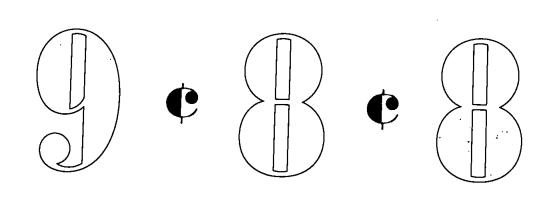
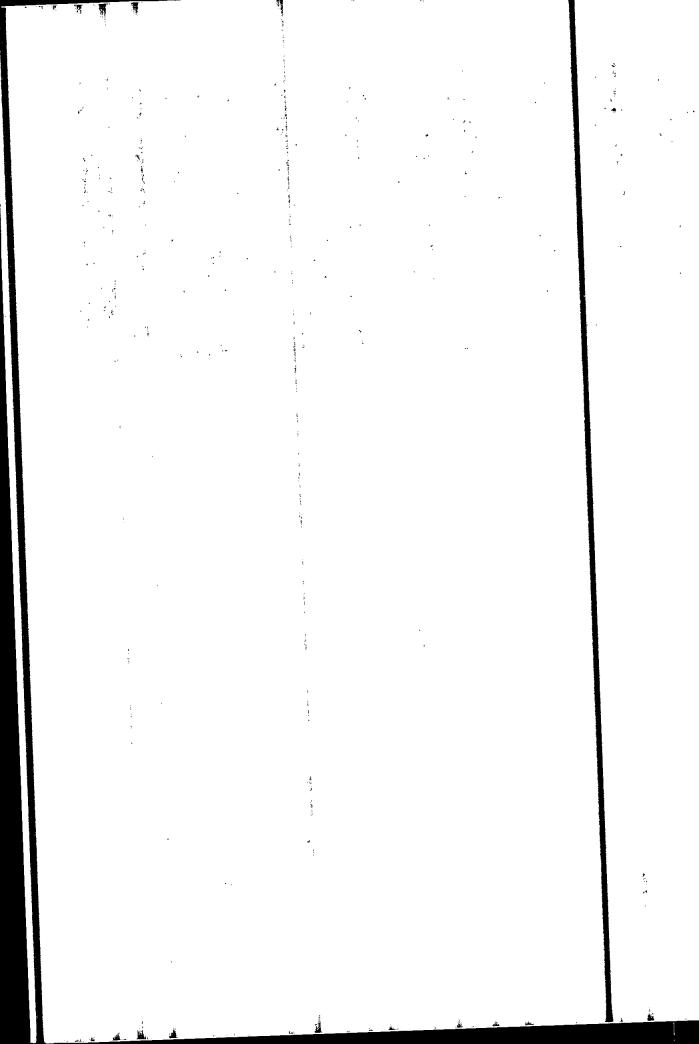
HAR HAR STATE OF Chemists and Chemical Engineers

Analysis of the American Chemical Scolety's Survey of Creductes in Chemistry and Chemical Engineering





1988 SURVEY REPORT

STARTING SALARIES AND EMPLOYMENT STATUS OF

CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES

American Chemical Society 1155 Sixteenth Street, N.W. Washington, D.C. 20036

Available from the Distribution Office, ACS.

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ACKNOWLEDGMENTS

Each year, at the direction of its Joint Board-Council Committee on Economic Status, the American Chemical Society (ACS) surveys recent chemistry and chemical engineering graduates to determine trends in starting salaries and employment status. This report presents detailed results of the 1988 Starting Salary Survey. A summary of the survey findings was published in the October 24 issue of *Chemical and Engineering News*.

Joan Burrelli and Seryu Patel of the ACS Market and Business Analysis Department conducted this year's survey and prepared this report. Dr. Burrelli wrote the summary and comment on the following pages.

Robert K. Neuman, Special Assistant to the Director, Membership Division

SUMMARY OF FINDINGS

SALARIES

Salaries for inexperienced BS chemists and chemical engineers increased moderately in 1988. The mean starting salary for inexperienced BS chemists was \$21,743 in 1988, compared with \$20,407 in 1987. The mean starting salary for inexperienced BS chemical engineers was \$29,821 in 1988, compared with \$28,576 in 1987.

Table 1 shows average starting salaries paid to inexperienced chemistry graduates for 1987 and 1988, and gives additional information concerning the variation among individual salaries within each group. Table 2 presents corresponding information for chemical engineering graduates. The trends in median starting salaries from 1980 to the present for inexperienced chemists and chemical engineers are shown in Figures 1 and 2.

For inexperienced chemists (those with less than 12 months of experience), 1988 mean starting salaries were:

\$21,743 for the	BS,	up	6.5%,	or in constant dollars	up	2.4%
\$27,023 for the	MS,	up	1.0%,	or in constant dollars	down	2.9%
\$36,961 for the	PhD,	up	7.3%	or in constant dollars	up.	3.2%

Chemical engineers continue to receive larger starting salaries than do chemists with similar degrees. Among chemical engineers, the 1988 mean starting salaries were:

\$29,821 for the	BS,	up	4.4%,	or in constant dollars	up	0.3%
\$33,152 for the	MS,	up	1.0%,	or in constant dollars	down	2.9%
\$41,877 for the	PhD,	down	2.0%,	or in constant dollars	down	5.7%

The Consumer Price Index rose 4.0% from June 1987 to June 1988.

POST-GRADUATION EMPLOYMENT STATUS

Unemployment rates for BS chemists and chemical engineers were lower in 1988 than in 1987. For MS and PhD chemists and chemical engineers, however, unemployment rates were higher this year than last. The unemployment rate for PhD chemistry graduates was higher than those for BS and MS graduates.

In the last few years, unemployment has been more severe among recent BS chemical engineering graduates than among recent chemistry graduates. The sharp decline in unemployment among recent BS chemical engineering graduates between 1987 and 1988 indicates a renewed demand for chemical engineers.

Because unemployment is defined as the fraction of the labor force who are not working but are seeking employment, persons not seeking work (a large proportion of recent BS chemistry graduates) are neither employed nor "unemployed." In determining the unemployment rate, those not seeking employment must be subtracted from the total. Performing the calculation in this way yields larger unemployment rates among recipients of the bachelor's degree than the figures in Table 3 seem to indicate: 11% in chemistry and 8% in chemical engineering.

Table 1

STARTING YEARLY SALARIES OF INEXPERIENCED FULL-TIME EMPLOYED CHEMISTRY GRADUATES

by Degree: 1987 and 1988

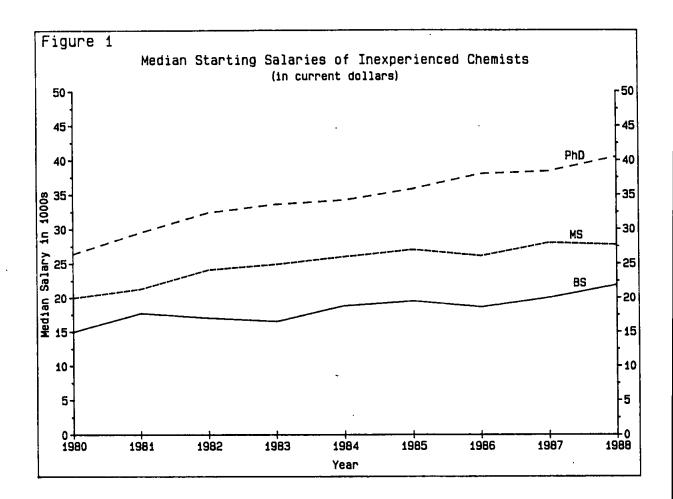
	DEGREE LEVEL.								
Salaries	Bac	helor's	Mas	ter's	-P	h.D.			
	1987	1988	1987	1988	1987	1988			
90th Percentile	\$26,000	\$27,500	\$33,000	\$33,000	\$42,000	\$44,100			
75th Percentile	24,000	25,400	30,000	31,000	40,150	42,500			
50th Percentile	20,000	21,900	28,000	27,700	38,400	40,500			
25th Percentile	17,500	18,000	22,500	23,400	30,650	30,000			
10th Percentile	15,500	16,000	19,500	21,000	22,000	23,000			
Mean	20,407	21,743	26,758	27,023	34,438	36,961			
Count	291	322	59	64	105	148			
Standard Deviation	4,322	4,520	5,723	5,864	8,243	8,901			

Table 2

STARTING YEARLY SALARIES OF INEXPERIENCED FULL-TIME EMPLOYED CHEMICAL ENGINEERING GRADUATES

by Degree: 1987 and 1988

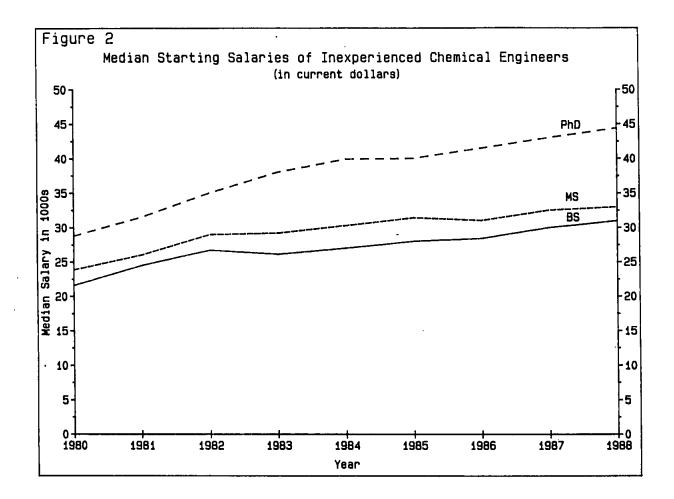
			D	EGREE LEVI	EL	
Salaries	Bac	helor's	Mas	ter's	Р	h.D.
	1987	1988	1987	1988	1987	1988
					•	· · · · · · · · · · · · · · · · · · ·
Oth Percentile	\$31,450	\$32,500	\$36,000	\$38,000	\$47,000	\$48,000
75th Percentile	30,800	31,800	35,000	34,400	45,000	46,000
50th Percentile	30,000	31,000	32,500	33,000	43,000	44,400
25th Percentile	28,516	29,000	31,000	32,000	41,000	40,000
10th Percentile	23,900	25,000	28,300	28,000	39,100	31,200
Iean	28,576	29,821	32,813	33,152	42,721	41,877
Count	351	311	38	33	48	58
Standard Deviation	3,808	3,370	5,309	4,065	5,585	7,102



Median Starting Salaries of Inexperienced Chemists* (in current dollars)

	<u>1980</u>	<u> 1981</u>	1982	1983	1984	1985	1986	1987	1988
BS	\$15.0	\$17.7	\$17.0	\$16.5	\$18.8	\$19.5	\$18.6	\$20.0	\$21.9
MS	20.0	21.3	24.1	24.9	26.0	27.0	26.1	28.0	27.7
PhD	26.4	29.5	32.4	33.6	34.2	35.8	38.0	38.4	40.5

^{*}Base annual salary in thousands of dollars.



Median Starting Salaries of Inexperienced Chemical Engineers*
-- (in current dollars)

	<u>1980</u>	<u>1981</u>	1982	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u> 1987</u>	<u>1988</u>
BS	\$21.6	\$24.5	\$26.7	\$26.1	\$27.0	\$28.0	\$28.4	\$30.0	\$31.0
MS	23.9	26.0	29.0	29.2	30.3	31.4	31.0	32.5	33.0
PhD	28.8	31.5	35.0	38.0	39.9	40.0	41.5	43.0	44.4

^{*}Base annual salary in thousands of dollars.

The recent history for unemployment calculated in this way is:

	1988	1987	1986	1985	1984	1983	1982	1981
Chemical Engineering	8%	16%	21%	22%	24%	42%	26%	8%
Chemistry	11%	13%	13%	23%	27%	31%	21%	23%

PLANS FOR ADVANCED STUDY and POSTDOCTORAL FELLOWSHIPS

A rough indicator of demand is postdoctoral fellows as a percent of new PhDs. Because some of the new doctoral chemists who accept postdoctoral fellowships would have preferred full-time employment, an increase in the fraction accepting such fellowships indicates insufficient full-time employment. This year, this measure of demand indicates that the climate is substantially more hospitable for both chemistry and chemical engineering doctorate recipients than it was last year. Among new chemistry doctorate recipients, 35% accepted postdoctoral positions in 1988 as compared with 48% in 1987. Among new chemical engineering doctorate recipients, 12% accepted such positions in 1988 as compared with 17% in 1987.

This year's bachelor's degree recipients are more likely than last year's to have plans for full-time studies. The anticipated field of study has also shifted somewhat for this year's graduates. This year, 48% of BS chemistry graduates who plan further studies plan either full-time or part-time study in chemistry as compared with 46% last year. Fewer BS chemistry graduates are choosing medicine or dentistry and more are choosing business this year than last. Among BS chemical engineering graduates, more are choosing chemical engineering majors this year than last. A summary of these plans appears in Tables 4 and 5. Figure 3 shows the postgraduation plans of BS chemistry graduates.

CHEMISTRY GRADUATES WHO HAVE COMPLETED ACS APPROVED PROGRAMS

Graduates completing undergraduate chemistry programs approved by the ACS's Committee on Professional Training generally received higher starting salaries than graduates completing non-approved programs (see Table A-9). If planning further study, they are more likely to choose chemistry as their field of advanced study. Among BS chemistry graduates planning full-time advanced study, approximately 35% plan to study medicine and approximately 38% plan to study chemistry. Approximately 75% of those studying medicine were in non-approved programs whereas 72% of those studying chemistry were in approved programs (see Table C-5). The unemployment rate for graduates of approved programs was somewhat lower (8% versus 14%) than that for graduates of non-approved programs.

CHARACTERISTICS OF DEGREE-GRANTING INSTITUTIONS AND EMPLOYERS

This year, the Starting Salary Survey attempted to account for the variation in salaries paid to new bachelor's degree recipients, primarily by analyzing salary differences according to characteristics of the degree-granting institutions and size of the employer. The results indicate that, generally speaking, BS chemists received higher salaries if their degrees were from schools that are in the Midwest or New England, grant doctorate degrees, or are privately controlled, and that chemists and chemical engineers employed by larger firms generally received higher salaries than those employed by smaller firms.

For chemical engineers, the type and size of school from which they received degrees make little difference in salaries. Employer size, however, does make a difference in chemical engineers salaries. BS chemical engineers employed in larger firms (more than 24,000 employees) make 12% more than chemical engineers employed in small firms (less than 500 employees). Proportionately more chemical engineers than chemists are clustered at the higher end of the salary range because proportionately more chemical engineers than chemists are employed in firms with more than 24,000 employees.

These differences, along with more obvious ones, ought to be taken into account in any comparisons among salaries.

Table 3

POSTGRADUATION STATUS OF CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES: FALL 1988

Major and Employment Status	Bachelor's	Master's	Doctorate
CHEMISTRY			
Full-time employed: In chemistry or chemical engineering Outside chemistry or chemical engineering Grad. asst./postdoctoral or other fellowship Unemployed and seeking full-time employment Unemployed and not seeking full-time employment	30.7% 6.6% 26.3% 7.9% 28.5%	4.4% 28.5% 6.4%	11.1%
Total	100.0	100.0	100.0
Number of responses	1,576	295	512
CHEMICAL ENGINEERING			
Full-time employed: In chemistry or chemical engineering Outside chemistry or chemical engineering Grad. asst./postdoctoral or other fellowship Unemployed and seeking full-time employment Unemployed and not seeking full-time employment	63.9% 13.0% 9.3% 7.6% 6.1%	8.3% 27.6% 7.6%	7.4% 12.4% 6.6%
Total	100.0	100.0	100.0
Number of responses	785	145	121

Table 4

PLANS FOR FURTHER STUDY OF B.S. CHEMISTRY
AND CHEMICAL ENGINEERING GRADUATES: FALL 1988

Plans	Chemistry	Chemical Engineering
Further studies Full-time Part-time No plans for further studies	67.2% (56.9%) (10.3%) 32.7%	32.9% (16.8%) (16.1%) 67.1%
Total	100.0	100.0
Number of responses	1,730	805

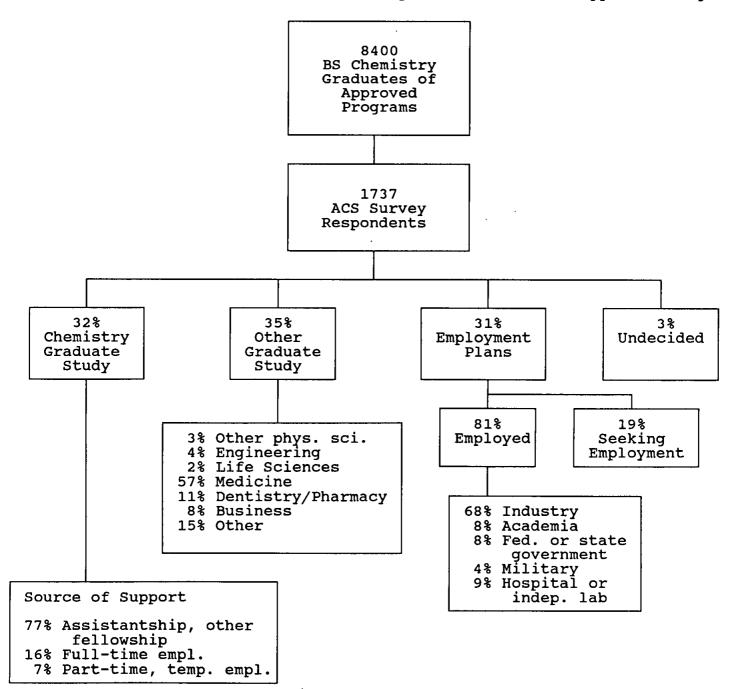
Table 5

FIELDS OF STUDY OF B.S. CHEMISTRY AND
CHEMICAL ENGINEERING GRADUATES WHO PLAN FURTHER STUDIES
Fall 1988

Field of Study	Chemistry	Chemical Engineering
FULL-TIME		
Chemistry or biochemistry Chemical or biochemical engineering Medicine or dentistry Business or management All others	46.0% 0.7% 38.0% 1.5% 13.8%	2.2% 68.9% 8.9% 4.4% 15.6%
Total	100.0	100.0
Number of responses	981	135
PART-TIME		
Chemistry or biochemistry Chemical or biochemical engineering Medicine or dentistry Business or management All others	56.9% 2.3% 2.9% 18.4% 19.5%	1.6% 26.8% 0.8% 49.6% 21.2%
Total	100.0	100.0
Number of responses	174	127

Figure 3

Post-graduation Plans of 1988 BS Chemistry Graduates of ACS-Approved Programs



Source: 1988 ACS Starting Salary Survey.

SCOPE AND METHOD

OBJECTIVES

The 1988 Starting Salary Survey is the 37th in the series of annual surveys now conducted by the American Chemical Society. Summaries of the results of these surveys appear annually in the "Employment Outlook" edition of the *Chemical and Engineering News*. This year preliminary results were published on October 24.

The primary objective of the survey is to gather data on the starting salaries and occupational status of new chemists and chemical engineers who graduated during the 1987-88 academic year. The survey covers bachelor's, master's, and doctoral degree recipients. In addition, the survey provides information on graduates' sex, citizenship, and ethnicity.

METHOD OF COLLECTION AND TIMING OF SURVEY

Chemistry departments approved by the ACS and chemical engineering departments approved by the American Institute of Chemical Engineers and the Engineer's Council for Professional Development provided names and addresses of students that graduated between August, 1987 and June, 1988. During the summer of 1988, questionnaires were mailed to those graduates who had U.S. addresses.

EXTENT OF COVERAGE

Survey questionnaires were mailed during July and August to approximately 10,500 graduates. By the cutoff date of October 3, ACS had received 4,023 usable responses. Another 435 questionnaires were returned as nondeliverable. No attempt was made to examine the characteristics of graduates from departments that did not participate in the survey or of those graduates who did not mail back completed questionnaires.

DEFINITIONS

The term "inexperienced" as used in the tables refers to those who have 12 months or less of prior professional work experience. The term "chemist" refers to one who received a degree in chemistry. The term "chemical engineer" refers to one who received a degree in chemical engineering. Salary tables are based only on salaries of those who found full-time employment in chemistry or chemical engineering. Postdoctoral salaries are analyzed separately. Salaries are reported in U.S. dollars.

The Technical Notes present methods for estimating sampling error and also explain certain discrepancies among some of the tables.

GEOGRAPHIC REGIONS

PACIFIC

Alaska California Hawaii Oregon Washington

MOUNTAIN

Arizona Colorado Idaho Montana Nevada New Mexico Utah Wyoming

WEST NORTH CENTRAL

Iowa Kansas Minnesota Missouri Nebraska North Dakota South Dakota

WEST SOUTH CENTRAL

Arkansas Louisiana Oklahoma Texas

EAST NORTH CENTRAL

Illinois
Indiana
Michigan
Ohio
Wisconsin

EAST SOUTH CENTRAL

Alabama Kentucky Mississippi Tennessee

MIDDLE ATLANTIC

New Jersey New York Pennsylvania

SOUTH ATLANTIC

Delaware
District of Columbia
Florida
Georgia
Maryland
North Carolina
South Carolina
Virginia
West Virginia

NEW ENGLAND

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

TECHNICAL NOTES

DISCREPANCIES AMONG TABLES

Because not all individuals responded to all of the survey items, some pairs of tables contain totals that should be identical but are not. For example, one table may group PhDs according to sex and another according to employer. The totals will differ unless the number who did not indicate their sex is the same as the number who did not indicate their employer.

ESTIMATES OF MEDIAN SALARIES

Median salaries displayed within the cells of the salary tables are sample medians and are therefore subject to sampling error. This error could be quite large, especially when the number of respondents in the corresponding cell is small. Therefore, median salaries in cells with fewer than 15 respondents should not be used to estimate their corresponding population medians. Similarly, tables showing the 25th and 75th salary percentiles, and those showing the 10th and 90th salary percentiles, should have at least 25 respondents and 40 respondents respectively.

COMPARING SALARIES

Often questions arise concerning women's salaries as compared with men's, or chemists' salaries as compared with chemical engineers'. These and similar comparisons require caution.

Statistical tests should be performed to determine whether observed differences in salaries of various sample groups could be mere chance occurrences resulting from peculiarities of the samples. Whether a difference in salaries is "statistically significant" depends not only on the magnitude of the difference but also on the sample sizes and the magnitudes of the sample standard deviations.

Discussion of statistical tests of significance may be found in *Introductory Statistics for Business and Economics*, by Thomas H. Wonnacott and Ronald J. Wonnacott, NY: Wiley, 1984, and in other similar texts.

ESTIMATING SAMPLING ERROR FOR PERCENTS

Percents in this report are derived from the sample. If the entire population had received and returned questionnaires, most estimates would be somewhat different. How much different? Although this question does not have an exact answer, the table below does provide some guidance. To use the table, find the column headed by the percent (p) derived from the sample, and find the row appropriate for the sample size (n). (Approximations for p and n may be used.) Note the number in that column and that row of the table.

This number from the body of the table measures the precision with which the sample percent estimates the percent of the entire population. Specifically, if this procedure is applied repeatedly, about 95 times out of 100, the population percent will differ from the sample percent by no more than the amount shown in the table.

Approximate Sampling Errors for Percents

p= 50%	p= 40% or 60%	p= 30% or 70%	p= 20% or 80%	p= 10% or 90%	n
13.9%	13.6%	12.7%	11.1%	8.3%	50
9.8	9.6	9.0	7.8	5.9	100
6.9	6.8	6.4	5.5	4.2	200
4.4	4.3	4.0	3.5	2.6	500
3.1	3.0	2.8	2.5	1.9	1000
2.2	2.1	2.0	1.8	1.3	2000
1.4	1.4	1.3	1.1	0.8	5000
1.0	1.0	0.9	0.8	0.6	10000

In Table B-1a for example, 484 respondents classified as chemists indicated their highest degree as the bachelor's degree, and their employment status as employed full-time in chemistry. The percent of this group who are women is listed as 44.4 percent (p=44.4). A "95% confidence interval" for this percent may be approximated by taking n and p to be about 500 and 40%. The above table shows an approximate sampling error of 4.3%. Hence, the 95% confidence interval is 40.1% to 48.7%. If estimates were made at this "level of confidence" from 100 similar samples, about 95 of the confidence intervals calculated from these samples would contain the true population percent.

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Zirpioj mont otatus	Dogrov operatty	PhD	B-6	56
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SALARIES of CHEMISTS employed FULL-TIME by DEGREE and EXPERIENCE 1988 Starting Salary Survey

Table A-1

	HI	HIGHEST DEGREE		
	BS	MS	PHD	
WORK EXPERIENCE				
LESS THAN 12 MONTHS Median Mean Std Dev Count	21,916 21,743 4,520 322	27,700 27,023 5,864 64	40,500 36,961 8,901 148	
12 TO 36 MONTHS Median Mean Std Dev Count	22,000 22,304 4,896 98	30,000 30,146 4,705 36	40,000 36,024 8,089 47	
MORE THAN 36 MONTHS Median Mean Std Dev Count	26,000 27,458 6,538 64	33,300 32,605 6,599 46	39,650 37,264 8,960 54	
TOTAL Median Mean Std Dev Count	22,500 22,627 5,263 484	30,000 29,601 6,306 146	40,000 36,848 8,741 249	

Table A-2

SALARIES of CHEMICAL ENGINEERS employed FULL-TIME
by DEGREE and EXPERIENCE
1988 ACS Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
WORK EXPERIENCE			
LESS THAN 12 MONTHS			
Median	31,000	33,000	44,400
Mean	29,744	33,037	41,626
Std Dev	3,435	3,950	7,293
Count	261	27	54
12 TO 36 MONTHS			
Median	31,800	34,100	44,000
Mean	31,154	33,983	41,532
Std Dev	2,465	3,321	8,530
Count	145	23	17
MORE THAN 36 MONTHS			
Median	32,000	40,000	44,200
Mean	30,376	40,948	43,522
Std Dev	9,323	7,239	6,957
Count	17	13	10
TOTAL			
Median	31,200	34,100	44,200
Mean	30,254	35,015	41,822
Std Dev	3,616	5,484	7,465
Count	423	63	81

Table A-3

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME in PRIVATE INDUSTRY by SEX and DEGREE 1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
SEX			
MEN Median Mean Std Dev Count	23,899 23,109 3,944 128	30,240 29,964 4,583 26	42,000 41,720 4,267 87
WOMEN Median Mean Std Dev Count	22,500 22,963 4,418 101	26,000 26,267 5,027 22	40,900 40,888 2,346 16
TOTAL Median Mean Std Dev Count	23,000 23,043 4,155 229	29,900 28,312 5,085 48	41,500 41,588 4,027 103

Table A-4

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME in PRIVATE INDUSTRY by SEX and DEGREE 1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
SEX			
MEN Median Mean Std Dev Count WOMEN	31,000 .30,050 2,851 201	33,000 33,313 4,574 23	45,000 44,381 3,930 37
Median Mean Std Dev Count	31,200 30,757 3,009 80	34,400 34,086 970 7	44,750 42,675 8,064 4
TOTAL Median Mean Std Dev Count	31,100 30,253 2,909 281	33,000 33,493 4,022 30	45,000 44,210 4,374 41

Table A-5

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME by DEGREE and SEX
1988 Starting Salary Survey

	н	HIGHEST DEGREE		
	BS	MS	PHD	
SEX				
MEN				
Median	22,500	29,900	40,700	
Mean	21,944	28,333	37,418	
Std Dev	4,335	5,101	8,967	
Count	178	36	119	
WOMEN				
Median	21,000	26,000	39,900	
Mean	21,507	25,259	35,069	
Std Dev	4,732	6,441	8,210	
Count	144	28	27	
TOTAL			•	
Median	21,916	27,700	40,500	
Mean	21,743	27,023	36,975	
Std Dev	4,520	5,864	8,849	
Count	322	64	146	

Table A-6

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and EMPLOYER
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER	-		
PRIVATE INDUSTRY			
Median	23,000	29,900	41,750
Mean	23,043	28,312	41,651
Std Dev	4,155	5,085 48	4,057
Count	229	40	. 104
COLLEGE OR UNIV	•		
Median	16,500	24,050	25,000
Mean	16,447	23,975	25,097
Std Dev	2,497 16	4,173	6,162
Count	16	4	33
HIGH SCHOOL			
Median	18,000	24,000	
Mean	18,683	19,467	
Std Dev Count	3,579	12,816	0
FEDERAL GOVT			
Median	15,325	22,907	25,250
Mean Sta Dov	18,335 4,654	22,236	30,113
Std Dev Count	14,654	3	10,037
******]		
MILITARY			
Median	20,000		
Mean Std Dev	19,245		
Count	14	0	0
OMAND OD 10037 COV			
STATE OR LOCAL GOVT Median	19,560	19,000	
Mean	20,323	19,000	
Std Dev	2,973	0	
Count	8	1	0
HOSPITAL OR LAB			
Median	18,000	22,740	25,000
Mean	17,941	22,740	25,000
Std Dev	2,618	2,461	7,071
Count	28	2	2
OTHER			
Median	22,360	32,240	17,000
Mean	22,405	32,240	17,000
Std Dev	3,085	0	0
Count	5	1	1
TOTAL			
Median	21,916	27,700	40,500
Mean	21,743	27,023	36,961
Std Dev	4,520	5,864	8,901
Count	322	63	148

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME by DEGREE and EMPLOYER - MEN only 1988 Starting Salary Survey

Table A-7

	Н	IGHEST DEG	REE
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			E
Median Mean	23,899	30,240	42,000
Std Dev	23,109 3,944	29,964 4,583	41,720
Count	128	26	4,267 87
COLLEGE OR UNIV			
Median	16,350	24,500	23,575
Mean Std Dev	16,525	24,500	24,081
Count	3,032	4,950	6,100
HIGH SCHOOL			
Median	21,916	26,700	
Mean Std Dev	19,639	26,700	
Count	5,843	3,818	
FEDERAL GOVT	,	2	0
Median	15,750	22 225	
Mean	18,253	22,907 22,236	27,000
Std Dev	4,650	1,244	11,997
Count	8	3	5
MILITARY	1	1	
Median	20,121		
Mean Std Dev	20,293		
Count	4,258		
STATE OR LOCAL GOVT			
Median	19,100	19,000	·
Mean	19,493	19,000	
Std Dev Count	2,490	0	
] 1	0
HOSPITAL OR LAB Median	10.000		
Mean	18,000 17,681	24,480 24,480	25,000
Std Dev	2,434	0	25,000 7,071
Count	10	1	2
OTHER			
Median Mean	20,000		
Std Dev	21,633 3,272		
Count	4	o	. 0
TOTAL			
Median Mean	22,500 21,944	29,900	40,700
Std Dev	4,335	28,333 5,101	37,418 8,967
Count	178	35	119

Table A-8

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME by DEGREE and EMPLOYER - WOMEN only 1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY Median Mean Std Dev Count	22,500 22,963 4,418 101	26,000 26,267 5,027 22	40,900 40,888 2,346 16
COLLEGE OR UNIV Median Mean Std Dev Count	17,500 16,357 1,952 8	23,450 23,450 5,162 2	25,375 28,144 5,632 8
HIGH SCHOOL Median Mean Std Dev Count	17,000 18,110 2,062 5	5,000 5,000 0 2	
FEDERAL GOVT Median Mean Std Dev Count	15,134 18,416 5,100	 0	25,250 25,250 1,768 2
MILITARY Median Mean Std Dev Count	13,480 13,480 5,685 2	 0	 0
STATE OR LOCAL GOVT Median Mean Std Dev Count	19,920 21,707 3,736 3	 0	 0
HOSPITAL OR LAB Median Mean Std Dev Count	18,000 18,072 2,764 18	21,000 21,000 0	
OTHER Median Mean Std Dev Count	24,720 24,720 0 1	32,240 32,240 0	17,000 17,000 0 1
TOTAL Median Mean Std Dev Count	21,000 21,507 4,732 144	26,000 25,259 6,441 28	39,900 35,069 8,210 27

Table A-9

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME by DEGREE and WORK FUNCTION
1988 Starting Salary Survey

	HIGHEST DEGREE		EE
	BS	MS	PHD
WORK FUNCTION			
TEACHING			
. Median	19,000	27,100	26,413
Mean	19,533	22,700	27,215
Std Dev	4,765	10,091	4,627
Count	12	6	21.
MGMT OR ADMIN			
Median	24,000		
Mean	23,626		-
Std Dev	4,301		
Count	21	0	0
BASIC RESEARCH			
Median	21,700	22,954	40,500
Mean	21,220	24,631	36,335
Std Dev	4,737	4,667	10,364
Count	65	1,00,	49
APPLIED DEGRADON			:
APPLIED RESEARCH	22 200	20 400	41 450
Median	22,800	30,480	41,450
Mean	22,490	29,099	40,930
Std Dev Count	4,073 69	5,275 27	5,422 70
PRODUCTION			
PRODUCTION Median	21,400	26,572	40,250
Median Mean	21,400	27,058	39,625
Std Dev	4,267	3,461	2,562
Count	91	16	2,302
OTHER			
OTHER Median	21 000	10 000	22 054
median Mean	21,000	19,000	22,954
mean Std Dev	20,933	23,333	23,227
	4,908	11,150	5,317
Count	64	3	4
TOTAL			
Median	21,916	27,700	40,500
Mean	21,743	27,023	36,961
Std Dev	4,520	5,864	8,901
Count	322	63	148

Table A-10

SALARIES of INEXPERIENCED B.S. CHEMISTS employed FULL-TIME by EMPLOYER and CERTIFICATION
1988 Starting Salary Survey

	CURRICULUM APPROVED?		TOTAL
	YES	NO	
EMPLOYER			
PRIVATE INDUSTRY Median Mean Std Dev Count	24,000 23,496 3,964 110	22,500 22,614 4,302 119	23,000 23,043 4,155 229
COLLEGE OR UNIV Median Mean Std Dev Count	15,000 14,733 1,617	17,000 16,875 2,542	16,500 16,447 2,497 16
HIGH SCHOOL Median Mean Std Dev Count		18,000 18,683 3,579	18,000 18,683 3,579 8
FEDERAL GOVT Median Mean Std Dev Count	21,700 20,606 5,031 4	15,150 17,577 4,568	15,325 18,335 4,654 14
MILITARY Median Mean Std Dev Count	18,550 18,325 3,295	21,000 20,716 7,045 5	20,000 19,245 4,934 14
STATE OR LOCAL GOVT Median Mean Std Dev Count	19,920 20,707 2,018	19,100 20,093 3,641 5	19,560 20,323 2,973 8
HOSPITAL OR LAB Median Mean Std Dev Count	18,000 17,632 3,460	18,000 18,123 2,076 17	18,000 17,941 2,618 28
OTHER Median Mean Std Dev Count	20,000 21,633 3,272	24,720 24,720 0 2	22,360 22,405 3,085 5
TOTAL Median Mean Std Dev Count	22,900 22,417 4,387 143	21,000 21,199 4,564 179	21,916 21,743 4,520 322

Table A-11

SALARIES of INEXPERIENCED MS and PhD CHEMISTS employed FULL-TIME by DEGREE and DEGREE SPECIALTY

1988 Starting Salary Survey

	HIGHEST	DEGREE
	MS	PHD
DEGREE SPECIALTY		
BIOCHEMISTRY		
Median	21,350	23,000
Mean	20,438	24,000
Std Dev	6,943	4,583
Count	8	3
ANALYTICAL CHEM		
Median	28,950	40,500
Mean	28,062	37,898
Std Dev	5,851	7,629
Count	18	42
INORGANIC CHEM		
Median	27,144	39,075
Mean	26,281	33,850
Std Dev	1,995	9,901
Count	3	30
ORGANIC CHEM		
Median	29,000	41,400
Mean	28,343	39,939
Std Dev	4,128	7,474
Count	21	41
PHYSICAL CHEM		
Median	30,480	40,000
Mean	28,797	36,108
Std Dev	5,009	9,894
Count	8	21
POLYMER CHEM		į.
Median	31,450	40,500
Mean	31,450	37,886
Std Dev	2,899	8,713
Count	. 2	7
OTHER CHEM		
Median	22,600	33,400
Mean	23,200	31,200
Std Dev	8,516	11,788
Count	4	4
TOTAL		
Median	27,700	40,500
Mean	27,023	36,961
Std Dev	5,864	8,901
Count	64	148

Table A-12

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME by DEGREE and GEOGRAPHIC REGION 1988 Starting Salary Survey

	ні	GHEST DEGR	EE
	BS	MS	PHD
GEOGRAPHIC REGION			
Pacific Median Mean Std Dev Count	21,000 21,154 4,387 28	25,500 26,733 5,456 3	40,000 36,640 11,026
Mountain Median Mean Std Dev Count	20,050 20,450 3,361 8	30,120 30,120 2,998 2	34,750 34,125 8,892 4
West North Central Median Mean Std Dev Count	20,000 20,507 4,225 26	25,000 24,500 3,477 3	40,750 35,736 9,987 15
West South Central Median Mean Std Dev Count	21,000 21,175 6,161 23	26,500 24,580 7,197 6	39,500 34,200 9,125
East North Central Median Mean Std Dev Count	24,000 23,056 4,258 85	27,000 26,925 4,753 13	39,700 37,041 7,329 32
East South Central Median Mean Std Dev Count	21,000 20,254 4,480 12	25,812 22,406 12,137 4	42,000 41,700 2,168 5
Middle Atlantic Median Mean Std Dev Count	23,400 22,873 4,581 68	30,000 29,130 4,323	42,000 39,415 8,558 30
South Atlantic Median Mean Std Dev Count	20,000 20,267 3,825 33	27,100 27,045 5,778 9	39,000 34,964 8,833 26
New England Median Mean Std Dev Count	20,020 21,002 4,097 25	28,000 25,500 9,500 3	41,500 39,575 11,103
TOTAL Median Mean Std Dev Count	22,000 21,858 4,542 308	27,650 26,973 5,900 62	40,500 37,116 8,839 145

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME by DEGREE and SEX
1988 Starting Salary Survey

Table A-13

	HIC	GHEST DEGRI	EE
	BS	MS	PHD
SEX	·	,	
MEN			
Median	30,600	32,700	44,400
Mean	29,613	32,900	41,851
Std Dev	3,310	4,541	7,172
Count	221	26	53
WOMEN			
Median	31,200	34,400	44,000
Mean	30,273	34,086	42,140
Std Dev	3,459	970	7,085
Count	89	7	5
TOTAL			
Median	31,000	33,000	44,400
Mean	29,805	33,152	41,877
Std Dev	3,362	4,065	7,102
Count	310	33	58

Table A-14

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME by DEGREE and EMPLOYER
1988 Starting Salary Survey

	HIC	GHEST DEGR	EE
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	31,100	33,000	45,000
Mean	30,270	33,493	44,210
Std Dev	2,918	4,022	4,374
Count	282	30	41
COLLEGE OR UNIV			
Median	24,000	26,000	40,000
Mean	24,750	26,000	36,329
Std Dev	6,906	0	10,338
Count	3	1	13
FEDERAL GOVT			
Median	25,000		37,000
Mean	26,018		36,575
Std Dev	2,953		4,682
Count	5	0	4
MILITARY			
Median	24,000		
Mean	25,000		
Std Dev	3,464		
Count	4	0	0
STATE OR LOCAL GOVT]
Median	25,000		
Mean	25,321		
Std Dev	1,024		
Count	5	0	0
HOSPITAL OR LAB			
Median	15,900		
Mean	15,900		
Std Dev	141		
Count	2	0	0
OTHER			
Median	28,574	31,600	
Mean	27,691	31,600	
Std Dev	3,575	566	
Count	10	2	
TOTAL	22 222	33 000	44 400
Median	31,000	33,000	44,400
Mean	29,821 3,370	33,152 4,065	7,102
Std Dev Count	311	33	58

Table A-15

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME by DEGREE and EMPLOYER - MEN only 1988 Starting Salary Survey

	HI	GHEST DEGR	EE
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	31,000	33,000	45,000
Mean	30,050	33,313	44,381
Std Dev	2,851	4,574	3,930
Count	201	23	37
COLLEGE OR UNIV			·
Median	32,000	26,000	38,000
Mean	32,000	26,000	36,023
Std Dev	0	0	10,736
Count	1	1	12
FEDERAL GOVT			
Median	24,694		37,000
Mean	24,722		36,575
Std Dev	662		4,682
Count	4	0	4
MILITARY			
Median	24,000		
. Mean	26,000		
Std Dev	3,464		
Count	3	0	0
STATE OR LOCAL GOVT			
Median	25,452		·
Mean	25,401		
Std Dev	1,164		
Count	4	0	0
HOSPITAL OR LAB			
Median	15,900		
Mean	15,900		
Std Dev	141		
Count	2	0	0
OTHER			,
Median	27,600	31,600	
Mean	27,260	31,600	
Std Dev	4,226	566	
Count	6	2	0
TOTAL			
Median	30,600	32,700	44,400
Mean	29,613	32,900	41,851
Std Dev	3,310	4,541	7,172
Count	221	26	53

Table A-16

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME by DEGREE and EMPLOYER - WOMEN only 1988 Starting Salary Survey

	ні	GHEST DEGRI	EE
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY Median Mean Std Dev Count	31,200 30,757 3,009 80	34,400 34,086 970 7	44,750 42,675 8,064 4
COLLEGE OR UNIV Median Mean Std Dev Count	21,125 21,125 4,066 2	 0	40,000 40,000 0 1
FEDERAL GOVT Median Mean Std Dev Count	31,200 31,200 0 1	 0	 0
MILITARY Median Mean Std Dev Count	22,000 22,000 0 1	 0	
STATE OR LOCAL GOVT Median Mean Std Dev Count	25,000 25,000 0	 0	 0
HOSPITAL OR LAB Median Mean Std Dev Count	 0	 0	
OTHER Median Mean Std Dev Count	28,574 28,337 2,767 4	 0	 0
TOTAL Median Mean Std Dev Count	31,200 30,273 3,459 89	34,400 34,086 970 7	44,000 42,140 7,085 5

Table A-17

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME by DEGREE and WORK FUNCTION 1988 Starting Salary Survey

	ніс	GHEST DEGR	EE
	BS	MS	PHD
WORK FUNCTION			
TEACHING Median			40,000
Mean Std Dev Count	 0	 0	39,168 3,668 4
MGMT OR ADMIN	20.000		45 000
Median Mean Std Dev Count	30,000 28,938 2,773 24		45,000 45,000 0 1
BASIC RESEARCH Median Mean Std Dev Count	24,000 23,933 8,100 3	32,000 32,000 0 1	42,000 37,575 11,726 8
APPLIED RESEARCH Median Mean Std Dev Count	31,200 29,915 3,316 113	33,000 33,271 4,721 24	45,000 43,274 5,852 43
PRODUCTION Median Mean Std Dev Count	31,200 30,296 2,898 130	33,500 33,260 823 5	31,200 31,200 0
OTHER Median Mean Std Dev Count	30,000 28,975 4,295 40	31,200 32,400 2,254 3	36,000 36,000 0 1
TOTAL Median Mean Std Dev Count	31,000 29,821 3,375 310	33,000 33,152 4,065 33	44,400 41,877 7,102 58

Table A-18

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME by DEGREE and GEOGRAPHIC REGION 1988 Starting Salary Survey

	HIG	HEST DEGRE	E
	BS	MS	PHD
GEOGRAPHIC REGION			
Pacific Median Mean Std Dev Count	30,900 30,363 2,947 24	33,500 34,100 2,510 5	47,000 46,475 2,596 9
Mountain Median Mean Std Dev Count	29,000 29,000 1,000 3	33,850 33,850 6,859 2	35,500 33,750 6,850 4
West North Central Median Mean Std Dev Count	30,900 28,688 5,000	 0	40,000 37,640 8,194 5
West South Central Median Mean Std Dev Count	31,200 31,078 1,751 55	33,000 33,050 1,080 6	34,000 36,767 7,257 3
East North Central Median Mean Std Dev Count	30,750 29,561 3,118 49	32,000 32,000 3,937 5	46,500 39,780 11,515 5
East South Central Median Mean Std Dev Count	30,000 28,311 5,870 15	 0	 0
Middle Atlantic Median Mean Std Dev Count	30,000 29,463 3,771 56	33,500 35,050 5,925 8	45,000 44,925 1,085 12
South Atlantic Median Mean Std Dev Count	31,200 30,314 3,055 56	34,200 33,867 757 3	44,400 43,280 5,372 15
New England Median Mean Std Dev Count	30,000 28,926 2,928 25	28,500 28,875 2,955 4	40,000 37,000 11,944 5
TOTAL Median Mean Std Dev Count	31,000 29,859 3,371 300	33,000 33,152 4,065 33	44,400 41,877 7,102 58

CHEMISTRY GRADUATES

by EMPLOYMENT STATUS, SEX, and DEGREE
1988 Starting Salary Survey

Table B-la

		BACHELORS			MASTERS		D	DOCTORATE	
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
FULL-TIME IN CHEMISTRY	ļ							,	
Count Row Percent Column Percent	269 55.6% 29.5%	215 44.4% 32.3%	484 100.0% 30.7%	60.5% 48.4%	39.58	147 100.0% 49.8%	204 82.3% 48.7%	44 17.7% 47.3%	248 100.0% 48.4%
FULL-TIME IN NON-CHEMISTRY Count	63	4	0	თ	4	13	15	. ~	17
Row Percent Column Percent	60.6%	39.4%	100.0%	69.2%	30.8%	100.0%	88 3.5%	11.8%	3.3%
FELLOWSHIP Count Row Percent Column Percent	261 62.9% 28.6%	154 37.1% 23.2%	415 100.0% 26.3%	57 67.9% 31.0%	27 32.1% 24.3%	84 100.0% 28.5%	152 84.9% 36.3%	27 15.1% 29.0%	179 100.0% 35.0%
SEEKING EMPLOYMENT Count Row Percent Column Percent	4.3. C.	70 56.5% 10.5%	124 100.0% 7.9%	12 63.2% 6.5%	36.3%	19 100.0% 6.4%	41 71.9% 9.8%	16 28.1% 17.2%	57 100.0% 11.1%
NOT SEEKING EMPLOYMENT Count Row Percent Column Percent	264 58.8% 29.0%	185 41.2% 27.8%	449 100.0% 28.5%	17 53.1% 9.2%	15 46.9% 13.5%	32 100.0% 10.8%	7 63.6% 1.7%	36.44 4.3%	11 100.0%
TOTAL Count Row Percent Column Percent	911 57.8% 100.0%	665 42.2% 100.0%	1576 100.0% 100.0%	184 62.4% 100.0%	111 37.6% 100.0%	295 100.0% 100.0%	419 81.8% 100.0%	93 18.2% 100.0%	512 100.0% 100.0%

Table B-1b

CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988, SEX, and DEGREE 1988 Starting Salary Survey

	m 	BACHELORS			MASTERS		D	DOCTORATE	
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
PURSUE ADVANCED STUDIES IN FALL 88				-					
YES, FULL-TIME Count Row Percent	600	385 39.1%	985 100.0% 56.9%	86 67.78 45.5%	41 32.3% 36.0%	127 100.0% 41.9%	50 96.2% 12.4%	2 2 . 8 . 1 . 8	52 100.0% 10.4%
)	+							
YES, PART-TIME Count Row Percent Column Percent	106 59.2% 10.6%	73 40.8% 10.0%	179 100.0% 10.3%	11 61.1% 5.8%	38.9% 6.1%	18 100.0% 5.9%	7 100.0% 1.7%	000	100.08
NO Count Row Percent Column Percent	295 52.1% 29.5%	271 47.9% 37.2%	566 100.0% 32.7%	92 58.2% 48.7%	66 41.8% 57.9%	158 100.0% 52.1%	347 79.0% 85.9%	92 21.0% 97.9%	439 100.0% 88.2%
TOTAL Count Row Percent Column Percent	1001 57.9% 100.0%	729 42.1% 100.0%	1730 100.0% 100.0%	189 62.4% 100.0%	114 37.6% 100.0%	303 100.0% 100.0%	404 81.1% 100.0%	94 18.9% 100.0%	498 100.0% 100.0%

Table B-2a

BS CHEMISTRY GRADUATES by EMPLOYMENT STATUS and CITIZENSHIP 1988 Starting Salary Survey

		CITIZ	ENSHIP	
	U.S. NATIVE	U.S. NATURAL- IZED	U.S. PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS				
FULL-TIME IN CHEMISTRY Count Row Percent Column Percent	458	12	14	1
	94.4%	2.5%	2.9%	.2%
	31.7%	15.4%	34.1%	11.1%
FULL-TIME IN NON-CHEMISTRY Count Row Percent Column Percent	101	2	1	0
	97.1%	1.9%	1.0%	.0%
	7.0%	2.6%	2.4%	.0%
FELLOWSHIP Count Row Percent Column Percent	389	16	4	5
	94.0%	3.9%	1.0%	1.2%
	26.9%	20.5%	9.8%	55.6%
SEEKING EMPLOYMENT Count Row Percent Column Percent	105	11	6	2
	84.7%	8.9%	4.8%	1.6%
	7.3%	14.1%	14.6%	22.2%
NOT SEEKING EMPLOYMENT Count Row Percent Column Percent	393	37	16	1
	87.9%	8.3%	3.6%	.2%
	27.2%	47.4%	39.0%	11.1%
TOTAL Count Row Percent Column Percent	1446	78	41	9
	91.9%	5.0%	2.6%	.6%
	100.0%	100.0%	100.0%	100.0%

Table B-2a Continued

MS CHEMISTRY GRADUATES by EMPLOYMENT STATUS and CITIZENSHIP 1988 Starting Salary Survey

		CITIZ	ENSHIP	
	U.S. NATIVE	U.S. NATURAL- IZED	U.S. PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS				
FULL-TIME IN CHEMISTRY Count Row Percent Column Percent	131	7	5	4
	89.1%	4.8%	3.4%	2.7%
	54.8%	77.8%	41.7%	11.8%
FULL-TIME IN NON-CHEMISTRY Count Row Percent Column Percent	11	0	0	2
	84.6%	.0%	.0%	15.4%
	4.6%	.0%	.0%	5.9%
FELLOWSHIP Count Row Percent Column Percent	59	2	3	19
	71.1%	2.4%	3.6%	22.9%
	24.7%	22.2%	25.0%	55.9%
SEEKING EMPLOYMENT Count Row Percent Column Percent	11	0	2	6
	57.9%	.0%	10.5%	31.6%
	4.6%	.0%	16.7%	17.6%
NOT SEEKING EMPLOYMENT Count Row Percent Column Percent	27	0	2	3
	84.4%	.0%	6.3%	9.4%
	11.3%	.0%	16.7%	8.8%
TOTAL Count Row Percent Column Percent	239	9	12	34
	81.3%	3.1%	4.1%	11.6%
	100.0%	100.0%	100.0%	100.0%

Table B-2a Continued

PHD CHEMISTRY GRADUATES by EMPLOYMENT STATUS and CITIZENSHIP. 1988 Starting Salary Survey

		CITIZ	ENSHIP	
	U.S. NATIVE	U.S. NATURAL- IZED	U.S. PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS				
FULL-TIME IN CHEMISTRY Count Row Percent Column Percent	213 85.5% 52.9%	5 2.0% 41.7%	5 2.0% 50.0%	26 10.4% 29.5%
FULL-TIME IN NON-CHEMISTRY Count Row Percent Column Percent	15 88.2% 3.7%	1 5.9% 8.3%	0 .0% .0%	1 5.9% 1.1%
FELLOWSHIP Count Row Percent Column Percent	137 76.5% 34.0%	4 2.2% 33.3%	2 1.1% 20.0%	36 20.1% 40.9%
SEEKING EMPLOYMENT Count Row Percent Column Percent	33 57.9% 8.2%	1 1.8% 8.3%	3 5.3% 30.0%	20 35.1% 22.7%
NOT SEEKING EMPLOYMENT Count Row Percent Column Percent	5 45.5% 1.2%	1 9.1% 8.3%	0 .0% .0%	5 45.5% 5.7%
TOTAL Count Row Percent Column Percent	403 78.6% 100.0%	12 2.3% 100.0%	10 1.9% 100.0%	88 17.2% 100.0%

Table B-2b

BS CHEMISTRY GRADUATES

BS CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and CITIZENSHIP
1988 Starting Salary Survey

		CITIZI	ENSHIP	
	U.S. NATIVE	U.S. NATURAL- IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 88				
YES, FULL-TIME				_
Count	884	66	24	8
Row Percent	90.0%	6.7%	2.4%	.8%
Column Percent	56.1%	70.2%	52.2%	72.7%
YES, PART-TIME				Ì
Count	163	8	7	0
Row Percent	91.6%	4.5%	3.9%	.0%
Column Percent	10.3%	8.5%	15.2%	.0%
NO		3		
Count	529	20	15	3
Row Percent	93.3%	3.5%	2.6%	.5%
Column Percent	33.6%	21.3%	32.6%	27.3%
TOTAL				
Count	1576	94	46	11
Row Percent	91.3%	5.4%	2.7%	.6%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-2b Continued

MS CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and CITIZENSHIP
1988 Starting Salary Survey

		CITIZ	ENSHIP	
	U.S. NATIVE	U.S. NATURAL- IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 88				
YES, FULL-TIME				
Count	91	2	5	28
Row Percent	72.2%	1.6%	4.0%	22.2%
Column Percent	37.1%	22.2%	41.7%	77.8%
YES, PART-TIME				
Count	15	1	. 2	. 0'
Row Percent	83.3%	5.6%	11.1%	.0%
Column Percent	6.1%	11.1%	16.7%	.0%
NO				
Count	139	6	5	8
Row Percent	88.0%		3.2%	5.1%
Column Percent	56.7%	66.7%	41.7%	22.2%
TOTAL				,
Count	245	9	12	36
Row Percent	81.1%	3.0%	4.0%	11.9%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-2b Continued

PHD CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and CITIZENSHIP
1988 Starting Salary Survey

		CITIZI	ENSHIP	
	U.S. NATIVE	U.S. NATURAL- IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 88				
YES, FULL-TIME				
Count	28	0	2	22
Row Percent	53.8%	.0%	3.8%	42.3%
Column Percent	7.1%	.0%	20.0%	25.3%
YES, PART-TIME				
Count	6	o	0	1
Row Percent	85.7%	.0%	.0%	14.3%
Column Percent	1.5%	.0%	.0%	1.1%
NO				
Count	358	10	8	64
Row Percent	81.4%	2.3%	1.8%	14.5%
Column Percent	91.3%	100.0%	80.0%	73.6%
TOTAL		1	1	0.7
Count	392	10	10	87
Row Percent	78.6%	2.0%	2.0%	17.4% 100.0%
Column Percent	100.0%	100.0%	100.08	100.08

BS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1988 Starting Salary Survey

Table B-3a

			RACE	OR	ETHNIC GROUP	IP		
	AMER INDIAN	CHINESE	SUBCONT	OTHER ASIAN	BLACK	HISP	WHITE	отнек
FULL-TIME IN CHEMISTRY	ŗ	m	8	15	13	9	442	8
Row Percent Column Percent	20.08	7.5%	18.2%	3.1%	38.2%	1.2%		.4% 12.5%
FULL-TIME IN NON-CHEMISTRY Count	Н	ო	ო	0	7	н	06	2
Row Percent Column Percent	1.0%	2.9%	2.9%	% %	27 12 0.0 % %	3.4%	88.2	2.0%
FELLOWSHIP Count Row Percent Column Percent	000	16 3.9% 40.0%	. 2 . 2 % 1 . %	12 2.9% 23.1%		1.5% 20.7%	373 90.3% 27.0%	3 .7% 18.8%
SEEKING EMPLOYMENT Count Row Percent Column Percent	000	. 12 . 12 . 5%	. 0 . 0 . 0 . 0 . 0 . 0 . 0 . 0 . 0 . 0	6 4.9% 11.5%	3.3% 11.8%	6 4.9% 20.7%	99 80.5% 7.2%	2 1.6% 12.5%
NOT SEEKING EMPLOYMENT Count Row Percent Column Percent	.7% 60.0%	13 2.9% 32.5%	36.9% 44.%	19 4.3% 36.5%	13 2.9% 38.2%	10 2.2% 34.5%	377 84.5% 27.3%	7 1.6% 43.8%
TOTAL Count Row Percent Column Percent	.3%	40 2.6% 100.0%	11 .7% 100.0%	52 3.3% 100.0%	34 2.2% 100.0%	29 1.8% 100.0%	1381 88.1% 100.0%	16 1.0% 100.0%

Table B-3a Continued

MS CHEMISTRY GRADUATES by EMPLOYMENT STATUS and ETHNICITY 1988 Starting Salary Survey

			RACE	OR	ETHNIC GROUP	ΙΡ		
•	AMER INDIAN	CHINESE	SUBCONT	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
FULL-TIME IN CHEMISTRY Count Row Percent	%0°	•	2.	2.	•	•	· 0	•
Column Percent	% 0 •	18.2%	37.5%	30.0%	50.0%	44.4%	55.5%	16.7%
FULL-TIME IN NON-CHEMISTRY Count	0	0 0		⊢ °	0 0	0 0	10	rd (
Kow Percent Column Percent	% % O .	000	% %	10.0%	% % O O		22 2. 4 2. 4. % %	16.7%
FELLOWSHIP Count Row Percent Column Percent	000	15 18.1% 68.2%	3.6%	4 4 . 8 . 0 . 0 % % % % % % % % % % % % % % % %	000		54 65.1% 23.6%	4.8%
SEEKING EMPLOYMENT Count Row Percent Column Percent	0000	. 4 1 . 4 % 70 . % %	12.03.08.09.09.09.09.09.09.09.09.09.09.09.09.09.	2 11.1% 20.0%	000	1. 1. 1. 1.	13 72.2% 5.7%	000
NOT SEEKING EMPLOYMENT Count Row Percent Column Percent	000	96.22 1.3%	3.1% 12.5%	000	0.03 9.4% 0.0%	3.1% 11.1%	25 78.1% 10.9%	000
TOTAL Count Row Percent Column Percent	00.0.	22 7.6% 100.0%	8 2.8% 100.0%	10 3.4% 100.0%	6 2.1% 100.0%	3.1% 100.0%	229 79.0% 100.0%	6 2.1% 100.0%

Table B-3a Continued

PHD CHEMISTRY GRADUATES by EMPLOYMENT STATUS and ETHNICITY 1988 Starting Salary Survey

			RACE	OR	ETHNIC GROUP	JP		
	AMER INDIAN	CHINESE	SUBCONT	OTHER	BLACK	HISP	WHITE	OTHER
FULL-TIME IN CHEMISTRY					,			
Count	н	20	2	∞	4	7	0	٦
Row Percent	4.00	8.1%	. u.	3.2%	1.6%	2.8%	82.6%	4.0
coranii rerceiic	•	0	4.	0		?		% 0.00
FULL-TIME IN					,			
NON-CHEMISIKI Count	0	0	-	0	0	-	15	C
*Row Percent	%0.	%0.	5.9%	% 0 •	%0.	9	N	%0.
Column Percent	%0.	%0.	. 7	%0.	.0	7.1%	3.7%	%
FELLOWSHIP		-						
Count	0	12	7	15	7	m	139	0
Row Percent	%0.	•	3.9%	8.4%	1.1%	1.7%	78.1%	.0%
Column Percent	%0.	27.9%	φ.	• 6	.	21.4%		%
SEEKING EMPLOYMENT								
Count	0		7		. 0	2	38	Т
Row Percent	%	14.3%	3.6%	.0 %	%0.	3.6%	67.9%	1.8%
Column Percent			4.	σ.	%			50.0%
NOT SEEKING EMPLOYMENT								
Count	0	m	н	0	0	7	9	0
Row Percent	%0.	27.3%	9.1%	%0.	%0.	9.1%	54.5%	%0.
Column Percent	% O.	7.0%	.7	%		7.1%		%0.
TOTAL							•	
Count	۲,	43	13	28	9	14	402	7
Kow Percent	100.2%	% 4.00 % % %	2.6%	. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.	1.2%	2 0 0 0 0 0	79.0%	4. c
		* • • • •	•0•00	20.007	?	•	?	T00.03

Table B-3b

BS CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and ETHNICITY
1988 Starting Salary Survey

			RACE	OR	ETHNIC GROUP	Ъ		
	AMER INDIAN	CHINESE	SUBCONT	OTHER ASIAN	BLACK	HISP	WHITE	отнек
PURSUE ADVANCED STUDIES IN FALL 88								
YES, FULL-TIME Count Row Percent Column Percent	4 .4% 57.1%	40 4.1% 76.9%	. 8 . 8% 61.5%	3.08 0.08 0.08 0.08	18 1.8% 46.2%	20 2.0% 60.6%	842 85.9%	10 1.0% 58.8%
YES, PART-TIME Count Row Percent Column Percent	1 .6% 14.3%	1 .6%	1.1% 15.4%	27 00 	7 4.0% 17.9%	000	159 89.8% 10.6%	2 1.1% 11.8%
NO Count Row Percent Column Percent	2 28.6%	11 2.0% 21.2%	3. 53.1%	17 3.0% 28.3%	14 2.5% 35.9%	13 2.3% 39.4%	497 88.4% 33.2%	.9%
TOTAL Count Row Percent Column Percent	7 .48 100.08	52 3.0% 100.0%	13 .8% 100.0%	60 3.5% 100.0%	39 2.3% 100.0%	33 1.9% 100.0%	1498 87.1% 100.0%	1.08

Table B-3b Continued

MS CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and ETHNICITY
1988 Starting Salary Survey

			RACE	OR	ETHNIC GROUP	J.		
	AMER INDIAN	CHINESE	SUBCONT	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 88								
YES, FULL-TIME Count Row Percent	00	19	5.0	. 5 . 0 . %	7 %	ر الا	85	7 0
Column Percent	%0.		•	•			•	•
YES, PART-TIME Count	0	г	0	0	Н	Н	14	г
Row Percent Column Percent	% %	0. 0 4. 0%	% %	% %	5.6%	75.6%	77.8%	5.6%
NO Count	Ċ	, «	, , ,		· ~	۲ ۳ ا	27) ,
Row Percent	. 0	1.9%	1.9%	3.5%	1.9%	1.9%	80.08	
Column Percent	.0%	13.0%	37.5%	50.0%	50.0%	33.3%	58.1%	%0.
TOTAL Count	0	23	&	10	9	σ	. 236	9
Row Percent Column Percent	%%	7.7%	2.7%	3.4%	2.0%	3.0%	79.2%	2.0%

Table B-3b Continued

PHD CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and ETHNICITY
1988 Starting Salary Survey

			RAC	RACE OR ETH	ETHNIC GROUP	Ъ		
	AMER INDIAN	CHINESE	SUBCONT	OTHER	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 88								
YES, FULL-TIME Count Row Percent Column Percent	000	10 19.2% 22.7%	0.0 %% %%	6 11.5% 20.7%	1.9% 1.9%	3.8% 13.8%	28 53.8% 7.2%	000
YES, PART-TIME Count Row Percent Column Percent	0 % %	000	14. 1.3%	000	000	000	6 85.7% 1.6%	000
NO Count Row Percent Column Percent	. 2% . 100.0%	34 7.8% 77.3%	6 1.4% 50.0%	23 5.3% 79.3%	1.1% 83.3%	13 3.0% 86.7%	353 80.8% 91.2%	.5% 100.0%
TOTAL Count Row Percent Column Percent	.2% .100.0%	44 8.9% 100.0%	12 2.4% 100.0%	29 5.8% 100.0%	6 1.2% 100.0%	15 3.0% 100.0%	387 78.0% 100.0%	2 .4% 100.0%

Table B-4a

BS CHEMISTRY GRADUATES by EMPLOYMENT STATUS and CERTIFICATION 1988 Starting Salary Survey

	CURRI (CULUM OVED?
	YES	NO
FULL-TIME IN CHEMISTRY Count Row Percent Column Percent	225 46.3% 31.5%	
FULL-TIME IN NON-CHEMISTRY Count Row Percent Column Percent	32 30.8% 4.5%	
FELLOWSHIP Count Row Percent Column Percent	262 63.1% 36.7%	153 36.9% 17.7%
SEEKING EMPLOYMENT Count Row Percent Column Percent	45 36.3% 6.3%	79 63.7% 9.1%
NOT SEEKING EMPLOYMENT Count Row Percent Column Percent	150 33.4% 21.0%	299 66.6% 34.6%
TOTAL Count Row Percent Column Percent	714 45.2% 100.0%	864 54.8% 100.0%

Table B-4b

BS CHEMISTRY GRADUATES by PLANS FOR FURTHER STUDIES AND CERTIFICATION 1988 Starting Salary Survey

	CURRIC APPRO	1
	YES	ИО
PURSUE ADVANCED STUDIES IN FALL 88		
YES, FULL-TIME Count Row Percent Column Percent	444 45.1% 59.0%	541 54.9% 55.2%
YES, PART-TIME Count Row Percent Column Percent	81 45.3% 10.8%	98 54.7% 10.0%
NO Count Row Percent Column Percent	228 40.1% 30.3%	341 59.9% 34.8%
TOTAL Count Row Percent Column Percent	753 43.5% 100.0%	980 56.5% 100.0%

Table B-5

MASTERS CHEMISTRY GRADUATES by EMPLOYMENT STATUS and DEGREE SPECIALTY 1988 Starting Salary Survey

		EMPL	OYMENT S	TATUS		TOTAL
	FT IN CHEM	FT IN NONCHEM	FELLOW- SHIP	SEEKING EMPL	NOT SEEK EMPL	
FIELD OF HIGHEST DEGREE		-				
BIOCHEMISTRY Count Row Percent Column Percent	15 50.0% 12.1%		10 33.3% 13.2%			30 100.0% 12.0%
ANALYTICAL CHEM Count Row Percent Column Percent	43 66.2% 34.7%	-	13 20.0% 17.1%		3 4.6% 11.1%	65 100.0% 26.0%
INORGANIC CHEM Count Row Percent Column Percent	6 31.6% 4.8%		7 36.8% 9.2%		4 21.1% 14.8%	19 100.0% 7.6%
ORGANIC CHEM Count Row Percent Column Percent	31 47.0% 25.0%		22 33.3% 28.9%		8 12.1% 29.6%	66 100.0% 26.4%
PHYSICAL CHEM Count Row Percent Column Percent	9 25.7% 7.3%		16 45.7% 21.1%	1	5 14.3% 18.5%	35 100.0% 14.0%
POLYMER CHEM Count Row Percent Column Percent	11 64.7% 8.9%		3 17.6% 3.9%		2 11.8% 7.4%	17 100.0% 6.8%
OTHER CHEM Count Row Percent Column Percent	9 50.0% 7.3%		5 27.8% 6.6%	1	1 5.6% 3.7%	18 100.0% 7.2%
TOTAL Count Row Percent Column Percent	124 49.6% 100.0%	11 4.4% 100.0%	76 30.4% 100.0%	12 4.8% 100.0%	27 10.8% 100.0%	250 100.0% 100.0%

Table B-6

PHD CHEMISTRY GRADUATES by EMPLOYMENT STATUS and DEGREE SPECIALTY 1988 Starting Salary Survey

	FT IN CHEM	FT IN NONCHEM	FELLOW- SHIP	SEEKING EMPL	NOT SEEK EMPL	TOTAL
FIELD OF HIGHEST DEGREE						:
BIOCHEMISTRY						
Count	10	0	22	1	1	34
Row Percent	29.4%			2.9%	2.9%	100.0%
Column Percent	4.0%	.0%	12.3%	1.8%	9.1%	6.6%
ANALYTICAL CHEM	72	3	17	10	1	103
Row Percent	69.9%					100.0%
Column Percent	28.8%		1		9.1%	20.0%
INORGANIC CHEM						
Count	39	2	28	16	3	88
Row Percent	44.3%					100.0%
Column Percent	15.6%	11.8%	15.6%	28.1%	27.3%	17.1%
ORGANIC CHEM						
Count	75	1	63	17	4	160
Row Percent	46.9%		l .			
Column Percent	30.0%	5.9%	35.2%	29.8%	36.4%	31.1%
PHYSICAL CHEM						
Count	39	9	43	12	2	105
Row Percent	37.1%	1	1		1.9%	
Column Percent	15.6%	52.9%	24.0%	21.1%	18.2%	20.4%
POLYMER CHEM					-	
Count	10	1	3	1	0	15
Row Percent	66.7%			6.7%		
Column Percent	4.0%	5.9%	1.7%	1.8%	.0%	2.9%
OTHER CHEM						_
Count	5	1	3	0	0	9
Row Percent	55.6%				.0%	100.0%
Column Percent	2.0%	5.9%	1.7%	.0%	.0%	1.8%
TOTAL						
Count	250	17	179	57	11	514
Row Percent	48.6%					
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS, SEX, and DEGREE
1988 Starting Salary Survey

Table B-7a

		BACHELORS			MASTERS		Q	DOCTORATE	
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
FULL-TIME IN CHEMISTRY Count Row Percent Column Percent	349 69.5% 63.1%	153 30.5% 65.9%	502 100.0% 63.9%	61 84.7% 51.3%	11 15.3% 42.3%	72 100.0% 49.7%	80 92.0% 74.8%	8.0% 50.0%	87 100.0% 71.9%
FULL-TIME IN NON-CHEMISTRY Count Row Percent Column Percent	69 67.6% 12.5%	33 32.4% 14.2%	102 100.0% 13.0%	10 83.3% 8.4%	2 16.7% 7.7%	12 100.0% 8.3%	9 100.0% 8.4%	000	9 100.0% 7.4%
FELLOWSHIP Count Row Percent Column Percent	61 83.6% 11.0%	12 16.4% 5.2%	73 100.0% 9.3%	34 85.0% 28.6%	6 15.0% 23.1%	40 100.0% 27.6%	12 80.0% 11.2%	3 20.0% 21.4%	15 100.0% 12.4%
SEEKING EMPLOYMENT Count Row Percent Column Percent	43 71.7% 7.8%	17 28.3% 7.3%	60 100.0% 7.6%	72.7% 6.7%	3 27.3% 11.5%	11 100.0% 7.6%	50.0% 3.7%	4 50.0% 28.6%	8 100.0% 6.6%
NOT SEEKING EMPLOYMENT Count Row Percent Column Percent	31 64.6% 5.6%	17 35.4% 7.3%	48 100.0% 6.1%	60.0% 5.0%	40.0% 15.4%	10.0% 6.9%	2 100.0% 1.9%	000	2 100.0% 1.7%
TOTAL Count Row Percent Column Percent	553 70.4% 100.0%	232 29.6% 100.0%	785 100.0% 100.0%	119 82.1% 100.0%	26 17.9% 100.0%	145 100.0% 100.0%	107 88.4% 100.0%	14 11.6% 100.0%	121 100.0% 100.0%

Table B-7b

CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988, SEX, and DEGREE
1988 Starting Salary Survey

	<u>В</u>	BACHELORS			MASTERS		Ω	DOCTORATE	
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
PURSUE ADVANCED STUDIES IN FALL 88									
YES, FULL-TIME Count Row Percent Column Percent	107 79.3% 18.8%	28 20.7% 11.9%	135 100.0% 16.8%	44 83.0% 36.7%	9 17.0% 33.3%	53 100.0% 36.1%	3 100.0% 3.0%	000	3 100.0% 2.7%
YES, PART-TIME Count Row Percent Column Percent	93 71.5% 16.3%	37 28.5% 15.7%	130 100.0% 16.1%	10 90.9% 8.3%	3.1% 3.1%	11 100.0% 7.5%	3 100.0% 3.0%	000	3 100.0% 2.7%
NO Count Row Percent Column Percent	369 68.3% 64.9%	171 31.7% 72.5%	540 100.0% 67.1%	66 79.5% 55.0%	17 20.5% 63.0%	83 100.0% 56.5%	95 88.8% 94.1%	12 11.2% 100.0%	100.08 94.78
TOTAL Count Row Percent Column Percent	569 70.7% 100.0%	236 29.3% 100.0%	805 100.0% 100.0%	120 81.6% 100.0%	27 18.48 100.08	147 100.08 100.08	101 89.48 100.08	12 10.6% 100.0%	113 100.0% 100.0%

Table B-8a

BS CHEMICAL ENGINEERING GRADUATES by EMPLOYMENT STATUS and CITIZENSHIP 1988 Starting Salary Survey

		CITIZ	ENSHIP	
	U.S. NATIVE	U.S. NATURAL- IZED	U.S. PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS				
FULL-TIME IN CHEMISTRY Count Row Percent Column Percent	476	17	7	3
	94.6%	3.4%	1.4%	.6%
	64.7%	60.7%	58.3%	30.0%
FULL-TIME IN NON-CHEMISTRY Count Row Percent Column Percent	98	3	0	0
	97.0%	3.0%	.0%	.0%
	13.3%	10.7%	.0%	.0%
FELLOWSHIP Count Row Percent Column Percent	66	4	1	2
	90.4%	5.5%	1.4%	2.7%
	9.0%	14.3%	8.3%	20.0%
SEEKING EMPLOYMENT Count Row Percent Column Percent	55	0	3	2
	91.7%	.0%	5.0%	3.3%
	7.5%	.0%	25.0%	20.0%
NOT SEEKING EMPLOYMENT Count Row Percent Column Percent	41 83.7% 5.6%	4 8.2% 14.3%	1 2.0% 8.3%	3 6.1% 30.0%
TOTAL Count Row Percent Column Percent	736	28	12	10
	93.6%	3.6%	1.5%	1.3%
	100.0%	100.0%	100.0%	100.0%

Table B-8a Continued

MS CHEMICAL ENGINEERING GRADUATES by EMPLOYMENT STATUS and CITIZENSHIP 1988 Starting Salary Survey

		CITIZI	ENSH1P	
	U.S. NATIVE	U.S. NATURAL- IZED	U.S. PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS				
FULL-TIME IN CHEMISTRY Count Row Percent Column Percent	59 81.9% 57.8%	6 8.3% 75.0%	3 4.2% 100.0%	4 5.6% 12.5%
FULL-TIME IN NON-CHEMISTRY Count Row Percent Column Percent	12 100.0% 11.8%	0 .0% .0%	0 .0% .0%	0 .0% .0%
FELLOWSHIP Count Row Percent Column Percent	22 55.0% 21.6%	1 2.5% 12.5%	0 .0% .0%	17 42.5% 53.1%
SEEKING EMPLOYMENT Count Row Percent Column Percent	5 45.5% 4.9%	1 9.1% 12.5%	0.0%	5 45.5% 15.6%
NOT SEEKING EMPLOYMENT Count Row Percent Column Percent	4 40.0% 3.9%	0 .0% .0%	0.0%	60.0% 18.8%
TOTAL Count Row Percent Column Percent	102 70.3% 100.0%	8 5.5% 100.0%	3 2.1% 100.0%	32 22.1% 100.0%

Table B-8a Continued

PHD CHEMICAL ENGINEERING GRADUATES by EMPLOYMENT STATUS and CITIZENSHIP 1988 Starting Salary Survey

		CITIZ	ENSHIP	
	U.S. NATIVE	U.S. NATURAL- IZED	U.S. PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS				
FULL-TIME IN CHEMISTRY Count Row Percent Column Percent	64 73.6% 80.0%	4 4.6% 80.0%	5 5.7% 100.0%	14 16.1% 45.2%
FULL-TIME IN NON-CHEMISTRY Count Row Percent Column Percent	6 66.7% 7.5%	1 11.1% 20.0%	0 .0% .0%	2 22.2% 6.5%
FELLOWSHIP Count Row Percent Column Percent	6 40.0% 7.5%	0.0%	.0%	9 60.0% 29.0%
SEEKING EMPLOYMENT Count Row Percent Column Percent	4 50.0% 5.0%	0.0%	0 .0% .0%	4 50.0% 12.9%
NOT SEEKING EMPLOYMENT Count Row Percent Column Percent	0 .0% .0%	0 .0% .0%	0 .0% .0%	2 100.0% 6.5%
TOTAL Count Row Percent Column Percent	80 66.1% 100.0%	5 4.1% 100.0%	5 4.1% 100.0%	31 25.6% 100.0%

Table B-8b

DC CUPMICAL ENGINEEDING CDADUATES

BS CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and CITIZENSHIP
1988 Starting Salary Survey

		CITIZ	ENSHIP	
	U.S. NATIVE	U.S. NATURAL- IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 88				
YES, FULL-TIME				
Count	119	9	3	5
Row Percent	87.5%	6.6%	2.2%	3.7%
Column Percent	15.8%	31.0%	23.1%	50.0%
YES, PART-TIME				
Count	119	6	5	0
Row Percent	91.5%	4.6%	3.8%	.0%
Column Percent	15.8%	20.7%	38.5%	.0%
NO				
Count	515	14	5	5
Row Percent	95.5%	2.6%	.9%	.9%
Column Percent	68.4%	48.3%	38.5%	50.0%
				-
TOTAL				
Count	753	29	13	10
Row Percent	93.5%	3.6%	1.6%	1.2%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-8b Continued

MS CHEMICAL ENGINEERING GRADUATES by PLANS FOR FURTHER STUDIES IN FALL 1988 and CITIZENSHIP 1988 Starting Salary Survey

		CITIZ	ENSHIP	
	U.S. NATIVE	U.S. NATURAL- IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 88				
YES, FULL-TIME				
Count	24 45.3%	3.8%	0.0%	27 50.9%
Row Percent Column Percent	23.3%	25.0%	.0%	81.8%
COTUMN, PERCENC	23.30	23.00	••••	01.00
YES, PART-TIME				
Count	9	0	1	1
Row Percent	81.8%	.0%	9.1%	9.1%
Column Percent	8.7%	.0%	33.3%	3.0%
NO				
Count	70	6	2	5
Row Percent	84.3%	7.2%	2.4%	6.0%
Column Percent	68.0%	75.0%	66.7%	15.2%
moma r				·
TOTAL Count	103	8	3	33
Row Percent	70.1%	5.4%	2.0%	22.4%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-8b Continued

PHD CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and CITIZENSHIP
1988 Starting Salary Survey

		CITIZ	ENSHIP	
	U.S. NATIVE	U.S. NATURAL- IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 88				
YES, FULL-TIME				
Count	1	0	0	2
Row Percent	33.3%	.0%	.0%	66.7%
Column Percent	1.3%	.0%	.0%	7.4%
YES, PART-TIME				
Count	1	0	0	2
Row Percent	33.3%	.0%	.0%	66.7%
Column Percent	, 1.3%	.0%	.0%	7.4%
NO				
Count	74	5	5	23
Row Percent	69.2%	4.7%	4.7%	21.5%
Column Percent	97.4%	100.0%	100.0%	85.2%
TOTAL				
Count	. 76	5	5	27
Row Percent	67.3%	4.4%	4.4%	23.9%
Column Percent	100.0%	100.0%	100.0%	100.0%

BS CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1988 Starting Salary Survey

Table B-9a

			RACE	OR	ETHNIC GROUP	d.		
	AMER INDIAN	CHINESE	SUBCONT	OTHER	BLACK	HISP	WHITE	OTHER
FULL-TIME IN CHEMISTRY Count	ε	6	2	14	13	4	455	м
Row Percent Column Percent	37.5%	1.8%	.4%		2.6%	00 00 00 00 00 00 00 00 00 00 00 00 00		0.00
FULL-TIME IN NON-CHEMISTRY Count	n	0	0		0	Ŋ	87	က
Row Percent Column Percent	37.5%	% % O O	% %	0.00 0.00 0.00	% % % %	38°0 8°0 8°0	87.0%	3.0%
FELLOWSHIP Count Row Percent Column Percent	000	2.7% 14.3%	000	5.5% 16.7%	3 4.1% 15.8%	000	64 87.7% 9.2%	000
SEEKING EMPLOYMENT Count Row Percent Column Percent	1 1.7% 12.5%	1 %%	000	1.7%	000	5.0%	54 90.0% 7.7%	000
NOT SEEKING EMPLOYMENT Count Row Percent Column Percent	2.0% 12.5%	4.1% 14.3%	1 2.0% 33.3%	3 6.1% 12.5%	6.1% 15.8%	1 2.0% 7.7%	38 77.6% 5.4%	000
TOTAL Count Row Percent Column Percent	8 1.0% 100.0%	14 1.8% 100.0%	3 .4% 100.0%	24 3.18 100.08	19 2.4% 100.0%	13 1.7% 100.0%	698 88.9% 100.0%	6 .8% 100.0%

Table B-9a Continued

MS CHEMICAL ENGINEERING GRADUATES by EMPLOYMENT STATUS and ETHNICITY 1988 Starting Salary Survey

			RACE	OR	ETHNIC GROUP			
	AMER INDIAN	CHINESE	SUBCONT	OTHER	BLACK	HISP	WHITE	отнек
FULL-TIME IN CHEMISTRY Count	0	4	4	2	1	2	57	٦,
Row Percent Column Percent	% %	30.8%	5.6% 44.4%	33.0%	1.4%	2.8% 40.0%	54.3%	1.4%
FULL-TIME IN NON-CHEMISTRY	•	(((•	•		•
Count Row Percent	o °.	0 %	0 0.	0 0.	0 %	8°.3%	9 6	٦٣.
Column Percent	% 0 •	0.		.0.	%0.	•	9.5%	25.0%
FELLOWSHIP Count	0	ນ		7	0	ч	27	
Row Percent Column Percent	% % O O	12.5% 38.5%	10.0%	33.3%	% % 0 0	2.5%	67.5%	25.0%
SEEKING EMPLOYMENT	c	c	-		C	<u> </u>	ĸ	ţ-
Row Percent	. 0	7.3	٠,	9.1%	% •	%	45.5%	9.1%
Column Percent	.0%	23.1%	11.1%		%0.	%		25.0%
NOT SEEKING EMPLOYMENT	(•	(•	C			Ċ
Count Row Percent	> °	11, 1,	o °		0 0	11,1	66.7%	- % - °
Column Percent		7.		9		· •		· *
TOTAL	c	,	σ	v	_	ıc	105	4
Row Percent	%	٦ ٦	% °°°	4.2%	. 7 %	3° C	73.4%	
Column Percent	*0.		0.	•	0	0.	0	•

:

Table B-9a Continued

PHD CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1988 Starting Salary Survey

FULL-TIME IN CHEMISTRY				RACE	OR	ETHNIC GROUP	IP		
IN CHEMISTRY 0 11.6% 5.8% 5.8% 1.2% 1.02% 100.0% 79.0% 10.0% 11.6% 62.5% 62.5% 50.0% 100.0% 79.0% 11.1% 22.2% 0.0% 0.0% 0.0% 79.0% 11.1% 22.2% 0.0% 0.0% 0.0% 77.4% ercent ent ent ent ent ent ent ent		AMER	CHINESE	SUBCONT	OTHER ASIAN	BLACK	HISP	WHITE	отнек
ent .0% 11.6% 5.8% 5.8% 1.2% 1.2% 74.4% ercent .0% 62.5% 45.5% 62.5% 50.0% 100.0% 79.0% IN MISTRY 0 11.1% 22.2% .0% .0% .0% 7.4% ent .0% 11.1% 22.2% .0% .0% .0% 7.4% ercent .0% 21.4% 28.6% 14.3% 7.1% .0% 7.4% PLOYMENT .0% 25.0% .0% .0% .0% 7.5% ent .0% 25.0% .0% .0% .0% 7.4% C EMPLOYMENT .0% .0% .0% .0% .0% 7.4% ent .0% .0% .0% .0% .0% 7.4% ent .0% .0% .0% .0% .0% .0% .0% ent .0% .0% .0% .0% .0% .0% .0	FULL-TIME IN CHEMISTRY Count	0	10	വ	വ	r,	Н	64	0
IN MISTRY 0 1 2 0 0 0 66.7% ent .0% 11.1% 22.2% .0% .0% .0% 7.4% ercent .0% 21.4% 28.6% 14.3% 7.1% .0% 7.4% PLOYMENT .0% 18.8% 36.4% 25.0% .0% .0% 4.9% PLOYMENT .0% 25.0% .0% .0% .0% 75.0% ent .0% .0% .0% .0% .0% 75.0% ercent .0% .0% .0% .0% .0% 75.0% ent .0% .0% .0% .0% .0% .0% .0% ent .0% .0% .0% .0% .0% .0% .0% .0% ent .0% .0% .0% .0% .0% .0% .0% .0% ent .0% .0% .0% .0% .0%	Row Percent Column Percent		.5	5.5	5.8	20.	1.2%	4.4	***
ent0% 11.1% 22.2%0%0%0% 66.7% ercent0% 6.3% 18.2%0%0%0% 7.4% ent0% 21.4% 28.6% 14.3% 7.1%0% 4.9% ercent0% 12.5%0%0%0% 7.4% ercent0% 12.5%0%0%0%0% 7.4% ercent0% 12.5%0%0%0%0% 7.4% ercent0%0%0%0%0%0%0%0% 12.5%0%0%0%0% 12.5%0%0%0%0%0%0%0%0%0%0%0%0%0%0%0%0%0% ercent0% 13.4% 9.2% 66.7% 17% 17%%% 68.1% ercent0% 100.0% 100.0% 100.0% 100.0% 100.0%	FULL-TIME IN NON-CHEMISTRY	c	-		C	C	C	v	C
ent 0 3 4 2 1 0 28.6% ercent .0% 21.4% 28.6% 14.3% 7.1% .0% 28.6% PLOYMENT 0 25.0% .0% .0% .0% .0% 4.9% PLOYMENT 0 25.0% .0% .0% .0% .0% 75.0% ent .0% .0% .0% .0% .0% .7.4% G EMPLOYMENT 0 0 0 0 0 .0% .7.4% G EMPLOYMENT 0 0 0 0 0 .0% .7.4% G EMPLOYMENT 0 0 0 0 0 .0% .7.4% G EMPLOYMENT 0 0 0 0 0 .0% .0% .0% .0% ent .0% .0% .0% .0% .0% .0% .0% .0% .0% ent .0% .0% .0%	Row Percent Column Percent	00	1.1	2.2	00	% % 0 0 0	* * * • • •	6.7 7.4	% % 0 0 0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	FELLOWSHIP								
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Count		, y	4 4	7 7	1	0,0	4 4	000
0 0 0 0 0 6 .0% .0% .0% .0% .0% 75.0% .0% 12.5% .0% .0% .0% 7.4% .0% .0% .0% .0% 7.4% .0% .0% .0% .0% 7.4% .0% .0% .0% .0% 12.5% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0% .0%<	Column Percent		8.8	6.4	5.0	. 0.		4.9	
.08 25.08 .08 .08 .08 75.08 .08 12.58 .08 .08 .08 7.48 .08 .08 .08 .08 .08 50.08 .08 .08 .08 12.58 .08 1.28 .08 13.48 9.28 6.78 1.78 88 68.18 .08 100.08 100.08 100.08 100.08	SEEKING EMPLOYMENT Count	0	2	0	0	0	0	9	0
0 0 0 0 0 1 .08 .08 .08 .08 .08 50.08 .08 .08 .08 50.08 12.58 .08 .08 1.28 0 16 11 8 2 1 08 13.48 9.28 6.78 1.78 .88 68.18 .08 100.08 100.08 100.08 100.08	Row Percent Column Percent		0.0		00	% %	% %	5.	
Percent .0%	NOT SEEKING EMPLOYMENT Count	0	0	0	П	0	0	Н	0
nt 0 16 11 8 2 1.7% 8% 68.1% umn Percent .0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%	Row Percent	%0.	%0.	% 0 •	0.0	0	%0.	•	%0.
nt 0 16 11 8 2 1 81 Percent .0% 13.4% 9.2% 6.7% 1.7% .8% 68.1% umn Percent .0% 100.0% 100.0% 100.0% 100.0% 100.0%	Column Percent	%	%	% O	2.5	% O	%	•	
ent .0% 13.4% 9.2% 6.7% 1.7% .8% 68.1%	TOTAL	·	. 4	<u></u>	α	C	<u>, </u>	ξα	C
ent .0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%	Row Percent	%0	4	9.2%		. 7	1 00	, ר	%0
	Column Percent	*0.	0.00	100.08	0.0	0	100.0%	0.00	%0.

Table B-9b

BS CHEMICAL ENGINEERING GRADUATES

Dy PLANS FOR FURTHER STUDIES IN FALL 1988 and ETHNICITY

1988 Starting Salary Survey

			RACE	OR	ETHNIC GROUP	P		
	AMER INDIAN	CHINESE	SUBCONT	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 88								
YES, FULL-TIME Count Row Percent Column Percent	1.5% 25.0%	3.7%	1 .7% 33.3%	6 4.4% 25.0%	3.7% 25.0%	.7% 7.7%	116 85.3% 16.2%	0000
YES, PART-TIME Count Row Percent Column Percent	1 .8% 12.5%	000	000	7 5.4% 29.2%	3.8% 25.0%	8% 7.7%	112 86.2% 15.6%	3.1%
NO Count Row Percent Column Percent	. 5 . 9% . 5%	10 1.9% 66.7%	44% 66.7%	11 2.0% 45.8%	10 1.9% 50.0%	11 2.0% 84.6%	488 90.5% 68.2%	33.3%
TOTAL Count Row Percent Column Percent	8 1.0% 100.0%	15 1.9% 100.0%	3 .4% 100.0%	24 3.0% 100.0%	20 2.5% 100.0%	13 1.68 100.08	716 88.9% 100.0%	.78 100.08

Table B-9b Continued

MS CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and ETHNICITY
1988 Starting Salary Survey

			RAC	RACE OR ETH	ETHNIC GROUP	J.		
	AMER	CHINESE	SUBCONT	OTHER	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 88								
YES, FULL-TIME Count Row Percent Column Percent	000	17.3% 69.2%	9.6%	3 5.8%	000	3.8% 40.0%	31 59.6% 29.2%	3.8%
YES, PART-TIME Count Row Percent Column Percent	000	000	000	000	000	1 10.0% 20.0%	90.8 90.0 %%	000
NO Count Row Percent Column Percent	000	4 6 . 0 8 % % % % % % % % % % % % % % % % % %	4 4 4 0 . 4 4 8 9 4 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3.7% 50.0%	1.2% 100.0%	2 7 7 2 4 0 . 0 % %	66 80.5% 62.3%	2.4% 50.0%
TOTAL Count Row Percent Column Percent	0 0 0 0	13 9.0% 100.0%	6.3% 100.0%	6 4.2% 100.0%	.7% 100.0%	3.5% 100.0%	106 73.68 100.08	4 2.8% 100.0%

Table B-9b Continued

PHD CHEMICAL ENGINEERING GRADUATES by PLANS FOR FURTHER STUDIES IN FALL 1988 and ETHNICITY 1988 Starting Salary Survey

			RACE	OR	ETHNIC GROUP	P.		
,	AMER INDIAN	CHINESE	SUBCONT	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 88	,							
YES, FULL-TIME Count Row Percent Column Percent	000	33.3% 6.3%	33.3% 12.5%	000	000	000	33.3% 1.3%	000
YES, PART-TIME Count Row Percent Column Percent	000	33. 6.3%	000	1 33.3% 14.3%	000	000	33.3% 1.3%	000
NO Count Row Percent Column Percent	000	14 13.2% 87.5%	6.6% 87.5%	6 5.7% 85.7%	2 1.9%	1 .9% 100.0%	76 71.78 97.48	0000
TOTAL Count Row Percent Column Percent	00.0	16 14.3% 100.0%	8 7.18 100.08	6.3% 100.0%	1.8% 100.0%	.00°,0%	78 69.68 100.08	000

Table C-1

BS CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDY and SEX
1988 Starting Salary Survey

	SE		TOTAL
	MEN	WOMEN	IOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	51	27	78
Row Percent	65.4%	34.6%	100.0%
Column Percent	49.5%	38.0%	44.8%
PHYSICAL SCI OR MATH Row Percent Column Percent	4	2	6
	66.7%	33.3%	100.0%
	3.9%	2.8%	3.4%
CHEM OR BIOCHEM ENG	4	0	4
Row Percent	100.0%	.0%	100.0%
Column Percent	3.9%	.0%	2.3%
OTHER ENGINEERING	3	1	4
Row Percent	75.0%	25.0%	100.0%
Column Percent	2.9%	1.4%	2.3%
BIOCHEMISTRY	12	9	21
Row Percent	57.1%	42.9%	100.0%
Column Percent	11.7%	12.7%	12.1%
LIFE SCIENCE	0	2	2
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	2.8%	1.1%
MEDICINE	4	1	5
Row Percent	80.0%	20.0%	100.0%
Column Percent	3.9%	1.4%	2.9%
PHARMACY	0	3	3
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	4.2%	1.7%
BUSINESS MANAGEMENT	13	19	32
Row Percent	40.6%	59.4%	100.0%
Column Percent	12.6%	26.8%	18.4%
EDUCATION Row Percent Column Percent	2	0	2
	100.0%	.0%	100.0%
	1.9%	.0%	1.1%
LAW Row Percent Column Percent	1	1	2
	50.0%	50.0%	100.0%
	1.0%	1.4%	1.1%
OTHER Row Percent Column Percent	9	6	15
	60.0%	40.0%	100.0%
	8.7%	8.5%	8.6%
TOTAL Row Percent Column Percent	103	71	174
	59.2%	40.8%	100.0%
	100.0%	100.0%	100.0%

Table C-1 Continued

MS CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDY and SEX
1988 Starting Salary Survey

1300	Scarcing Sal		
	S	EX T	TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY Row Percent Column Percent	37.5% 27.3%	5 62.5% 71.4%	8 100.0% 44.4%
PHYSICAL SCI OR MATH	2	0	2
Row Percent	100.0%	.0%	100.0%
Column Percent	18.2%	.0%	11.1%
CHEM OR BIOCHEM ENG Row Percent Column Percent	0 .0% .0%	0 .0% .0%	.0% .0%
OTHER ENGINEERING	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	14.3%	5.6%
BIOCHEMISTRY	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
LIFE SCIENCE	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
MEDICINE	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
PHARMACY	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
BUSINESS MANAGEMENT Row Percent Column Percent	4 100.0% 36.4%	.0% .0%	4 100.0% 22.2%
EDUCATION	1	1	2
Row Percent	50.0%	50.0%	100.0%
Column Percent	9.1%	14.3%	11.1%
LAW	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	9.1%	.0%	5.6%
OTHER Row Percent Column Percent	0.0%	0 .0% .0%	0 0% .0%
TOTAL	11	7	18
Row Percent	61.1%	38.9%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-1 Continued

PHD CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1988

by FIELD OF ADVANCED STUDY and SEX

1988 Starting Salary Survey

	T Starting Sala	- Julyey	T
	SI	EX	TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	2	0	2
Row Percent	100.0%	.0%	100.0%
Column Percent	28.6%	.0%	28.6%
PHYSICAL SCI OR MATH	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	14.3%	.0%	14.3%
CHEM OR BIOCHEM ENG	0	0	0
Row Percent	.0%	. 0%	.0%
Column Percent	.0%	.0%	.0%
OTHER ENGINEERING	o	0	o
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
BIOCHEMISTRY	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
LIFE SCIENCE	0	o	o
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
MEDICINE	0	0	o
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
PHARMACY	0	0	0.
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
BUSINESS MANAGEMENT	3	0	3
Row Percent	100.0%	.0%	100.0%
Column Percent	42.9%	.0%	42.9%
EDUCATION	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
LAW	1 1	o	1
Row Percent	100.0%	.0%	100.0%
Column Percent	14.3%	.0%	14.3%
OTHER	0	o	0.
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
TOTAL	7	o	7
Row Percent	100.0%	.0%	100.0%
Column Percent	100.0%	.0%	100.0%

BS CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1988 by FIELD OF ADVANCED STUDIES and CERTIFICATION 1988 Starting Salary Survey

	CURRICULUM A	APPROVED?	TOTAL
	YES	NO	
FIELD OF FURTHER STUDIES			
CHEMISTRY Row Percent Column Percent	39	39	78
	50.0%	50.0%	100.0%
	48.8%	41.5%	44.8%
PHYSICAL SCI OR MATH Row Percent Column Percent	3	3	6
	50.0%	50.0%	100.0%
	3.8%	3.2%	3.4%
CHEM OR BIOCHEM ENG	3	1	4
Row Percent	75.0%	25.0%	100.0%
Column Percent	3.8%	1.1%	2.3%
OTHER ENGINEERING	1	3	4
Row Percent	25.0%	75.0%	100.0%
Column Percent	1.3%	3.2%	2.3%
BIOCHEMISTRY	7	14	21
Row Percent	33.3%	66.7%	100.0%
Column Percent	8.8%	14.9%	12.1%
LIFE SCIENCE Row Percent Column Percent	0	2	2
	.0%	100.0%	100.0%
	.0%	2.1%	1.1%
MEDICINE	2	3	5
Row Percent	40.0%	60.0%	100.0%
Column Percent	2.5%	3.2%	2.9%
PHARMACY	2	1	3
Row Percent	66.7%	33.3%	100.0%
Column Percent	2.5%	1.1%	1.7%
BUSINESS MANAGEMENT	13	19	32
Row Percent	40.6%	59.4%	100.0%
Column Percent	16.3%	20.2%	18.4%
EDUCATION Row Percent Column Percent	0	2	2
	.0%	100.0%	100.0%
	.0%	2.1%	1.1%
LAW Row Percent Column Percent	2	0	2
	100.0%	.0%	100.0%
	2.5%	.0%	1.1%
OTHER Row Percent Column Percent	8	7	15
	53.3%	46.7%	100.0%
	10.0%	7.4%	8.6%
TOTAL Row Percent Column Percent	80	94	174
	46.0%	54.0%	100.0%
	100.0%	100.0%	100.0%

Table C-3

BS CHEM ENGINEERING GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1988

by FIELD OF ADVANCED STUDY and SEX

1988 Starting Salary Survey

	SE	x	TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES	·		
CHEMISTRY	2	0	2
Row Percent Column Percent	100.0%	.0%	100.0% 1.6%
Column refeeld	2.25	.0%	1.04
PHYSICAL SCI OR MATH	3	2	5
Row Percent	60.0%	40.0%	100.0%
Column Percent	3.3%	5.7%	3.9%
CHEM OR BIOCHEM ENG	26	8	. 34
Row Percent	76.5%	23.5%	100.0%
Column Percent	28.3%	22.9%	26.8%
OMULES			•
OTHER ENGINEERING	13	2	15
Row Percent Column Percent	86.7% 14.1%	13.3%	100.0%
column Percent	14.18	5.7%	11.8%
LIFE SCIENCE	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	2.9%	.8%
MEDICINE	1	. 0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	1.1%	.0%	.8%
DUCTNESS MANAGRAM			
BUSINESS MANAGEMENT Row Percent	43 68.3%	20	63
Column Percent	46.7%	31.7% 57.1%	100.0% 49.6%
	40.75	37.18	49.03
EDUCATION	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	2.9%	.8%
LAW	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	1.1%	.0%	.8%
OTHER	_	_	
Row Percent	3 75.09	1 25.0%	4
Column Percent	75.0% 3.3%	25.0%	100.0% 3.1%
·	3.30	2.50	3.10
TOTAL	92	35	127
Row Percent	72.4%	27.6%	100.0%
Column Percent	100.0%	100.0%	100.0%

MS CHEM ENGINEERING GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1988 by FIELD OF ADVANCED STUDY and SEX

Table C-3 Continued

1988 Starting Salary Survey

	s	EX	TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	0	0	0.0%
Row Percent	.0%	.0%	
Column Percent	.0%	.0%	
PHYSICAL SCI OR MATH	1	0.0%	1
Row Percent	100.0%		100.0%
Column Percent	10.0%		9.1%
CHEM OR BIOCHEM ENG	5	0	5
Row Percent	100.0%	.0%	100.0%
Column Percent	50.0%	.0%	45.5%
OTHER ENGINEERING	1	1	2
Row Percent	50.0%	50.0%	100.0%
Column Percent	10.0%	100.0%	18.2%
LIFE SCIENCE	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
MEDICINE	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
BUSINESS MANAGEMENT	0.0%	0	0
Row Percent		.0%	.0%
Column Percent		.0%	.0%
EDUCATION	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
LAW	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
OTHER	3	0	3
Row Percent	100.0%	.0%	100.0%
Column Percent	30.0%	.0%	27.3%
TOTAL	10	1	11
Row Percent	90.9%	9.1%	100.0%
Column Percent	100.0%	100.0%	100.0%

BS CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1988 by FIELD OF ADVANCED STUDY and SEX 1988 Starting Salary Survey

Table C-4

1988 \$	Starting Sala	ry Survey	
·	SE	х	TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY Row Percent Column Percent	238	133	371
	64.2%	35.8%	100.0%
	39.9%	34.6%	37.8%
PHYSICAL SCI OR MATH	9	4	13
Row Percent	69.2%	30.8%	100.0%
Column Percent	1.5%	1.0%	1.3%
CHEM OR BIOCHEM ENG	5	2	7
Row Percent	71.4%	28.6%	100.0%
Column Percent	.8%	.5%	.7%
OTHER ENGINEERING	5	4	9
Row Percent	55.6%	44.4%	100.0%
Column Percent	.8%	1.0%	.9%
BIOCHEMISTRY Row Percent Column Percent	43	37	80
	53.8%	46.3%	100.0%
	7.2%	9.6%	8.2%
LIFE SCIENCE Row Percent Column Percent	7	4	11
	63.6%	36.4%	100.0%
	1.2%	1.0%	1.1%
MEDICINE Row Percent Column Percent	207	133	340
	60.9%	39.1%	100.0%
	34.7%	34.6%	34.7%
DENTISTRY Row Percent Column Percent	22	13	35
	62.9%	37.1%	100.0%
	3.7%	3.4%	3.6%
PHARMACY	10	19	29
Row Percent	34.5%	65.5%	100.0%
Column Percent	1.7%	4.9%	3.0%
BUSINESS MANAGEMENT	7	8	15
Row Percent	46.7%	53.3%	100.0%
Column Percent	1.2%	2.1%	1.5%
EDUCATION	4	11	15
Row Percent	26.7%	73.3%	100.0%
Column Percent	.7%	2.9%	1.5%
LAW Row Percent Column Percent	15	4	19
	78.9%	21.1%	100.0%
	2.5%	1.0%	1.9%
OTHER Row Percent Column Percent	25	12	37
	67.6%	32.4%	100.0%
	4.2%	3.1%	3.8%
TOTAL Row Percent Column Percent	597	384	981
	60.9%	39.1%	100.0%
	100.0%	100.0%	100.0%

Table C-4 Continued

MS CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1988 by FIELD OF ADVANCED STUDY and SEX

1988 Starting Salary Survey

1500 5	tarting Sala SE	- -	TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES CHEMISTRY Row Percent Column Percent	57	28	85
	67.1%	32.9%	100.0%
	66.3%	68.3%	66.9%
PHYSICAL SCI OR MATH	1	1	2
Row Percent	50.0%	50.0%	100.0%
Column Percent	1.2%	2.4%	1.6%
CHEM OR BIOCHEM ENG	3	2	5
Row Percent	60.0%	40.0%	100.0%
Column Percent	3.5%	4.9%	3.9%
OTHER ENGINEERING	2	0	2
Row Percent	100.0%	.0%	100.0%
Column Percent	2.3%	.0%	1.6%
BIOCHEMISTRY Row Percent Column Percent	11	1	12
	91.7%	8.3%	100.0%
	12.8%	2.4%	9.4%
LIFE SCIENCE Row Percent Column Percent	1	1	2
	50.0%	50.0%	100.0%
	1.2%	2.4%	1.6%
MEDICINE	7	4	11
Row Percent	63.6%	36.4%	100.0%
Column Percent	8.1%	9.8%	8.7%
DENTISTRY Row Percent Column Percent	0	0	0
	.0%	.0%	.0%
	.0%	.0%	.0%
PHARMACY Row Percent Column Percent	1	0	1
	100.0%	.0%	100.0%
	1.2%	.0%	.8%
BUSINESS MANAGEMENT	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	2.4%	.8%
EDUCATION Row Percent Column Percent	0.0%	0 .0% .0%	0 .0% .0%
LAW Row Percent Column Percent	0.0%	2 100.0% 4.9%	2 100.0% 1.6%
OTHER Row Percent Column Percent	3	1	4
	75.0%	25.0%	100.0%
	3.5%	2.4%	3.1%
TOTAL Row Percent Column Percent	86	41	127
	67.7%	32.3%	100.0%
	100.0%	100.0%	100.0%

PHD CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1988 by FIELD OF ADVANCED STUDY and SEX 1988 Starting Salary Survey

Table C-4 Continued

TOTAL SEX WOMEN MEN FIELD OF FURTHER STUDIES 35 0 35 CHEMISTRY .0% 100.0% Row Percent 100.0% .0% 70.0% 71.4% Column Percent 0 0 PHYSICAL SCI OR MATH 0 .0% .0% .0% Row Percent Column Percent .0% .0% .0% CHEM OR BIOCHEM ENG 0 0 0 .0% .0% Row Percent .0% .0% .0% Column Percent .0% 0 OTHER ENGINEERING O 0 .0% .0% .0% Row Percent .0% .0% Column Percent .0% 13 BIOCHEMISTRY 12 1 7.7% 100.0% 92.3% Row Percent 26.0% 100.0% Column Percent 24.5% 0 LIFE SCIENCE 0 0 .0% .0% .0% Row Percent Column Percent .0% .0% .0% 0 1 MEDICINE 1. 100.0% 100.0% .0% Row Percent 2.0% .0% 2.0% Column Percent DENTISTRY 0 0 0 .0% .0% .0% Row Percent .0% .0% .0% Column Percent 0 1 PHARMACY 1 100.0% 100.0% .0% Row Percent 2.0% Column Percent 2.0% .0% 0 0 0 BUSINESS MANAGEMENT .0% .0% .0% Row Percent .0% .0% .0% Column Percent EDUCATION 0 0 0 .0% .0% .0% Row Percent Column Percent .0% .0% .0% 0 0 0 LAW .0% .0% .0% Row Percent .0% .0% Column Percent . 0 ዩ OTHER 0 0 0 .0% .0% .0% Row Percent .0% .0% Column Percent .0% TOTAL 49 .1 50 98.0% 100.0% Row Percent 2.0% Column Percent 100.0% 100.0% 100.0% Table C-5

	CURRICULUM	APPROVED?	TOTAL
	YES	МО	
FIELD OF FURTHER STUDIES			
CHEMISTRY	266	105	371
Row Percent	71.7%	28.3%	100.0%
Column Percent	60.0%	19.5%	37.8%
PHYSICAL SCI OR MATH	4	9	13
Row Percent	30.8%	69.2%	100.0%
Column Percent	.9%	1.7%	1.3%
CHEM OR BIOCHEM ENG	3	4	7
Row Percent	42.9%	57.1%	100.0%
Column Percent	.7%	.7%	.7%
OTHER ENGINEERING	4	5	9
Row Percent	44.4%	55.6%	100.0%
Column Percent	.9%	.9%	.9%
BIOCHEMISTRY	30	50	80
Row Percent	37.5%	62.5%	100.0%
Column Percent	6.8%	9.3%	8.2%
LIFE SCIENCE	1	10	11
Row Percent	9.1%	90.9%	100.0%
Column Percent	.2%	1.9%	1.1%
MEDICINE	94	246	340
Row Percent	27.6%	72.4%	100.0%
Column Percent	21.2%	45.7%	34.7%
DENTISTRY	4	31	35
Row Percent	11.4%	88.6%	100.0%
Column Percent	.9%	5.8%	3.6%
PHARMACY	6	23	29
Row Percent	20.7%	79.3%	100.0%
Column Percent	1.4%	4.3%	3.0%
BUSINESS MANAGEMENT	7	8	15
Row Percent	46.7%	53.3%	100.0%
Column Percent	1.6%	1.5%	1.5%
EDUCATION Row Percent Column Percent	4	11	15
	26.7%	73.3%	100.0%
	.9%	2.0%	1.5%
LAW Row Percent Column Percent	6	13	19
	31.6%	68.4%	100.0%
	1.4%	2.4%	1.9%
OTHER Row Percent Column Percent	14	23	37
	37.8%	62.2%	100.0%
	3.2%	4.3%	3.8%
TOTAL Row Percent Column Percent	443	538	981
	45.2%	54.8%	100.0%
	100.0%	100.0%	100.0%

Table C-6

BS CHEM ENGINEERING GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDY and SEX
1988 Starting Salary Survey

C E		
	EX	TOTAL
MEN	WOMEN	
		`
1	0	1
.9%	.0%	100.0% .7%
1	o	1
-		100.0%
.96	.08	.78
78	15	93
		100.0% 68.9%
,2.50	33.0%	00.55
5	3	8
4.7%		100.0% 5.9%
		2 100.0%
1.9%	.0%	1.5%
7	5	12
58.3%	41.7%	100.0%
6.5%	17.9%	8.9%
o	2	2
.0%	100.0%	100.0%
.0%	7.1%	1.5%
6	o	6
	.0%	100.0%
5.6%	.0%	4.4%
O	1	ı
		100.0%
.04	3.68	.7%
4	2	6
		100.0%
J. 7.0	/ • ± · •	4.40
3	0	3
		100.0% 2.2%
		135
100.0%	100.0%	100.0% 100.0%
	1 100.0% .9% 1 100.0% .9% 78 83.9% 72.9% 62.5% 4.7% 2 100.0% 1.9% 6.5% 0 .0% .0% 6.5% 0 .0% .0% 100.0% 5.6% 0 .0% .0% 100.0% 5.6% 5.6% 5.6% 5.6% 5.6% 5.6% 5.6% 5.6	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Table C-6 Continued

MS CHEM ENGINEERING GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDY and SEX
1988 Starting Salary Survey

	SE	Х	TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES	_		
CHEMISTRY	0	0	0 .0%
Row Percent Column Percent	.0%	.0%	.0%
COldmir Felcenc			
PHYSICAL SCI OR MATH	1 1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	2.3%	.0%	1.9%
CHEM OR BIOCHEM ENG	41	8	49
Row Percent	83.7%	16.3%	100.0%
Column Percent	93.2%	88.9%	92.5%
		,	7
OTHER ENGINEERING	0.0%	1 100.0%	1 100.0%
Row Percent Column Percent	.0%	11.1%	1.9%
Column Fercenc		11.10	2.50
BIOCHEMISTRY	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	\$0.	.0%	.0%
MEDICINE	o	o	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
PHARMACY	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	2.3%	.0%	1.9%
BUSINESS MANAGEMENT	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
EDUCATION	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
LAW	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
		_	_
OTHER	1 100 08	0	100.08
Row Percent	100.0%	.0%	100.0%
Column Percent	4.36	1	1.30
TOTAL	44	9	53
Row Percent	83.0%	17.0%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-7

BS CHEMISTRY GRADUATES WHO ARE NOT EMPLOYED and NOT SEEKING EMPLOYMENT by SEX and PLANS FOR FURTHER STUDIES 1988 Starting Salary Survey

	S	EX	TOTAL
	MEN	WOMEN	
PURSUE ADVANCED STUDIES IN FALL 88			
YES, FULL-TIME	242	173	415
Row Percent	58.3%	41.7%	100.0%
Column Percent	91.7%	93.5%	92.4%
YES, PART-TIME Row Percent Column Percent	8	5	13
	61.5%	38.5%	100.0%
	3.0%	2.7%	2.9%
NO	14	7	21
Row Percent	66.7%	33.3%	100.0%
Column Percent	5.3%	3.8%	4.7%
TOTAL Row Percent Column Percent	264	185	449
	58.8%	41.2%	100.0%
	100.0%	100.0%	100.0%

Table C-8

BS CHEMICAL ENGINEERING GRADUATES WHO ARE NOT EMPLOYED and NOT SEEKING EMPLOYMENT by SEX and PLANS FOR FURTHER STUDIES 1988 Starting Salary Survey

	SE	EX	TOTAL
	MEN	WOMEN	
PURSUE ADVANCED STUDIES IN FALL 88			
YES, FULL-TIME	28	14	42
Row Percent	66.7%	33.3%	100.0%
Column Percent	90.3%	82.4%	87.5%
YES, PART-TIME	3	0	3
Row Percent	100.0%	.0%	100.0%
Column Percent	9.7%	.0%	6.3%
NO	0	3	3
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	17.6%	6.3%
TOTAL	31	17	48
Row Percent	64.6%	35.4%	100.0%
Column Percent	100.0%	100.0%	100.0%

BS CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES by AGE and SEX 1988 Starting Salary Survey

;			FIE	LD		
·	Chemic	al Engine	ering	C	hemistry	
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
AGE						
20 OR UNDER	2 ·	1	3	11	9	20
Row Percent	66.7%	33.3%	100.0%	55.0%	45.0%	100.0%
Column Percent	.4%	.5%	.4%	1.3%	1.5%	1.4%
21	42	28	70	120	125	245
Row Percent	60.0%	40.0%	100.0%	49.0%	51.0%	100.0%
Column Percent	8.5%	14.3%	10.1%	14.2%	20.4%	16.8%
22	179	71	250	386	274	660
Row Percent	71.6%	28.4%	100.0%	58.5%	41.5%	100.0%
Column Percent	36.1%	36.2%	36.1%	45.8%	44.8%	45.4%
Row Percent Column Percent	155 68.6% 31.3%	71 31.4% 36.2%	226 100.0% 32.7%	134 56.5% 15.9%	103 43.5% 16.8%	237 100.0% 16.3%
24	58	10	68	50	24	74
Row Percent	85.3%	14.7%	100.0%	67.6%	32.4%	100.0%
Column Percent	11.7%	5.1%	9.8%	5.9%	3.9%	5.1%
25 Row Percent Column Percent	18 81.8% 3.6%	18.2% 2.0%	22 100.0% 3.2%	25 51.0% 3.0%	24 49.0% 3.9%	49 100.0% 3.4%
26	11	2	13	13	8	21
Row Percent	84.6%	15.4%	100.0%	61.9%	38.1%	100.0%
Column Percent	2.2%	1.0%	1.9%	1.5%	1.3%	1.4%
27	9	2	11	15	12	27
Row Percent	81.8%	18.2%	100.0%	55.6%	44.4%	100.0%
Column Percent	1.8%	1.0%	1.6%	1.8%	2.0%	1.9%
28 Row Percent Column Percent	100.0% .8%	0 .0% .0%	4 100.0% .6%	20 80.0% 2.4%	5 20.0% .8%	25 100.0% 1.7%
29	4	1	5	12	3	15
Row Percent	80.0%	20.0%	100.0%	80.0%	20.0%	100.0%
Column Percent	.8%	.5%	.7%	1.4%	.5%	1.0%
30 to 34	9	5	14	42	16	58
Row Percent	64.3%	35.7%	100.0%	72.4%	27.6%	100.0%
Column Percent	1.8%	2.6%	2.0%	5.0%	2.6%	4.0%
35 to 39 Row Percent Column Percent	80.0% .8%	1 20.0% .5%	5 100.0% .7%	11 68.8% 1.3%	5 31.3% .8%	16 100.0% 1.1%
40 to 49	100.0%	0	1	4	2	6
Row Percent		.0%	100.0%	66.7%	33.3%	100.0%
Column Percent		.0%	.1%	.5%	.3%	.4%
50 to 64	0	0	0	0	2	2
Row Percent	.0%	.0%	.0%	.0%	100.0%	100.0%
Column Percent	.0%	.0%	.0%	.0%	.3%	.1%
TOTAL Row Percent Column Percent	496	196	692	843	612	1455
	71.7%	28.3%	100.0%	57.9%	42.1%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table D-2

MS CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES
by AGE and SEX
1988 Starting Salary Survey

			FII	ELD		
	Chemic	cal Engine	ering	(Chemistry	
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
AGE		·				
22	1	0	1	4	2	6
Row Percent	100.0%	.0%	100.0%	66.7ዩ	33.3%	100.0%
Column Percent	.9%	.0%	.8%	2.5ዩ	2.1%	2.3%
23	7	0	7	6	9	15
Row Percent	100.0%	.0%	100.0%	40.0%	60.0%	100.0%
Column Percent	6.5%	.0%	5.3%	3.7%	9.5%	5.9%
24	15	9	24	15	13	28
Row Percent	62.5%	37.5%	100.0%	53.6%	46.4%	100.0%
Column Percent	13.9%	39.1%	18.3%	9.3%	13.7%	10.9%
25	20	4	24	26	21	47
Row Percent	83.3%	16.7%	100.0%	55.3%	44.7%	100.0%
Column Percent	18.5%	17.4%	18.3%	16.1%	22.1%	18.4%
26	17	2	19	19	10	29
Row Percent	89.5%	10.5%	100.0%	65.5%	34.5%	100.0%
Column Percent	15.7%	8.7%	14.5%	11.8%	10.5%	11.3%
27	10	4	14	25	7	32
Row Percent	71.4%	28.6%	100.0%	78.1%	21.9%	100.0%
Column Percent	9.3%	17.4%	10.7%	15.5%	7.4%	12.5%
28	17	1	18	14	6	20
Row Percent	94.4%	5.6%	100.0%	70.0%	30.0%	100.0%
Column Percent	15.7%	4.3%	13.7%	8.7%	6.3%	7.8%
Row Percent Column Percent	6 100.0% 5.6%	0 .0% .0%	6 100.0% 4.6%	7 43.8% 4.3%	9 56.3% 9.5%	16 100.0% 6.3%
30 to 34	12	2	14	33	12	45
Row Percent	85.7%	14.3%	100.0%	73.3%	26.7%	100.0%
Column Percent	11.1%	8.7%	10.7%	20.5%	12.6%	17.6%
35 to 39	3	1	4	5	3	8
Row Percent	75.0%	25.0%	100.0%	62.5%	37.5%	100.0%
Column Percent	2.8%	4.3%	3.1%	3.1%	3.2%	3.1%
40 to 49	0 .0%	0	0	7	2	9
Row Percent		.0%	.0%	77.8%	22.2%	100.0%
Column Percent		.0%	.0%	4.3%	2.1%	3.5%
50 to 64	.0%	0	0	0	1	1
Row Percent		.0%	.0%	.0%	100.0%	100.0%
Column Percent		.0%	.0%	.0%	1.1%	.4%
TOTAL	108	23	131	161	95	256
Row Percent	82.4%	17.6%	100.0%	62.9%	37.1%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table D-3

PHD CHEMISTRY and CHEMICAL ENGINEERING GRADUATES by AGE and SEX
1988 Starting Salary Survey

			FIE	LD		
	Chemic	al Engine	ering	C	hemistry	
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
AGE		,				-
22	1	0	1	0	0	0
Row Percent	100.0%	.0%	100.0%	.0%	.0%	.0%
Column Percent	1.0%	.0%	.9%	.0%	.0%	.0%
23	0	1	1	0.0%	0	0
Row Percent	.0%	100.0%	100.0%		.0%	.0%
-Column Percent	.0%	7.1%	.9%		.0%	.0%
24 Row Percent Column Percent	0 .0% .0%	0 .0% .0%	0 .0% .0%	1 50.0%	1 50.0% 1.1%	2 100.0% .4%
25 Row Percent Column Percent	100.0% 4.0%	0 .0% .0%	4 100.0% 3.5%	7 70.0% 1.9%	3 30.0% 3.4%	10 100.0% 2.2%
26	4	3	7	21	9	30
Row Percent	57.1%	42.9%	100.0%	70.0%	30.0%	100.0%
Column Percent	4.0%	21.4%	6.2%	5.6%	10.1%	6.5%
27	18	5	23	60	10	70
Row Percent	78.3%	21.7%	100.0%	85.7%	14.3%	100.0%
Column Percent	18.2%	35.7%	20.4%	16.1%	11.2%	15.2%
28 Row Percent Column Percent	19	1	20	64	16	80
	95.0%	5.0%	100.0%	80.0%	20.0%	100.0%
	19.2%	7.1%	17.7%	17.2%	18.0%	17.3%
29	17	3	20	60	14	74
Row Percent	85.0%	15.0%	100.0%	81.1%	18.9%	100.0%
Column Percent	17.2%	21.4%	17.7%	16.1%	15.7%	16.0%
30 to 34	34	1	35	117	28	145
Row Percent	97.1%	2.9%	100.0%	80.7%	19.3%	100.0%
Column Percent	34.3%	7.1%	31.0%	31.4%	31.5%	31.4%
35 to 39 Row Percent Column Percent	2 100.0% 2.0%	.0% .0%	2 100.0% 1.8%	30 83.3% 8.0%	6 16.7% 6.7%	36 100.0% 7.8%
40 to 49	0	0 .0%	0	13	1	14
Row Percent	.0%		.0%	92.9%	7.1%	100.0%
Column Percent	.0%		.0%	3.5%	1.1%	3.0%
50 to 64 Row Percent Column Percent	0.0%	0 .0%	0 .0% .0%	0 .0% .0%	1 100.0% 1.1%	1 100.0% .2%
TOTAL Row Percent Column Percent	99	14	113	373	89	462
	87.6%	12.4%	100.0%	80.7%	19.3%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table D-4

CHEMISTRY POSTDOCTORAL RECIPIENTS
by AGE and SEX
1988 Starting Salary Survey

	MEN	WOMEN	TOTAL
AGE			
24	1	1	2
Row Percent	50.0%	50.0%	100.0%
Column Percent	.6%	2.9%	1.0%
25	2	2	4
Row Percent	50.0%	50.0%	100.0%
Column Percent	1.2%	5.9%	2.0%
26	13	6	19
Row Percent	68.4%	31.6%	100.0%
Column Percent	8.0%	17.6%	9.7%
27	28	1	29
Row Percent	96.6%	3.4%	100.0%
Column Percent	17.3%	2.9%	14.8%
28	27	5	32
Row Percent	84.4%	15.6%	100.0%
Column Percent	16.7%	14.7%	16.3%
29	27	2	29
Row Percent	93.1%	6.9%	100.0%
Column Percent	16.7%	5.9%	14.8%
30 to 34	50	14	64
Row Percent	78.1%	21.9%	100.0%
Column Percent	30.9%	41.2%	32.7%
35 to 39	10	1	11
Row Percent	90.9%	9.1%	100.0%
Column Percent	6.2%	2.9%	5.6%
40 to 49	4	1	5
Row Percent	80.0%	20.0%	100.0%
Column Percent	2.5%	2.9%	2.6%
50 to 64	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	2.9%	.5%
TOTAL	162	34	196
Row Percent	82.7%	17.3%	100.0%
Column Percent	100.0%	100.0%	100.0%

FULL-TIME EMPLOYED INEXPERIENCED CHEMISTS by NUMBER OF JOB OFFERS, SEX, and DEGREE 1988 Starting Salary Survey

OFFERS OF EMPLOYMENT 1 67				CM.			РНО	
OF EMPLOYMENT	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
				-				
	55	122	14	10	24	41	0	50
Row Percent 54.9%	45.	100.0%	58.3%	۲.		82.0%	18.0%	0
Column Percent 37.4%	36.2	36.9%	1.2	. 7	38.7%	3.6	6.0	34.0%
2 53	വ	0	15		23	37	6	46
Row Percent 50	49	100.0%	65.2%	34.8%		80.4%	19.6%	•
ent	34.2	31.78	4.1	8.6	٦.	0.3	6.0	31.3%
3 31	26	57	ю	6	12	27	S	32
Row Percent	45	100.0%	25.0%	75.0%	100.0%	84.4%	15.6%	100.0%
Column Percent 17.3%	17.1	17.2%	ω %	2.1	19.4%	2.1	0.0	21.8%
4 18	10	28	1	0	1	9	0	9
Row Percent 64.3%	35		•	.0%	100.0%	100.0%	%0.	100.0%
Column Percent 10.1%	9.9	.5	2.9%		1.6%	4.0%	%	4.1%
Q		12	0	0	0	4	2	9
Row Percent 50.0%	50.0	100.0%	%0.	.0%	%0.	•	33.3%	100.0%
Column Percent 3.4%	3.0%	3.6%				 % 	0.	4.1%
6 or 7	m	7	1	н	2	7	0	.7
Percent 57.	42.9%	100.0%	50.0%	•	100.0%	•	%0.	100.08
Column Percent 2.2%	2.0	2.1%	2.9%	3.6%		5.7%	%	4.8%
TOTAL 179	15	331	34	28	62	122	. 25	147
<u></u>			54.	45.2%	0.00	83.	17.	•
Column Percent 100.0%	100.0	00.0	0.0		100.0%	100.0%	100.0%	0.00

Table E-2

FULL-TIME EMPLOYED EXPERIENCED CHEMISTS by NUMBER OF JOB OFFERS, SEX, and DEGREE 1988 Starting Salary Survey

		TOOCT	שבים בחים	Jaras	Dar vey				
		BS			MS			PHD	
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
OFFERS OF EMPLOYMENT		,							
1 Row Percent Column Percent	40 60.68 47.18	26 39.4% 38.8%	66 100.0% 43.4%	15 62.5% 40.5%	37.5% 30.0%	24 100.0% 35.8%	26 86.7% 36.1%	13.3% 23.5%	30 100.0% 33.7%
2 Row Percent Column Percent	13 38.2% 15.3%	21 61.8% 31.3%	34 100.08 22.48	10 58.8% 27.0%	7 41.2% 23.3%	17 100.0% 25.4%	17 73.9% 23.6%	26.1% 35.3%	23 100.0% 25.8%
3 Row Percent Column Percent	22 66.7% 25.9%	11 33.3% 16.4%	33 100.08 21.7%	7 46.7% 18.9%	53.3% 26.7%	15 100.0% 22.4%	14 73.7% 19.4%	26.3%	100.0% 21.3%
4 Row Percent Column Percent	60.0% 7.1%	40.04	10 100.0% 6.6%	4 100.0% 10.8%	000	4 100.0% 6.0%	81.8% 12.5%	18.2% 11.8%	11 100.0% 12.4%
5 Row Percent Column Percent	1 20.0% 1.2%	80.08 6.0%	5 100.0% 3.3%	000	2 100.0% 6.7%	2 100.0% 3.0%	2 100.0% 2.8%	000	2 100.0% 2.2%
6 or 7 Row Percent Column Percent	3 100.0% 3.5%	000	3 100.0% 2.0%	1 20.08 2.7%	80.0% 13.3%	5 100.0% 7.5%	4 100.0% 5.6%	000	4 100.0% 4.5%
8 or 9 Row Percent Column Percent	000	1 100.0% 1.5%	100.0%	000	000	000	000	000	000
TOTAL Row Percent Column Percent	85 55.9% 100.0%	67 44.18 100.08	152 100.0% 100.0%	37 55.2% 100.0%	30 44.8% 100.0%	67 100.08 100.08	72 80.9% 100.0%	17 19.18 100.08	89 100.0% 100.0%

FULL-TIME EMPLOYED INEXPERIENCED CHEMICAL ENGINEERS by NUMBER OF JOB OFFERS, SEX, and DEGREE 1988 Starting Salary Survey

		BS			MS			PHD	
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
OFFERS OF EMPLOYMENT									
1 Row Percent Column Percent	95 77.2% 38.2%	28 22.8% 26.2%	123 100.0% 34.6%	11 84.6% 37.9%	2 15.4% 25.0%	13 100.0% 35.1%	25 96.2% 44.6%	3.8% 20.0%	26 100.0% 42.6%
2 Row Percent Column Percent	54 62.8% 21.7%	32 37.2% 29.9%	86 100.0% 24.2%	81.8%	18.2% 25.0%	11 100.0% 29.7%	100.0%	000	17 100.0% 27.9%
3 Row Percent Column Percent	49 76.68 19.78	15 23.4% 14.0%	64 100.0% 18.0%	66.7% 20.7%	33.3%	9 100.0% 24.3%	7 70.0% 12.5%	30.0%	100.0% 16.4%
4 Row Percent Column Percent	22 64.7% 8.8%	12 35.3% 11.2%	34 100.0% 9.6%	1 50.0% 3.4%	1 50.0% 12.5%	2 100.0% 5.4%	3 75.0% 5.4%	25.0%	100.0%
5 Row Percent Column Percent	15 88.2% 6.0%	11.8% 1.9%	17 100.0% 4.8%	000	000	000	2 100.0% 3.6%	000	2 100.0% 3.3%
6 or 7 Row Percent Column Percent	14 46.78 5.68	16 53.3% 15.0%	30 100.08 8.48	2 100.0% 6.9%	000	2 100.0% 5.4%	2 100.0% 3.6%	000	100.0%
8 or 9 Row Percent Column Percent	000	2 100.0% 1.9%	2 100.0%	000	000	000	0 0 0	000	000
TOTAL Row Percent Column Percent	249 69.9% 100.0%	107 30.18 100.08	356 100.0% 100.0%	29 78.4% 100.0%	8 21.68 100.08	37 100.0% 100.0%	56 91.8% 100.0%	8.2%	61 100.0% 100.0%

Table E-4

FULL-TIME EMPLOYED EXPERIENCED CHEMICAL ENGINEERS by NUMBER OF JOB OFFERS, SEX, and DEGREE 1988 Starting Salary Survey

				,	•				
		BS			MS			PHD	
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
OFFERS OF EMPLOYMENT							-	_	
1 Row Percent Column Percent	30 66.78 19.78	15 33.3% 20.0%	45 100.0% 19.8%	14 87.5% 40.0%	12.5% 33.3%	16 100.0% 39.0%	83.3% 20.0%	16.7% 50.0%	6 100.0% 22.2%
2 Row Percent Column Percent	38 70.4% 25.0%	16 29.68 21.38	54 100.0%	81.8% 25.7%	18.2% 33.3%	11 100.0% 26.8%	5 100.0% 20.0%	000	5 100.0% 18.5%
3 Row Percent Column Percent	26 65.0% 17.1%	14 35.0% 18.7%	40 100.0% 17.6%	81.8% 25.7%	18.2% 33.3%	11 100.0% 26.8%	83.3%	1 16.7% 50.0%	6 100.0% 22.2%
4 Row Percent Column Percent	18 60.08 11.8%	12 40.0% 16.0%	30 100.0% 13.2%	000	000	000	3 100.0% 12.0%	000	3 100.0% 11.1%
5 Row Percent Column Percent	17 73.98 11.28	26.18 8.08	23 100.0% 10.1%	000	000	000	100.0%	000	6 100.0% 22.2%
6 or 7 Row Percent Column Percent	23 67.68 15.18	11 32.4% 14.7%	34 100.0% 15.0%	3 100.0% 8.6%	000	3 100.0% 7.3%	1 100.0% 4.0%	% %	1 100.0% 3.7%
8 or 9 Row Percent Column Percent	000	1 100.0% 1.3%	100.0%	% % 0 0 0 0	000	000	000	000	000
TOTAL Row Percent Column Percent	152 67.0% 100.0%	75 33.0% 100.0%	227 100.08 100.08	35 85.4% 100.0%	6 14.6% 100.0%	41 100.0% 100.0%	25 92.6% 100.0%	2 7.4% 100.0%	27 100.0% 100.0%

Table F-1

BS CHEMISTRY GRADUATES by CITIZENSHIP and ETHNICITY 1988 Starting Salary Survey

CITIZENSHIP U.S. NATIVE Column Percent Column Perce		RACE OR E	ETHNIC GROUP	JP			TOTAL
7 20 4 1.38 1.38 1.2 100.08 38.58 30.88 31.7 0 22 7 33 0.08 42.38 53.88 55.0 0 7 2 4.38 15.2 0 15.28 4.38 15.2 0 3 0 0 11.7 0 8 27.38 0 0 11.7 0 8 27.38 0 0 11.7	CHINESE		BLACK	HISP	WHITE	OTHER	
7						:	
100.0% 38.5% 30.8% 31.7 .0% 23.4% 7.4% 35.1 .0% 42.3% 53.8% 55.0 .0% 15.2% 4.3% 15.2 .0% 13.5% 15.4% 11.7 .0% 27.3% .0% 9.1 .0% 5.8% .0% 1.7	7 20 .4% 1.3%	.3% 1.2	1 m		1453	117%	56
0 23.4% 7.4% 35.1 .0% 42.3% 53.8% 55.0 0 7 2 4.3% 15.2% .0% 15.2% 4.3% 15.2 .0% 13.5% 15.4% 11.7 .0% 27.3% .0% 9.1	100.08 38.5%	.8% 31.7	76.9		7.1		91.2%
.0% 42.3% 53.8% 55.0 .0% 42.3% 53.8% 55.0 .0% 15.2% 4.3% 15.2 .0% 13.5% 15.4% 11.7 .0% 27.3% .0% 9.1 .0% 5.8% .0% 1.7	0 2	П	ю	5	21	ю	94
nt .0% 42.3% 53.8% 55.0 0 7 2 .0% 15.2% 4.3% 15.2 nt .0% 13.5% 15.4% 11.7 0 3 0 1 .0% 27.3% .0% 9.1 nt .0% 5.8% .0% 1.7	.08 23.48	.4% 35.1	3.2%	•	٠	3.2%	٠
0 7 2 15.28 15.28 15.2 15.2 15.2 15.2 15.2 15.2 11.7 0 3 0 0 1 11.7 0 0 3 0 0 1 1 1.7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	.08 42.38	.8% 55.0	7.7	15.2%	1.4%		ى س.
Funt						ı	
ercent .0% 15.2% 4.3% 15.2 ercent .0% 13.5% 15.4% 11.7 ercent .0% 27.3% .0% 9.1 ercent .0% 5.8% .0% 1.7			ഥ	4	19	7	46
ercent .0% 13.5% 15.4% 11.7 0 3 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	15.2%	.3% 15.	10.9	•	٠	•	100.0%
ent .0% 27.3% .0% 9.1 ercent .0% 5.8% .0% 1.7	.0% 13.5% 1	.4% 11	12.8%	12.1%	1.3%	11.8%	2.7%
.0% 27.3% .0% 9.1 ent .0% 5.8% .0% 1.7	·			П	4	Н	11
.0% 5.8% .0% 1.7	27.3	9.1	9.1	9.1%	36.4%	9.1%	100.0%
	.0%			٠.	۳. %	٥.	%;
13 6	7 52	3 6	39	33	1497	17	1718
Row Percent .4% 3.0% .8% 3.5%		8% 3.5	2.3%	1.9%	87.1%	1.0%	100.0%
100.0% 100.0	100.0% 100.0%	100.0	% 100.0%	100.0%	100.08	100.0%	100.0%

Table F-1 Continued

MS CHEMISTRY GRADUATES
by CITIZENSHIP and ETHNICITY
1988 Starting Salary Survey

			RACE		OR ETHNIC GROUP	ſΡ			TOTAL
-	AMER INDIAN	CHINESE	SUBCONT	OTHER ASIAN	BLACK	HISP	WHITE	отнек	
CITIZENSHIP									-
U.S. NATIVE	0	2	0	-	9	വ	227	2	243
Row Percent	%0.	%	% 0.	%4.	2.5%	2.1%	93.4%	%	•
Column Percent	.0%	8.7%	.0	10.0%	100.0%	55.6%	5.8	33.3%	81.5%
U.S. NATURALIZED	0	Н	0	က	0	2	3	0	0
Row Percent	.0.	11.18	%0.	33.3%	%0.	22.2%	33.3%	%0.	.100.0%
Column Percent	.0	4.3%	.0	30.0%	%0.	2.2	1.3%		3.0%
U.S. PERMANENT	C	^	m	C	C		ιΩ	•	12
Row Percent		16.7%	25.0%	%0.	% 0 •	8.3%	41.78	& .u. %	0
Column Percent	. 0	8.7%	42.9%	%0.	*0 *	11.1%	2.1%	16.7%	4.0%
OTHER VISA	0	18	4	9	0	п	2	е	34
Row Percent	%0.	52.9%	φ.	17.6%	.0%	2.9%	5.0%	•	100.0%
Column Percent		78.3%	57.1%	%0.09	%0.	11.1%		50.0%	11.4%
TOTAL	0	23	7	10	9	0	ന	9	σ
Row Percent	. 0		2.3%	3.4%	2.0%	3.0%	79.5%	2.0%	100.0%
column Percent	°0.		100.0%	?	?	?	?	0.00	

PhD CHEMISTRY GRADUATES
by CITIZENSHIP and ETHNICITY
1988 Starting Salary Survey

Table F-1 Continued

			RACE	OR	ETHNIC GROUP	IP			TOTAL
	AMER INDIAN	CHINESE	SUBCONT	OTHER ASIAN	BLACK	HISP	WHITE	ОТНЕК	
CITIZENSHIP									
U.S. NATIVE Row Percent Column Percent	1 .2% 100.0%	.7%	000.	1.7%	1.0%	1.78	384 94.1% 93.9%	.5% 100.0%	408 100.0% 77.9%
U.S. NATURALIZED Row Percent Column Percent	000	000	2 16.7% 15.4%	000	8.3% 16.7%	25.0%	50.08 1.5%	000	12 100.0% 2.3%
U.S. PERMANENT RESIDENT Row Percent Column Percent	000	4 40.0% 8.7%	1 10.0% 7.7%	20.08	000	1 10.0% 6.7%	20.08	000	100.0% 1.9%
OTHER VISA Row Percent Column Percent	000	39 41.5% 84.8%	10.6% 76.9%	23 24.5% 71.9%	1.1%	4.3%	17 18.1% 4.2%	000	94 100.0% 17.9%
TOTAL Row Percent Column Percent	1 .2% 100.0%	46 8.8% 100.0%	13 2.5% 100.0%	32 6.1% 100.0%	6 1.18 100.08	15 2.9% 100.0%	409 78.1% 100.0%	2.48 100.08	524 100.0% 100.0%

Table F-2

CHEMISTRY GRADUATES
by CITIZENSHIP, SEX, and DEGREE
1988 Starting Salary Survey

		BS			MS			PHD	
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
CITIZENSHIP									
U.S. NATIVE Row Percent	917	660	1577	148	98 39.8%	24 0.	331	79	410
Column Percent	91.7%	90.8%	91.3%	m	86.0%	81.2%	77.0%	81.4%	77.8%
U.S. NATURALIZED Row Percent Column Percent	53.8%	46.23%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%	93	55.05 20.05 20.05	44 4 4 6. % %	100.0%	83.3% 2.3%	16.7% 2.1%	12 100.0% 2.3%
U.S. PERMANENT RESIDENT Row Percent Column Percent	29 63.0% 2.9%	17 37.0% 2.3%	46 100.0% 2.7%	8 66.7% 4.2%	33.13% 50.00%	12 100.0% 4.0%	70.0%	3 30.0% 3.1%	10 100.0% 1.9%
OTHER VISA Row Percent Column Percent	36.4 .4%	7 63.68 1.08	11 100.0% .6%	28 77.8% 14.8%	22.2% 7.0%	36 100.0% 11.9%	86.3% 19.1%	13.7% 13.4%	95 100.0% 18.0%
TOTAL Row Percent Column Percent	1000 57.9% 100.0%	727 42.1% 100.0%	1727 100.0% 100.0%	189 62.4% 100.0%	114 37.68 100.08	303 100.0% 100.0%	430 81.6% 100.0%	97 18.4% 100.0%	527 100.0% 100.0%

MINORITY CHEMISTRY GRADUATES
by MINORITY CLASSIFICATION, SEX, AND DEGREE
1988 Starting Salary Survey

Table F-3

		BS	1	4	MS			PHD	
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
RACE OR ETHNIC GROUP									
AMER INDIAN Row Percent Column Percent	57.1% 3.4%	42.9% 2.9%	7 100.0% 3.2%	000	000	000	000	1 100.0% 5.9%	1 100.0%
CHINESE Row Percent Column Percent	25 48.1% 21.2%	27 51.9% 26.5%	52 100.0% 23.6%	18 78.3% 40.9%	5 21.7% 27.8%	23 100.0% 37.1%	39 84.8% 39.8%	7 15.2% 41.2%	46 100.0% 40.0%
SUBCONT INDIAN Row Percent Column Percent	38.5% 4.2%	8 61.5% 7.8%	13 100.0% 5.9%	87.5% 15.9%	1 12.5% 5.6%	8 100.0% 12.9%	13 100.0% 13.3%	000	13 100.0% 11.3%
OTHER ASIAN Row Percent Column Percent	36 61.08 30.58	23 39.0% 22.5%	59 100.0% 26.8%	50.0% 11.4%	50.0% 27.8%	100.0% 16.1%	28 87.5% 28.6%	4 12.5% 23.5%	32 100.0% 27.8%
BLACK Row Percent Column Percent	20 51.3% 16.9%	19 48.7% 18.6%	39 100.08 17.78	3 50.0% 6.8%	3 50.08 16.78	6 100.0% 9.7%	3 50.08 3.18	3 50.08 17.68	6 100.0% 5.2%
HISPANIC Row Percent Column Percent	20 60.68 16.98	13 39.48 12.78	33 100.0% 15.0%	66.7% 13.6%	33.3% 16.7%	9 100.0%	13 86.78 13.38	13.3% 11.8%	15 100.0% 13.0%
OTHER Row Percent Column Percent	8 47.1% 6.8%	52.9 8.8%	17 100.08 7.7%	5 83.3% 11.4%	1 16.7% 5.6%	6 100.08 9.7%	2 100.0% 2.0%	000	2 100.0% 1.7%
TOTAL Row Percent Column Percent	118 53.6% 100.0%	102 46.4% 100.0%	220 100.0% 100.0%	44 71.0% 100.0%	18 29.0% 100.0%	62 100.0% 100.0%	98 85.2% 100.0%	17 14.8% 100.0%	115 100.0% 100.0%

Table F-4

BS CHEMICAL ENGINEERING GRADUATES
by CITIZENSHIP and ETHNICITY
1988 Starting Salary Survey

			MINO	MINORITY CLA	CLASSIFICATION	ION			TOTAL
	AMER INDIAN	CHINESE	SUBCONT	OTHER ASIAN	BLACK	HISP	WHITE	OTHER	:
CITIZENSHIP									A44 67 - 184 TI
U.S. NATIVE Row Percent	1, 8	ν œ.	٠ ٠ ٠	.7%	15	10	702	.7%	752
Column Percent	100.0%	40.0%	33.3%	20.8%	75.0%		98.2%	83.3%	93.5%
U.S. NATURALIZED	0	9	2	12	Н	٦	9	Н	29
Row Percent	%0.	0	•	i.	4.	3.4%		3	•
Column Percent		40.0%	66.7%	50.0%	v. %	.7		16.7%	3.6%
U.S. PERMANENT	C	F	C	7	r	۴	Ľ	c	,
KESIDENI Bow Dercent	» •	7 7 7) O C	30.8	15.4%	7.7%	38,50	0 0	100.0%
Column Percent	0.0	6.7%		9	0.0	•	•	%	• 6
OTHER VISA	0	2	0	3	7	~	2	0	10
Row Percent	%0.	20.0%	%0.	30.0%	20.0%	10.0%	20.0%	.0%	100.0%
Column Percent	%	13.3%	%	12.5%	10.0%	7.7%	٠. %	%	1.2%
TOTAL	80	15	ю	24	20	13	715	9	804
Row Percent	1.0%	1.9%	.4%	3.0%	2.5%	1.6%	88.9%	.7%	100.0%
			-						

Table F-4 Continued

MS CHEMICAL ENGINEERING GRADUATES by CITIZENSHIP and ETHNICITY 1988 Starting Salary Survey

			MINO	MINORITY CLA	CLASSIFICATION	TON			TOTAL
	AMER	CHINESE	SUBCONT	OTHER ASIAN	ВГАСК	HISP	WHITE	отнек	
CITIZENSHIP									
U.S. NATIVE Row Percent Column Percent	000	3.0%	000	000	1.0%	2.0%	92 92.0% 86.8%	2.0%	100 100.0% 69.4%
U.S. NATURALIZED Row Percent Column Percent	000	37.5% 23.1%	1 12.5% 11.1%	25.0% 33.3%	000	1 12.5% 20.0%	1 12.5%	000	8 100.0% 5.6%
U.S. PERMANENT RESIDENT Row Percent Column Percent	000	1 33.3% 7.7%	000	000	000	000	2 66.7% 1.9%	000	3 100.0% 2.1%
OTHER VISA Row Percent Column Percent	000	18.2% 46.2%	24.28 88.9%	4 12.1% 66.7%	000	6.1%	11 33.3% 10.4%	6.1% 50.0%	33 100.0% 22.9%
TOTAL Row Percent Column Percent	000	13 9.0% 100.0%	6.3% 100.0%	6 4.2% 100.0%	1 .7% 100.0%	3.5%	106 73.6% 100.0%	2.8% 100.0%	144 100.0% 100.0%

Table F-4 Continued

PhD CHEMICAL ENGINEERING GRADUATES by CITIZENSHIP and ETHNICITY 1988 Starting Salary Survey

			MINO	RITY CLA	MINORITY CLASSIFICATION	NOI			TOTAL
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	отнек	
CITIZENSHIP									
U.S. NATIVE	0	7	0	Н	Н	н	73	0	. 78
Row Percent	%0.	2.6%	%0.	1.3%	1.3%	1.3%	93.6%	%0.	100.0%
Column Percent	.0%	12.5%	. 0	12.5%	50.0%	100.0%	0.1	.0%	65.5%
U.S. NATURALIZED	0	4	0	0	0	0	ı	0	Ŋ
Row Percent	%0.	80.08	%0.	%0.	%0.	.0%	20.0%	.0%	100.0%
Column Percent		25.0%	.0%	%0.	.0	%	1.2%	.0%	4.2%
U.S. PERMANENT		C	C	C	C	C	~	C	ıc
Row Percent		40.0%	, % O	%	%000	. 0	60.0%	. 0	100.0%
Column Percent	% O.	12.5%	%0.	. 0 .	%0.	. 0	3.7%	.0%	4.2%
OTHER VISA	0	æ	11	7	1	0	4	0	31
Row Percent	.0.	25.8%	35.5%	2.6	3.2%	%0.	12.9%	.0%	100.0%
Column Percent	. 0	50.0%	100.0%	87.5%	50.0%	%	4.9%	.0	26.1%
TOTAL	0	16	11	8	2	Н	81	0	119
Row Percent	.0	13.4%	9.5%	6.7%	1.7%	%	68.1%	.0%	100.08
Column Percent	% •	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	%	0.

CHEMICAL ENGINEERING GRADUATES by CITIZENSHIP, SEX, and DEGREE 1988 Starting Salary Survey

		BS			MS			PHD	
	NEW	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
CITIZENSHIP									
U.S. NATIVE Row Percent	534		753	82	21,20.4%	103	69 86.3%	11 13.8%	80
Column Percent	93.7%	93.6%	93.7%	68.3%	ω	70.1%	64.5%	78.6%	66.1%
U.S. NATURALIZED Row Percent Column Percent	17 60.78 3.08	11 39.3% 4.7%	28 100.0% 3.5%	87.5% 5.8%	12.5% 3.7%	8 100.0% 5.4%	80.0%	1 20.08 7.18	100.0%
U.S. PERMANENT RESIDENT Row Percent Column Percent	10 76.9% 1.8%	23.1% 1.3%	13 100.0% 1.6%	66.7% 1.7%	33.3% 3.7%	3 100.0% 2.0%	80.0% 3.7%	20.0% 7.1%	5 100.00* 4.1*
OTHER VISA Row Percent Column Percent	90.0%	1 10.0%	10 100.0% 1.2%	29 87.9% 24.2%	12.1% 14.8%	33 100.0% 22.4%	30 96.8% 28.0%	3.2%	31 100.0% 25.6%
TOTAL Row Percent Column Percent	570 70.9% 100.0%	234 29.1% 100.0%	804 100.0% 100.0%	120 81.6% 100.0%	27 18.4% 100.0%	147 100.0% 100.0%	107 88.48 100.08	14 11.68 100.08	121 100.0% 100.0%

Table F-6

MINORITY CHEMICAL ENGINEERING GRADUATES by MINORITY CLASSIFICATION, SEX, AND DEGREE 1988 Starting Salary Survey

		BS			MS	i		PHD	
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
RACE OR ETHNIC GROUP									
AMER INDIAN Row Percent Column Percent	62.5% 9.4%	37.5%	8 100.0% 9.2%	0 0 0	000	000	000	0000	000
CHINESE Row Percent Column Percent	7 50.0% 13.2%	7 50.0% 20.6%	14 100.08 16.18	12 92.3% 37.5%	1 7.78 16.78	13 100.0% 34.2%	15 93.8% 40.5%	6.3%	16 100.08 42.18
SUBCONT INDIAN Row Percent Column Percent	000	2 100.0% 5.9%	2 100.0% 2.3%	9 100.08 28.18	000	100.0% 23.7%	11 100.08 29.7%	000	11 100.08 28.98
OTHER ASIAN Row Percent Column Percent	20 83.3% 37.7%	4 16.78 11.88	24 100.08 27.68	3 50.0% 9.4%	3 50.0% 50.0%	6 100.0% 15.8%	8 100.0% 21.6%	000	8 100.0% 21.1%
BLACK Row Percent Column Percent	10 50.08 18.9%	10 50.08 29.48	20 100.0% 23.0%	000	1 100.0% 16.7%	1 100.0% 2.6%	2 100.0% 5.4%	000	2 100.0% 5.3%
HISPANIC Row Percent Column Percent	6 46.2% 11.3%	53.8% 20.6%	13 100.08 14.9%	5 100.0% 15.6%	000	5 100.0% 13.2%	1 100.0% 2.7%	000	100.0%
OTHER Row Percent Column Percent	83.3 9.3%	16.7% 2.9%	100.0%	3 75.0% 9.4%	1 25.0% 16.7%	4 100.0% 10.5%	000	000	000
TOTAL Row Percent Column Percent	53 60.9% 100.0%	34 39.18 100.08	87 100.08 100.08	32 84.2% 100.0%	6 15.8% 100.0%	38 100.0% 100.0%	37 97.4% 100.0%	1 2.6% 100.0%	38 100.0% 100.0%



American Chemical Society

1155 SIXTEENTH STREET, N.W. WASHINGTON, D.C. 20036 Phone (202) 872-4534

JOHN K CRUM
Executive Director

Summer 1988

Dear Colleague:

Every year, the American Chemical Society conducts a mail survey of persons who have recently earned degrees in chemistry or chemical engineering. Published results, which include information about salaries and employment, are useful to the profession, and especially to those beginning their careers.

I urge you, as a service to your colleagues and profession, to respond to this year's questionnaire. No personal identification is required or requested; the returns will be confidential. The information you provide will be combined with returns from other graduates so that only aggregated data will be available.

Please complete this questionnaire and return it promptly. For your convenience, I have enclosed a self-addressed, postage-paid envelope. Results of the survey will be published in the CHEMICAL AND ENGINEERING NEWS' Career Issue this October and in a more extensive report later in the year.

Thank you for your assistance with this survey. I extend my best wishes for every success in your professional pursuits.

Man Crun_

John K Crum

Enclosure

AMERICAN CHEMICAL SOCIETY

Survey of Starting Salaries and Employment Status of 1988 Chemistry and Chemical Engineering Graduates

	Highest degree earned:	6.	In your chemistry classes, did you get a chance to:	
	Bachelor's 1		a. Work in teams?	
	Master's		Yes 🗅	1
	Doctorate		No	2
_	Platd of history downers		b. Work on independent research projects?	
	Field of highest degree:		Yes	1
	Chemical engineering		No	
	Biochemical engineering			
	Biochemistry	7.	Will you pursue advanced studies in the fall of 1988?	
	Inorganic chemistry □ 05		Yes, full-time	1
	Organic chemistry 🗆 06		Yes, part-time	2
	Physical chemistry		No 🗅	3
	Polymer chemistry		a. If yes, field of further studies:	
	Other chemistry		Chemistry	0
	Other 🗆 10		Other physical science or math	02
			Chemical engineering or biochemical engineering \ldots . \Box	0
3.	Grade point average:		Other engineering	0
	[Use A = 4.00; B = 3.00; C = 2.00]		Biochemistry	0
	In your major		Life science	
	Overall		Medicine	
	Overall		Dentistry	
4.	Please describe the school that granted your degree:		Pharmacy, pharmacology	
	a. Public		Business management	
	Private		Law	
	b. Total number of students:		Other	
	Less than 1,500		Oliot	,
	1,500 to 4,999	8.	Age at last birthday? years old	
	5,000 to 9,999	•	,	
	10,000 to 19,999	9.	Sex:	
	20,000 or more		Male	1
	c. The highest degree offered by your department is:		Female	2
	BS: 🗆 1			
	MS 🗋 2	10.	Citizenship or visa status:	
	PhD		U.S. native	
	d. Location of school. Please give first three digits of zip code:		U.S. naturalized	
			U.S. permanent resident visa. Other visa	
	e. Is the school an historically or predominantly black institution?		Other visa	4
	Yes	11.	Race or ethnic group:	
	No		American Indian or Alaskan Native	1
	f. Is the school a traditionally women's institution?		Chinese	2
	Yes		Subcontinental Indian	3
	No		Other Asian or Pacific Islander	1 4
			Black (not of Hispanic origin)	
5.	How would you rate the state of equipment in your		Hispanic	
	chemistry or chemical engineering classes?		White (not of Hispanic origin)	
	a. The type of equipment was:		Other race or ethnic group	J e
	Excellent	40	Correct ampleament status	
	Adequate 2	12.	Current employment status:	
	Inadequate 🗀 3		Accepted or continuing full-time employment (excluding summer employment)] 1
	b. The access to equipment was:		Accepted a graduate assistantship, fellowship or	
	Excellent		postdoctoral fellowship	
	Adequate 2		Part-time employment	
	Inadequate		Temporary/summer employment	J 4
	c. How up-to-date was the equipment?		a life not continuing full time ample amount are view	
	Extremely 1 Moderately 2		a. If not continuing full-time employment, are you: seeking full-time, year-round employment	1 4
	Not at all 3		not seeking full-time, year-round employment	
	Not at all		not seeking functions, year-round employment	. 2

IF YOU CHECKED BOX 3 OR 4 IN THE QUESTION ABOVE, PLEASE STOP HERE AND RETURN THE QUESTIONNAIRE IN THE ENVELOPE PROVIDED		18.	Check the one work function that best describes you job: Teaching Management or administration	
13.	Your base annual salary from principal job:		Basic Research	
	\$ per year		Applied research/Development/Design	
	per year		Production/Quality control	
IF \	YOU HOLD AN ASSISTANTSHIP OR FELLOWSHIP,		Other	
PLEASE STOP HERE AND RETURN THE QUESTIONNAIRE IN			a. Is your job classified as a technician position?	
THE ENVELOPE PROVIDED.			Yes	
			No	
14.	How many firm offers of employment did you receive in			
	a field of chemistry or chemical engineering?	19.	Employer's approximate number of employees (total for	
			the whole organization): Less than 500	
	Specify number			
4-	Professional au Assimilant construction as a contract to		500 to 2,499	
15.	Professional or technical work experience prior to graduation		10,000 to 24,999.	
	Less than 12 months (or none)		24,000 or more	
	12 to 36 months		24,000 01 111016	
	More than 36 months	20.	Geographic location of employment: Please give first three digits of zip code.	
16.	Check the one specialty most related to your job:			
	Chemical engineering			
	Chemistry (including biochemistry)			
	Other 🗆 3			
17.	Check the one category that best describes your employer:			
	Private industry			
	College or university 🗆 2			
	High school or other school			
	Federal government (civilian) 🗆 4			
	Military 🗖 5			
	State or local government 6			
	Hospital or independent laboratory			
	Other			

Comments:

THANK YOU FOR YOUR PARTICIPATION

PLEASE RETURN THIS QUESTIONNAIRE PROMPTLY TO

ACS STARTING SALARY SURVEY
ROOM 610, 1155 16th Street NW, Washington, DC 20036

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ACS MEMBER SERVICES PUBLICATIONS

Salaries: The Society annually surveys the ACS membership, gathering detailed information on member chemists and chemical engineers. The reports based on this survey contain statistical tables describing the respondents' employment status, employer, work function and specialty, salaries, and demographic characteristics.

Reports are available for each year from 1973 through the current year. For 1987, four separate reports are available: 1987 Salaries of Non-Academic Chemists, 1987 Salaries of Non-Academic Chemists, and 1987 Employment Status and Demographic Characteristics of ACS Members.

Starting Salaries: The Society also surveys new graduates in chemistry and chemical engineering each summer, and publishes reports detailing the graduates' employment status, post-graduation plans, starting salaries, and other employment and demographic characteristics.

Reports are available for each year from 1975 through the current year.

Professionals in Chemistry: The *Professionals in Chemistry* series compiles information concerning chemists and chemical engineers from ACS, government, and private industry sources. It details information on demography, employment, salaries, education, and supply and demand for the entire chemical profession.

Reports are available for each year from 1975 through 1978, and combined reports for 1979-1980, 1981-82, 1983-84, and 1985-86.

Special Reports:

1975 Report of Chemists' Salaries and Employment Status Supplement: Economic Status of Women in the ACS.

Women Chemists 1980: A supplemental report on the ACS's 1980 Survey of Salaries and Employment.

Women Chemists 1985: A supplemental report on the ACS's 1985 Survey of Salaries and Employment.

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