

DATA BRIEF

Employment Status of Recent Science and Engineering Graduates Varies by Level and Field of Degree

by John Tsapogas

The 1993 job market encountered by recent college graduates was less favorable than that of the late 1980s.

This Data Brief describes the 1993 employment status of persons who graduated with bachelor's and master's degrees in science and engineering (S&E) fields in 1991 and 1992. The National Survey of Recent College Graduates is conducted biennially by the National Science Foundation. The

findings cover about three-quarters of a million 1991 and 1992 S&E graduates.

About one out of five recent S&E bachelor's and master's graduates were enrolled in graduate school on a full-time basis in 1993. Students who had majored in the physical and

Table 1. Number, employment status, and median income of 1991 and 1992 bachelor's and master's degree recipients, by field of degree: 1993

| Degree and field | Graduates 1991 and 1992 | Employment status: April 1993 | | | | Median salary, FT employed graduates 1 |
|---|----------------------------|-------------------------------|--|-----------------------------------|-------------------------------|---|
| | | Full-time students | Empl'd in science or engineering | Empl'd in other occupations | Not employed or FT student | |
| | [In thousands] | [Percentage distribution] | | | | |
| Bachelor's degree recipients | | | | | | |
| Sciences and engineering..... | 639.4 | 22 | 22 | 50 | 6 | \$ 24,000 |
| All sciences: | 521.1 | 24 | 13 | 57 | 6 | 22,100 |
| Computer & mathematical sciences..... | 77.6 | 11 | 32 | 51 | 5 | 28,500 |
| Life and related sciences..... | 99.7 | 38 | 14 | 43 | 6 | 21,000 |
| Physical and related sciences..... | 33.8 | 39 | 28 | 29 | 4 | 26,000 |
| Social and related sciences..... | 310.0 | 21 | 6 | 66 | 6 | 21,000 |
| All engineering: | 118.4 | 15 | 60 | 20 | 5 | 33,800 |
| Aerospace and related engineering..... | 7.3 | 23 | 35 | 37 | 6 | 29,000 |
| Chemical engineering..... | 6.7 | 16 | 70 | 10 | 4 | 40,000 |
| Civil and architectural engineering..... | 15.6 | 12 | 69 | 15 | 4 | 31,000 |
| Electrical, electronics, computer, and communications engineering..... | 41.8 | 16 | 59 | 18 | 7 | 35,000 |
| Industrial engineering..... | 7.7 | 7 | 59 | 30 | 3 | 33,000 |
| Mechanical engineering..... | 25.1 | 13 | 65 | 19 | 3 | 35,000 |
| Other engineering..... | 14.1 | 17 | 53 | 25 | 5 | 33,000 |
| Master's degree recipients | | | | | | |
| Sciences and engineering..... | 115.6 | 23 | 48 | 24 | 5 | 38,100 |
| All sciences: | 74.6 | 26 | 37 | 31 | 5 | 33,800 |
| Computer & mathematical sciences..... | 24.1 | 16 | 48 | 31 | 5 | 40,000 |
| Life and related sciences..... | 13.2 | 28 | 35 | 31 | 6 | 29,000 |
| Physical and related sciences..... | 10.6 | 38 | 46 | 13 | 4 | 34,000 |
| Social and related sciences..... | 26.7 | 31 | 24 | 39 | 6 | 28,000 |
| All engineering: | 41.0 | 17 | 68 | 11 | 4 | 42,900 |
| Aerospace and related engineering..... | 1.9 | 26 | 56 | 16 | 3 | 40,000 |
| Chemical engineering..... | 1.7 | 33 | 56 | 7 | 4 | 44,000 |
| Civil and architectural engineering..... | 4.9 | 15 | 74 | 7 | 5 | 38,800 |
| Electrical, electronics, computer, and communications engineering..... | 15.7 | 15 | 71 | 10 | 4 | 44,000 |
| Industrial engineering..... | 2.6 | 13 | 63 | 20 | 4 | 42,500 |
| Mechanical engineering..... | 6.4 | 17 | 72 | 6 | 4 | 42,000 |
| Other engineering..... | 7.9 | 18 | 61 | 18 | 3 | 43,000 |

1 Salary for self-employed and full-time graduate students is not included in data presented in table.

SOURCE: NSF/SRS, National Survey of Recent College Graduates, 1993

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related sciences were more likely to go on to graduate school than were those with degrees in computer and mathematical sciences or engineering (table 1).

The 1993 job market encountered by recent college graduates was less favorable than market conditions in the late 1980s. In 1993, unemployment rates for students who graduated in either 1991 or 1992 were 4.4 percent for baccalaureate recipients and 3.5 percent for master's graduates. For students who graduated in 1986 or 1987 the unemployment rates were 2.4 percent for baccalaureate recipients and 1.7 percent for master's degree holders. The unemployment rate for the U.S. labor force as a whole in 1993 was 6.8 percent, compared with 6.2 percent in 1987.

Success in the job market varied significantly by level and field of degree. S&E master's degree recipients were more likely than bachelor's graduates to find work directly related to their field of study. Approximately half of all master's degree recipients, but only a fifth of all bachelor's graduates, were employed in their field of study in 1993. For both master's and bachelor's recipients, students who had received degrees in either engineering or computer science were more apt to be working in their field of study, while students who had majored in the social and related sciences were less likely to have jobs directly related to their degrees.

In 1993 the median annual salary of employed recent college graduates was \$24,000; for master's recipients it was

\$38,100. The highest salaries commanded at the baccalaureate level were among students who had majored in engineering. For example, students with degrees in chemical engineering reported salaries of \$40,000. The highest salaries at the master's level were also in engineering. Students with degrees in electrical, electronics, computer, communications, and chemical engineering reported median annual salaries of \$44,000.

The private sector is by far the largest employer of recent bachelor's and master's degree recipients. In 1993, 59 percent of bachelor's degree recipients and 47 percent of master's degree recipients were employed in a private, for-profit company (table 2). The academic sector was the next largest sector of employment for recent S&E graduates. Master's degree recipients were more likely to be employed in 4-year colleges and universities (25 percent) than were bachelor's degree recipients (13 percent). Master's degree graduates were also more likely to be employed in the Federal sector (9 percent) than were bachelor's graduates (5 percent). Sectors employing smaller numbers of recent S&E graduates include educational institutions other than 4-year colleges and universities, nonprofit organizations, and State or local government agencies.

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Table 2. Percent of employed 1991 and 1992 science and engineering bachelor's and master's degree recipients, by sector of employment and field of degree: 1993

| Degree and field | Total employed | Sector of employment | | | | | | |
|-------------------------------|----------------|----------------------------|-------------|---------------------------|--------------------------|------------------------|-----------|----------------------|
| | | Private for-profit company | Self-empl'd | 4-yr college & university | Other educational inst'n | Nonprofit organization | Fed Gov't | State or local gov't |
| | [In thousands] | [In percent] | | | | | | |
| Bachelor's recipients: | | | | | | | | |
| Sciences & engineering..... | 540.4 | 59 | 2 | 13 | 7 | 7 | 5 | 6 |
| All sciences..... | 432.8 | 56 | 2 | 14 | 9 | 9 | 4 | 7 |
| All engineering..... | 107.6 | 72 | 2 | 11 | 1 | 2 | 8 | 5 |
| Master's recipients: | | | | | | | | |
| Sciences & engineering..... | 103.1 | 47 | 2 | 25 | 7 | 5 | 9 | 5 |
| All sciences..... | 65.3 | 38 | 3 | 29 | 11 | 6 | 7 | 6 |
| All engineering..... | 37.8 | 63 | 1 | 18 | 1 | 2 | 13 | 3 |

NOTE: Details may not sum to totals because of rounding. Percents calculated on unrounded data.

SOURCE: NSF/SRS, National Survey of Recent College Graduates, 1993

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