. First, comparisons based on large *t* statistics 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 students in the specific categories used for comparison. Hence, a small difference compared across a large number of students would produce a large *t* statistic.

A second hazard in reporting statistical tests for each comparison is making multiple comparisons among categories of an independent variable. For example, when making paired comparisons among different levels of income, the probability of a Type I error for these

comparisons taken as a group is larger than the probability for a single comparison. When more than one difference between groups of related characteristics or "families" is tested for statistical significance, one must apply a standard that assures a level of significance for all of those comparisons taken together.

Comparisons were made in this report only when  $p \leq .05/k$  for a particular pair-wise comparison, where that comparison was one of  $k$  tests within a family. This guarantees both that the individual comparison would have  $p \leq .05$  and that when  $k$  comparisons were made within a family of possible tests, the significance level of the comparisons would sum to  $p \leq .05$ .<sup>32</sup>

For example, in a comparison between males and females of average aid received only one comparison is possible (males vs. females). In this family,  $k = 1$ , and the comparison can be evaluated with Student's  $t$  test. When students are divided into five racial-ethnic groups and all possible comparisons are made, then  $k = 10$  and the significance level of each test must be  $p \leq .05/10$ , or  $.005$ . The formula for calculating family size ( $k$ ) is as follows:

$$k = \frac{j \times (j - 1)}{2} \quad (2)$$

where  $j$  is the number of categories for the variable being tested. In the case of race-ethnicity, there are five racial-ethnic groups (American Indian, Asian, black, Hispanic, and white), so substituting 5 for  $j$  in equation 2 yields:

$$k = \frac{5 \times (5-1)}{2} = 10 \quad (3)$$

### Adjustment of Means

Tabular results are limited by sample size when attempting to control for additional factors that may account for the variation observed between two variables. For example, when examining the percentages of those who completed a degree across income groups, it is impossible to know to what extent the observed variation is due to low-income status differences. It is also possible to know to what extent the observed variation is due to differences in other factors related to income such as type of institution attended, parents' education, and so on. However, if a table were produced showing income within type of institution, within parent's education, for example, the cell sizes would be too small to identify the patterns. When the sample size becomes too small to support controls for another level of variation, one must use other methods to take such variation into account.

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<sup>32</sup> The standard that  $p \leq .05/k$  for each comparison is more stringent than the criterion that the significance level of the comparisons should sum to  $p \leq .05$ . For tables showing the  $t$  statistic required to ensure that  $p \leq .05/k$  for a particular family size and degrees of freedom, see Olive Jean Dunn, "Multiple Comparisons Among Means," *Journal of the American Statistical Association*. 56: 52-64.



To overcome this difficulty, multiple linear regression was used to obtain means that were adjusted for covariation among a list of control variables.<sup>33</sup> The dependent variable, receiving institutional aid, was regressed on a set of descriptive variables such as gender, race-ethnicity, etc. Substituting ones or zeros for the subgroup characteristic(s) of interest and the mean proportions for the other variables results in an estimate of the adjusted probability of the outcome for a given individual, holding all other variables constant. Then, the probability for the individual is multiplied by 100 to obtain the adjusted percentage of the specified subgroup experiencing the outcome of interest.<sup>34</sup> For example, consider a hypothetical case in which two variables, age and gender, are used to describe an outcome, Y (such as completing a degree). The age and gender variables are recoded as a dummy variable representing age and one representing gender:

Age	A
24 years or older	1
Under 24 years old	0
Gender	G
Female	1
Male	0

The following regression equation is then estimated from the correlation matrix output from the DAS:

$$Y = a + \beta_1 A + \beta_2 G \quad (4)$$

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<sup>33</sup> For more information about regression, see M. S. Lewis-Beck. *Applied Regression*, vol. 22 (Beverly Hills, CA: Sage Publications, Inc., 1980) and W. D. Berry and S. Feldman, *Multiple Regression in Practice*, vol. 50 (Beverly Hills, CA: Sage Publications, Inc., 1987).

<sup>34</sup> For more information about the use of linear regression for a binary outcome, see J. H. Aldrich and F. D. Nelson, *Linear Probability, Logit and Probit Models*, vol. 45 (Beverly Hills, CA: Sage Publications, Inc., 1984).

To estimate the adjusted mean for any subgroup evaluated at the mean of all other variables, one substitutes the appropriate values for that subgroup's dummy variables (1 or 0) and the mean for the dummy variables representing all other subgroups. For example, suppose we had a case where Y was being described by age (A) and gender (G), coded as shown above, and the means for A and G are:

Variable	Mean
A	0.355
G	0.521

Suppose the regression equation results in:

$$Y = 0.15 + (0.17)A + (0.01)G \quad (5)$$

To estimate the adjusted value for older students, one substitutes the appropriate parameter values into equation 5.

Variable	Parameter	Value
a	0.15	--
A	0.17	1.000
G	0.01	0.521

This results in:

$$Y = 0.15 + (0.17)(1) + (0.01)(0.521) = 0.325 \quad (6)$$

In this case the adjusted mean for older students is 0.325 and represents the expected outcome for older students who look like the average student across the other variables (in this example, gender). In other words, the adjusted percentage of older students who completed a degree is 32.5 percent (0.325 x 100 for conversion to a percentage).

It is relatively straightforward to produce a multivariate model using NPSAS: 93 data, since one of the output options of the DAS is a correlation matrix, computed using pair-wise missing values.<sup>35</sup> This matrix can be used by most commercial regression packages as the input data to produce least-squares regression estimates of the parameters. That was the general approach used for this report, with two additional adjustments described below to incorporate the complex sample design into the statistical significance tests of the parameter estimates.

Most commercial regression packages assume simple random sampling when computing standard errors of parameter estimates. Because of the complex sampling design used for NPSAS:

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<sup>35</sup> Although the DAS simplifies the process of making regression models, it also limits the range of models. Analysts who wish to use other than pairwise treatment of missing values or to estimate probit/logit models can apply for a restricted data license from NCES.

93, this assumption is incorrect. A better approximation of their standard errors is to multiply each standard error by the average design effect of the dependent variable (DEFT),<sup>36</sup> where the DEFT is the ratio of the true standard error to the standard error computed under the assumption of simple random sampling. It is calculated by the DAS and produced with the correlation matrix.

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<sup>36</sup> The adjustment procedure and its limitations are described in Skinner, C. J., Holt, D., and Smith, T.M.F., eds. *Analysis of Complex Surveys*. (New York: John Wiley & Sons, 1989).

**Table B.1--Standard errors for Table 19: Percentage distribution of full-time undergraduates in private, not-for-profit, 4-year institutions according to institutional aid package, by selected student and institutional characteristics: 1992-93**

	Institutional aid only	Institutional aid & Pell	Institutional aid & Title IV, no Pell	Institutional aid & other, no Title IV
Total	1.0	1.4	1.5	0.9
Gender of student				
Male	1.3	1.8	2.0	1.1
Female	1.3	1.7	1.5	1.1
Race/ethnicity of student				
White, non-Hispanic	1.2	1.4	1.5	0.9
Black, non-Hispanic	2.0	5.5	4.7	2.4
Hispanic	2.5	4.9	4.8	2.7
Asian/Pacific Islander	4.4	4.3	5.9	3.2
American Indian/Alaskan Native	---	---	---	---
Dependency status				
Dependent	1.2	1.3	1.6	0.9
Independent	1.3	2.3	2.3	1.8
Marital status				
Not married	1.1	1.5	1.6	1.0
Married	2.2	3.3	3.6	2.6
Separated	---	---	---	---
Endowment per full-time equivalent student				
\$500 or less	4.6	6.8	4.6	1.8
\$501-\$4,500	1.7	3.1	2.3	1.3
\$4,500 or more	1.4	1.7	2.2	1.3
Tuition and fees (amount for terms attended)				
Less than \$7,500	1.9	3.1	2.1	2.1
\$7,500-\$12,499	1.5	1.8	1.6	1.1
\$12,500 or more	1.6	1.7	1.9	1.1
Age as of 12/31/92				
Less than 24	1.1	1.3	1.6	1.0
24-31	2.4	4.1	3.6	1.9
32-39	2.2	4.9	4.5	2.4
40 or more	5.6	6.3	5.0	2.0
Cumulative grade point average				
Less than 2.00	3.0	4.2	3.7	2.4
2.00-3.49	1.0	1.4	1.5	0.8
3.50 or higher	2.0	1.8	2.1	1.9

**Table B.1--Standard errors for Table 19: Percentage distribution of full-time undergraduates in private, not-for-profit, 4-year institutions according to institutional aid package, by selected student and institutional characteristics: 1992-93--Continued**

	Institutional aid only	Institutional aid & Pell	Institutional aid & Title IV, no Pell	Institutional aid & other, no Title IV
Enrollment in 1992				
Less than 1,000	3.0	3.9	2.9	3.2
1,000-2,499	1.5	2.8	2.2	1.3
2,500-4,999	2.5	2.1	2.8	1.3
5,000-7,499	2.4	2.6	3.0	2.7
7,500-9,999	4.9	4.1	5.3	5.3
10,000 or more	2.9	1.6	2.9	1.2
Local residence				
On campus	1.3	1.7	1.7	1.1
Off campus	1.5	1.8	2.3	1.3
With parents or other relative	1.9	2.5	2.2	1.9
Income and dependency status				
Dependent <sup>1</sup>				
Less than \$20,000	1.2	2.3	1.9	0.8
\$20,000-\$39,999	1.1	2.3	2.3	1.1
\$40,000-\$69,999	1.9	1.0	2.1	1.7
\$70,000 or more	3.0	0.4	2.9	1.9
Independent <sup>2</sup>				
Less than \$5,000	1.6	4.2	3.0	3.5
\$5,000-\$19,999	2.2	3.0	3.0	1.7
\$20,000-\$49,999	3.0	4.9	4.6	3.7
\$50,000 or more	7.3	4.6	8.6	3.9
Undergraduate class level				
1st year-freshman	1.5	2.5	2.2	1.3
2nd year-sophomore	2.0	2.3	2.4	1.7
3rd year-junior	1.6	1.7	2.1	1.4
4th year or more-senior	1.2	1.6	1.8	1.0

**Table B.1--Standard errors for Table 19: Percentage distribution of full-time undergraduates in private, not-for-profit, 4-year institutions according to institutional aid package, by selected student and institutional characteristics: 1992-93--Continued**

	Institutional aid only	Institutional aid & Pell	Institutional aid & Title IV, no Pell	Institutional aid & other, no Title IV
Carnegie code				
Research I	1.7	1.7	3.7	3.1
Research II	6.4	3.1	6.0	2.4
Doctoral Granting I	4.4	1.7	3.8	1.9
Doctoral Granting II	5.0	3.0	5.0	2.6
Comprehensive I	1.9	2.1	2.4	1.6
Comprehensive II	3.9	3.4	4.0	3.1
Liberal Arts I	2.4	2.6	2.9	1.4
Liberal Arts II	1.6	3.4	2.5	1.9
Religious	8.8	2.2	1.2	9.3
Specialized	7.6	9.0	7.5	1.7

---Sample size is too small for a reliable estimate.

<sup>1</sup> Family income

<sup>2</sup> Student income

SOURCE: U.S. Department of Education, National Center for Education Statistics. 1992-93 National Postsecondary Student Aid Study (NPSAS: 93). Undergraduate Data Analysis System.

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