

Appendix K

Imputations

Following data imputations described here, variables were reviewed and revised, if necessary, to adjust for inconsistencies with other known data. Therefore, the “after imputation” distributions may differ from the final distributions in the restricted-use data file.

As described in Section 5.4, data for 23 variables were imputed statistically, mostly using the weighted hot deck procedure. This appendix shows the imputation classes and sorting variables for all of the variables imputed by the hot deck approach, as well as the other imputation procedures that were used. As presented in table 5.4, the variables are listed in the order in which the imputations were performed.

- (1) **Variable Name:** AGE
Description: Student age as of December 31, 1999
Data Used in Imputations: Study respondents (61,767)
Number Missing: 343 (0.56%)
Imputation Classes: A cross-classification of
 Student type¹
 Undergraduate/graduate level
 Dependency status
 Student marital status
 Fall attendance status
- (2) **Variable Name:** GENDER
Description: Student gender
Data Used in Imputations: Study respondents (61,767)
Number Missing: 959 (1.55%). 817 (1.32%) imputed programmatically, matching first names to those of study respondents with non-missing gender; 62 (0.10%) imputed by means of name/gender recognition; 80 (0.13%) imputed by means of hot deck.
Imputation Classes: Race² (simplified)
Sorting Variables:
 Hispanic indicator
 Student type
- (3) **Variable Name:** CITIZEN2
Description: Student citizenship
Data Used in Imputations: Study respondents (61,767)
Number Missing: 2,408 (3.90%)
Imputation Classes: A cross-classification of
 Federal student aid receipt status
 Student type
Sorting Variables:
 Institution control
 Institution level of instruction
 Race (simplified)

¹ A student was classified as either an undergraduate, graduate, or first-professional student

² Study respondents were placed in one of five categories, one category for each of the five races. Whenever a study respondent's response was some multiple configuration of races, the most "minority" race (the one race within the configuration with the fewest respondents) was assigned. This hierarchy, from most "minority" to least, was American Indian, Pacific Islander, Asian, black, and white.

- (4) **Variable Name:** HISPANIC
Description: Indicator of Hispanic ethnicity
Data Used in Imputations: Study respondents (61,767)
Number Missing: 3,087 (5.00%)
Imputation Classes: A cross-classification of
OBE region³
Federal student aid receipt status
Percent of Hispanics at institution (categorical)
Sorting Variable:
First name
- (5a) **Variable Name:** RACE
Description: An intermediary variable allowing for a full racial pattern of all possible multiple-listings of races (31 possible values). This variable was formed from the variables that were individual race indicators: R2WHITE, R2BLACK, R2ASIAN, R2ISLAND, and R2INDIAN. After RACE was imputed, the variables R2WHITE, R2BLACK, R2ASIAN, R2ISLAND, and R2INDIAN were logically assigned from the values of RACE.
Data Used in Imputations: Study respondents (61,767)
Number Missing: 4,968 (8.04%).
Imputation Procedure:
These missing values were those for study respondents who had given no positive response for any of the five racial indicators. The assumption here is that respondents who marked at least one racial category with a positive indication have given a sufficiently complete self-profile even if other racial categories were left missing. Details for each of the 5 racial indicator variables are described below.
Imputation classes: A cross-classification of
Student type
Percent of blacks at institution (categorical)
Percent of Hispanics at institution (categorical)
Percent of Asian/Pacific islanders at institution (categorical)
Percent of American Indians at institution (categorical)
Sorting Variables:
Hispanic indicator
Percent of whites at institution (continuous)
OBE region
- (5b) **Variable Name:** R2WHITE
Description: White race indicator
Data Used in Imputations: Study respondents (61,767)
Number Missing: 5,005 (8.10%)
Imputation Procedure: Logically imputed from the value of RACE: 1 if RACE had value of white; 0 otherwise
- (5c) **Variable Name:** R2BLACK
Description: Black race indicator
Data Used in Imputations: Study respondents (61,767)
Number Missing: 5,147 (8.33%)
Imputation Procedure: Logically imputed from the value of RACE: 1 if RACE had value of black; 0 otherwise
- (5d) **Variable Name:** R2ASIAN

³ Alaska and Hawaii were placed in the region for outlying areas, along with Puerto Rico

	Description:	Asian race indicator
	Data Used in Imputations:	Study respondents (61,767)
	Number Missing:	5,178 (8.38%)
	Imputation Procedure:	Logically imputed from the value of RACE: 1 if RACE had value of Asian; 0 otherwise
(5e)	Variable Name:	R2ISLAND
	Description:	Pacific Islander race indicator
	Data Used in Imputations:	Study respondents (61,767)
	Number Missing:	5,178 (8.38%)
	Imputation Procedure:	Logically imputed from the value of RACE: 1 if RACE had value of Pacific Islander; 0 otherwise
(5f)	Variable Name:	R2INDIAN
	Description:	American Indian race indicator
	Data Used in Imputations:	Study respondents (61,767)
	Number Missing:	5,172 (8.37%)
	Imputation Procedure:	Logically imputed from the value of RACE: 1 if RACE had value of American Indian; 0 otherwise
(6)	Variable Name:	SMARITAL
	Description:	Student marital status
	Data Used in Imputations:	Study respondents (61,767)
	Number Missing:	5,032 (8.15%)
	Imputation Classes:	10 CHAID segments defined by cross-classifications of CPS record indicator Fall enrollment status Student type Age (categorical) ⁴
	Sorting Variable:	Age
(7)	Variable Name:	ANYDEP
	Description:	Dependents indicator
	Data Used in Imputations:	Study respondents (61,767)
	Number Missing:	9,179 (14.86%)
	Imputation Classes:	8 CHAID segments defined by cross-classifications of Black race indicator Gender Fall enrollment status Student marital status Hispanic indicator

⁴ Three broad age categories were defined: 1) less than or equal to 23 years; 2) between 24 and 29 years, inclusive; and 3) greater than 29 years of age

- (8a) **Variable Name:** DEPEND
Description: Dependency status indicator (2 levels)
Data Used in Imputations: Study respondents (61,767)
Number Missing: 3,969 (6.43%)
Imputation Procedure:
 Missing values were imputed based on age, student marital status, and whether or not the respondent has any dependents. A person was considered an “Independent” if he/she had any dependents (ANYDEP=1), or if he/she was at least 24 years of age (AGE ge 24), or if he/she was married or separated (SMARITAL is (2 or 3)), or if he/she was a graduate or first-professional student (STUTYPE5 is (2 or 3)). Otherwise, the student was considered to be a “Dependent.”
- (8b) **Variable Name:** DEPEND2
Description: Dependency status indicator (3 levels)
Data Used in Imputations: Study respondents (61,767)
Number Missing: 9,447 (15.29%)
Imputation Procedure:
 Missing values were imputed based on the values of the first dependency status indicator (DEPEND) and the indicator of any dependents (ANYDEP). If a study respondent has already been identified as independent by DEPEND, and he/she has dependents, then DEPEND2 will indicate whether or not he had any dependents.
- (9) **Variable Name:** ATTEND
Description: Fall attendance status
Data Used in Imputations: Study respondents for whom FALL >0 (51,232)
Number Missing: 691 (1.35%)
Imputation Classes: A cross-classification of
 Federal aid receipt indicator
 Student marital status
Sorting Variable:
 Age
- (10) **Variable Name:** HSDEG
Description: Indicator and type of high school degree
Data Used in Imputations: Study respondents (61,767)
Number Missing: 5,772 (9.34%)
Imputation Classes: A cross-classification of
 Citizenship
 Student type
 Institution level of instruction
Sorting Variables:
 Institution highest level of offering
 Age
 Race (simplified)

- (11) **Variable Name:** LOCALRES
Description: Local residence
Data Used in Imputations: Study respondents (61,767)
Number Missing: 10,704 (17.33%)
Imputation Classes: 8 CHAID segments defined from cross-classifications of
Dependency status indicator (2 levels)
Hispanic indicator
Fall attendance status
CPS record indicator
Dependents indicator
Citizenship
Student marital status
Sorting Variable:
Age
- (12) **Variable Name:** NDEPEND
Description: Number of dependents
Data Used in Imputations: Study respondents (61,767)
Number Missing: 11,328 (18.34%) Of study respondents with dependents (ANYDEP=1), there were 4,673 missing (29.98% of 15,586). Of study respondents who reported no dependents (ANYDEP=0), there were 6,655 missing NDEPEND values (14.41% of 46,181).
Imputation Procedure:
Hot deck imputation was implemented for all missing NDEPEND values for which ANYDEP=1. In this group, there were 853 respondents with an NDEPEND value of zero. Since this NDEPEND value was inconsistent with the ANYDEP value, it made these respondents inappropriate donors. Thus, they were eliminated from the donor base. Of the 46,181 study respondents for which ANYDEP=0, there were 6,655 with missing NDEPEND values. All of these were logically set to zero.
Imputation Classes: A cross-classification of
Student marital status
Age (categorical)
Gender
Student type (Graduate students were collapsed into a single group with first-professional students)
Sorting Variables:
Age
CPS record indicator
Institution level of instruction

- (13) **Variable Name:** PMARITAL
Description: Parents' marital status
Data Used in Imputations: Study respondents, dependents (26,167)
Number Missing: 3,582 (13.69%)
Imputation Classes: A cross-classification of
 Institution highest level of offering
 Race⁵ (simplified)
 Age (categorical)
Sorting Variables:
 Age
 Race
- (14) **Variable Name:** PFAMNUM
Description: Parent family size
Data Used in Imputations: Study respondents, dependents (26,167)
Number Missing: 3,582 (13.69%)
Imputation Classes: A cross-classification of
 Parents' marital status
 Institution highest level of offering
 Race⁵ (simplified)
Sorting Variables:
 Age
 Race
- (15) **Variable Name:** DEPINC
Description: Parents' income
Data Used in Imputations: Study respondents, dependents (26,167)
Number Missing: overall: 10,503 (40.14%)
 1st stage: 6,901 (48.29% of 14,292 dependents reporting parents' income category)
 2nd stage: 3,602 (18.96% of dependents not imputed in 1st stage)
Imputation Classes, 1st Stage: A cross-classification of
 Parent income category from student reports (if reported)
 Parent marital status
Imputation Classes, 2nd Stage: 9 CHAID segments defined by cross-classifications of
 Pell grant status
 Parent marital status
 Citizenship
 Hispanic indicator
 Parent family size

⁵Study respondents were placed in one of five categories, one category for each of the five races. Whenever a study respondent's response was some multiple configuration of races, the most "minority" race (the one race within the configuration with the fewest respondents) was assigned. This hierarchy, from most "minority" to least, was American Indian, Pacific Islander, Asian, Black, and White.

Sorting Variables:

Parents' highest education
Race

NOTE: The imputation for parent income was performed in two stages. The first stage imputed for students who reported their parents' income category but the actual parents' income amount was missing. The first stage used a cross-classification of parent income category and parent marital status as the imputation classes among students who reported their parents' income category. The second stage imputed for students who did not report both their parents' income category and actual parent's income. The second stage imputed the remaining missing values where several variables were used to define the imputation classes, including parent marital status, which was also used as an imputation class in the first stage. In both stages, parents' highest education and race were used as the sorting variables.

- (16) **Variable Name:** HSGRADYY
Description: High school graduation year
Data Used in Imputations: Study respondents, high school degree or certificate (61,058)
Number Missing: 8,416 (13.78%)

Imputation Procedure:

It was assumed HSGRADYY was not missing for respondents who had indicated that they had no HS diploma or GED or certificate. All others were divided into two groups: those who had received an HS diploma (HSDEG=1; there were 7,554 of these) and those remaining (862). For the first group, high school graduation year was modeled as a function of age using simple linear regression. The model was

$$\text{GradYr} = 2017.305787 - 1.001766 * \text{Age}$$

Graduation year was rounded to the nearest whole year, and it was not allowed to exceed the year 2000, which was the most recent year of an existing study respondent. (There were seven study respondents, aged 15 or 16, whose graduation years were set to the year 2000 in this manner). The modeling utilized only observations with non-missing age and HS graduation year for those which had indicated HSDEG=1 (49,673). The R^2 was 0.994559, and the MSE was 0.423. The earliest year set in this way was 1931 for two study respondents, both 86 years of age.

The remaining missing values were imputed using weighted hot deck procedures.

Imputation classes: A cross-classification of

Type of high school degree
Age (categorical)

Sorting Variable:

Age

- (17) **Variable Name:** INDEPINC
Description: Student's income
Data Used in Imputations: Study respondents, independents (35,600)
Number Missing: 8,761 (24.61%)
Imputation Classes: 54 CHAID segments defined by cross-classifications of
 CPS record indicator
 Pell grant status
 Dependents indicator
 Stafford loan status
 Student marital status
 Age (categorical)
 Local residence
 Institution level of instruction
 Hispanic indicator
 Institution control
 White race indicator
 Region
 Attendance status
 Asian race indicator
 Citizenship
 Gender
 Student type
Sorting Variables:
 Attendance status⁶
 Age
- (18) **Variable Name:** EFC4
Description: Expected family contribution
Data Used in Imputations: Study respondents (61,767)
Number Missing: 29,086 (47.1 percent) total; Specifically, 10,207 (39.5 percent) dependents, 10,743 (55.0 percent) independents without dependents, and 8,136 (49.5 percent) independents with dependents.
- Imputation procedure:**
 Records with a recorded value (EFC1) were divided into the three categories of EFC formula types, and separate regression equations were developed.
- For both types of independent students the variables used for the estimation were:
- Student total income
 - Student marital status
 - Student family size
 - Student number in college
 - Dummy variable for total income of \$75,000 or more

⁶ Attendance status was used as a sort variable in addition to defining CHAID segments because attendance status was an important variable for determining student's income and it was not included in all CHAID segments.

For dependent students the variables were:

Parent total income
Parent income squared
Parent family size
Parent number in college
Parent marital status
Dummy variable for total income of \$75,000 or more

Logistic regression was used to predict whether or not the student fell into the zero EFC group. If the estimated probability was below .5, the case was estimated to have a non-zero EFC. If the value was greater than or equal to .5, the case was estimated to have a zero EFC. For the non-zero cases, an OLS based regression formula was used to estimate the EFC. The adjusted R squared values for the OLS regressions were .69 for dependent students, .59 for independent students without dependents, and .60 for independent students with dependents.

The correlation coefficients between estimated and actual EFC were:

Dependent	.85
Independent/no dependents	.72
Independent/with dependents	.78

For independent students, about 70 percent of the predicted values were within one thousand dollars of the actual value for the EFC. The results for dependent students were less satisfactory, with only about 28% of the values within one thousand dollars.

Table K-1.—Distribution of imputed variables before and after imputation

	All students						Undergraduates						Graduates/first-professionals					
	Before imputation		After imputation		Percent estimate ¹		Before imputation		After imputation		Percent estimate ¹		Before imputation		After imputation		Percent estimate ¹	
	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹
Age																		
19 or younger	8,975	19.32	9,030	19	8,929	22.30	8,980	22	46	0.66	50	1						
20 to 23	22,285	31.43	22,420	32	21,187	34.83	21,310	35	1,098	10.20	1,110	10						
24 to 29	13,456	20.09	13,510	20	8,924	17.01	8,940	17	4,532	39.35	4,570	39						
30 to 39	9,385	15.76	9,440	16	6,048	13.93	6,060	14	3,337	27.20	3,380	27						
40 or older	7,323	13.40	7,360	13	4,622	11.93	4,640	12	2,701	22.58	2,730	23						
Gender																		
Male	25,611	43.57	26,030	44	20,514	43.74	20,780	44	5,097	42.49	5,250	43						
Female	35,197	56.43	35,740	56	28,755	56.26	29,150	56	6,442	57.51	6,590	57						
Citizenship																		
U.S. citizen	54,212	92.23	56,350	92	44,907	93.03	46,410	93	9,305	87.05	9,930	87						
Resident	2,555	4.60	2,640	5	2,193	4.80	2,270	5	362	3.29	380	3						
Visa	2,592	3.18	2,780	3	1,195	2.17	1,260	2	1,397	9.66	1,520	10						
Ethnicity																		
Hispanic	6,502	11.60	6,810	12	5,723	12.32	5,970	12	779	7.12	830	7						
Not Hispanic	52,178	88.40	54,960	88	41,731	87.68	43,960	88	10,447	92.88	11,000	93						
Race																		
White	44,171	77.01	47,820	77	35,859	76.92	38,810	77	8,312	77.53	9,010	77						
Black or African American	6,607	12.48	7,250	12	5,653	13.07	6,210	13	954	8.86	1,030	9						
Asian	3,675	6.04	4,080	6	2,422	5.40	2,720	6	1,253	9.99	1,350	10						
American Indian or Alaska Native	419	0.85	460	1	367	0.92	400	1	52	0.37	60	#						
Native Hawaiian or Pacific Islander	256	0.51	290	1	201	0.51	230	1	55	0.49	60	#						
Multiple races	1,671	3.11	1,880	3	1,379	3.18	1,560	3	292	2.74	320	3						
Student marital status																		
Single	42,752	74.74	46,150	74	36,774	77.73	39,600	77	5,978	56.53	6,560	56						
Married	13,109	23.77	14,710	25	8,494	20.68	9,540	22	4,615	42.62	5,170	43						
Separated	874	1.49	900	1	774	1.59	800	1	100	0.85	110	1						
Any dependents																		
No	38,673	72.20	45,330	72	32,304	73.37	37,430	73	6,369	64.97	7,890	66						
Yes	13,915	27.80	16,440	28	10,549	26.63	12,500	27	3,366	35.03	3,940	34						
Dependency status – two level																		
Dependent	23,192	40.10	26,170	43	22,839	46.62	25,810	49	353	3.14	350	3						
Independent	34,606	59.90	35,600	57	23,126	53.38	24,120	51	11,480	96.86	11,480	97						

Table K-1.—Distribution of imputed variables before and after imputation—Continued

	All students						Undergraduates						Graduates/first-professionals					
	Before imputation		After imputation		Percent estimate ¹		Before imputation		After imputation		Percent estimate ¹		Before imputation		After imputation		Percent estimate ¹	
	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹
Dependency status — three level																		
Dependent	23,192	44.96	26,170	43	22,839	51.63	25,810	49	353	3.79	350	3.79	6,016	61.18	7,540	63	3,940	34
Independent without dependents	15,213	27.05	19,160	29	9,197	21.51	11,620	24	3,366	35.03	5,500	51.30	2,194	24.32	2,230	24	2,200	24
Independent with dependents	13,915	28.00	16,440	28	10,549	26.86	12,500	27			2,170	24.38						
Fall attendance status																		
Full-time	36,248	62.68	36,720	63	30,809	64.53	31,230	65	5,439	51.30	5,500	51.30	2,194	24.32	2,230	24	2,200	24
Half-time	8,392	20.74	8,530	21	6,198	20.16	6,300	20										
Less than half-time	5,901	16.58	5,980	17	3,731	15.32	3,780	15										
High school degree indicator and type																		
Diploma	51,923	92.37	57,230	92	42,947	92.16	46,240	92	8,976	93.86	10,990	94	106	1.24	130	1	180	2
GED	2,185	4.65	2,360	5	2,079	5.14	2,230	5					146	1.65	180	2	490	3
Certificate	307	0.47	360	#	161	0.30	180	#					358	2.85	490	3	50	#
Foreign	932	1.50	1,110	2	574	1.30	630	1					41	0.40				
None	648	1.01	710	1	607	1.09	660	1										
Local residence																		
On campus	8,773	15.43	9,860	15	8,044	16.77	9,030	16	729	7.31	830	7	8,453	87.16	10,350	87	650	6
Off campus	33,023	62.47	40,530	64	24,570	58.39	30,180	60					453	5.53				
With parents	9,267	22.10	11,380	22	8,814	24.84	10,730	24										
Number of dependents																		
1	3,985	35.46	6,350	40	2,931	35.78	4,940	40	1,054	34.14	1,410	37	1,226	41.36	1,470	40	800	20
2	4,029	37.45	5,460	36	2,803	36.50	3,990	35	672	21.48	800	20	102	3.03	130	3		
3 or 4	2,547	23.98	3,340	22	1,875	24.58	2,540	22										
5 or more	352	3.11	440	3	250	3.13	310	3										
Parent marital status																		
Married	16,699	73.94	19,350	72	16,407	72.26	19,060	72	292	78.22	290	78	61	21.78	60	22		
Not married	5,886	26.06	6,820	28	5,825	27.74	6,760	28										
Parent family size																		
2	1,805	7.99	2,080	8	1,786	8.17	2,060	8	19	7.62	20	8	129	33.52	130	34	120	37
3	5,979	26.47	6,940	26	5,850	25.54	6,810	26	123	36.50	120	37	61	16.78	60	17	10	2
4	7,392	32.73	8,550	32	7,269	32.30	8,430	32	12	2.21	10	2	9	3.38				
5	4,592	20.33	5,360	21	4,531	20.83	5,300	21										
6	1,724	7.63	1,970	8	1,712	7.82	1,960	8										
7 or more	1,093	4.84	1,270	5	1,084	5.35	1,260	5										

Table K-1.—Distribution of imputed variables before and after imputation—Continued

	All students						Undergraduates						Graduates/first-professionals					
	Before imputation		After imputation		Before imputation		After imputation		Before imputation		After imputation		Before imputation		After imputation			
	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹	Sample size	Percent estimate ¹		
Parents' income ²																		
Less than \$20,000	2,771	17.69	3,420	13	2,748	18.24	3,400	13	23	6.96	20	7						
\$20,000-\$39,999	3,619	23.10	5,210	21	3,574	24.45	5,160	21	45	12.83	50	13						
\$40,000-\$59,999	3,212	20.51	5,430	22	3,141	21.04	5,360	22	71	19.39	70	19						
\$60,000-\$79,999	2,558	16.33	4,500	17	2,497	15.88	4,440	17	61	20.06	60	20						
\$80,000-\$99,999	1,572	10.04	3,080	11	1,522	9.26	3,030	11	50	12.64	50	13						
\$100,000 or more	1,932	12.33	4,530	16	1,829	11.12	4,430	16	103	28.11	100	28						
High school graduation year																		
1999 or 2000	5,187	12.84	5,490	12	5,158	14.52	5,460	14	29	0.62	30	#						
1997	4,806	11.98	5,180	11	4,788	13.59	5,160	13	18	0.30	30	#						
1996	4,218	10.16	4,610	10	4,193	11.51	4,570	11	25	0.34	40	#						
1991-1995	6,983	9.18	7,560	9	6,929	10.36	7,480	10	54	0.58	80	1						
1981-1990	14,602	22.14	17,000	22	11,967	20.91	13,570	21	2,635	31.15	3,430	31						
1980 or before	9,631	18.33	12,160	20	6,123	15.50	7,390	17	3,508	38.93	4,770	40						
	7,215	15.36	9,060	16	4,665	13.62	5,650	15	2,550	28.08	3,410	28						
Student's income																		
Less than \$10,000	7,367	22.81	8,360	19	5,712	23.67	6,440	20	1,655	20.10	1,920	17						
\$10,000-\$19,999	5,466	19.78	6,850	18	4,048	21.44	4,960	19	1,418	14.61	1,890	15						
\$20,000-\$29,999	3,628	14.94	5,010	15	2,650	16.05	3,610	16	978	11.47	1,410	12						
\$30,000-\$39,999	2,588	10.78	3,740	12	1,729	10.90	2,500	12	859	10.40	1,240	11						
\$40,000-\$49,999	1,889	7.85	2,870	9	1,184	7.62	1,860	9	705	8.58	1,010	9						
\$50,000 or more	5,901	23.84	8,760	27	3,036	20.32	4,750	24	2,865	34.83	4,010	36						
Expected family contribution																		
\$0	9,310	28.49	11,960	19	8,010	28.06	10,060	20	1,300	31.42	1,900	16						
\$1-\$1,500	5,100	15.61	5,740	9	4,554	15.95	5,020	10	546	13.20	720	6						
\$1,501-\$3,500	4,702	14.39	6,950	11	4,093	14.34	5,660	11	609	14.72	1,290	11						
\$3,501-\$7,500	5,442	16.65	11,820	19	4,722	16.54	9,360	19	720	17.40	2,460	21						
\$7,501-\$15,500	4,934	15.10	13,180	21	4,289	15.03	10,450	21	645	15.59	2,730	23						
\$15,501-\$22,500	1,535	4.70	6,400	10	1,373	4.81	4,940	10	162	3.92	1,450	12						
\$22,501 or greater	1,658	5.07	5,730	9	1,503	5.27	4,440	9	155	3.75	1,290	11						

Less than 0.5 percent

¹ Percentages may not sum to 100 due to rounding.

² Graduates/first-professionals are independent by definition. However, 353 of them were coded as dependents before imputation and all 353 had missing parents' income.

NOTE: To protect confidentiality, some numbers have been rounded. Following data imputations, variables were reviewed and revised, if necessary, to adjust for inconsistencies with other known data. Therefore, the "after imputation" distribution may differ from the final distribution in the restricted-use data file.

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