# 1996 AMS-IMS-MAA Annual Survey 

# Report on the 1996 Survey of New Doctoral Recipients Salary Survey for New Doctoral Recipients Faculty Salary Survey 

## Report on the 1996 Survey of New Doctoral Recipients

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This report presents a statistical profile of recipients of doctoral degrees awarded by departments in the mathematical sciences at universities in the United States during the period July 1, 1995, through June 30, 1996. It includes an analysis of the employment market for 1995-1996 doctoral recipients and a demographic profile summarizing characteristics of citizenship status, gender, and racial/ethnic group. Table 1 provides the response rates for the 1996 Survey of New Doctoral Recipients. Please see pages 1501-1502 for a description of the Groups, newly defined for the 1996 Survey.

Table 1: Response Rates

| Group I | 47 of 48 |
| :--- | :--- |
| Group II | 54 of 56 including 3 with 0 degrees |
| Group III | 63 of 72 including 17 with 0 degrees |
| Group IV | 54 of 80 including 4 with 0 degrees |
| Group Va | 16 of 19 |
| GroupVb | 13 of 33 including 2 with 0 degrees |

## Doctoral Degrees Granted

The number of new doctoral recipients reported in 1995-1996 by U.S. mathematical sciences departments is 1,153 . Table 2A gives the fall and spring counts for the past four Annual Surveys together with the current fall count. This year's

This first report on the 1996 Survey includes a report on the 1996 survey of new doctoral recipients, a report on salaries of new doctoral recipients and salary data on faculty members in four-year colleges and universities. The report is based on information collected from questionnaires distributed in May to departments in the mathematical sciences in colleges and universities in the United States and later to the recipients of doctoral degrees granted by these departments between July 1995 and June 1996, inclusive. A further questionnaire concerned with data on fall enrollments, majors, and departmental size was distributed in September. These data will appear in the second report on the 1996 Survey in a spring 1997 issue of the Notices.

The 1996 Annual AMS-IMS-MAA Survey represents the fortieth in an annual series begun in 1957 by the Society. The 1996 Survey is under the direction of the AMS-IMS-MAA Data Committee, whose members are Paul W. Davis, Lorraine Denby, John D. Fulton (chair), Malay Ghosh, Don O. Loftsgaarden, James W. Maxwell (ex officio), S. Brent Morris, M. Beth Ruskai, Ann K. Stehney, and Ann E. Watkins. Comments or suggestions regarding this Survey Report may be directed to the committee.
fall count will be updated in the Second Report of the 1996 Survey, to appear in a spring 1997 issue of Notices.

Table 2A: U.S. New Doctoral Recipients, Fall and Spring Counts

| Year | Fall | Spring |
| :---: | :---: | :---: |
| $1991-1992$ | 1050 | 1062 |
| $1992-1993$ | 1202 | 1214 |
| $1993-1994$ | 1059 | 1076 |
| $1994-1995$ | 1226 | 1237 |
| $1995-1996$ | 1153 | $*$ |

*To appear in a spring 1997 issue of Notices.

## Highlights

The unemployment rate for new doctoral recipients declined to the lowest level reported since the fall 1990 rate of 5.7 percent. Among those whose employment status is known, 9.4 percent were unemployed as of late September 1996. This represents a decrease of 5.3 percentage points from the record high of 14.7 percent reported in fall 1995. An additional 3.2 percent of the 1995-1996 new doctoral recipients reported that they were employed part-time. Total employment of new doctoral recipients in the U.S. increased for the second year in a row. Of those doctoral recipients employed in the U.S., $26.8 \%$ were employed by business and industry, up from $22.9 \%$ last year.

The U.S. mathematical sciences departments surveyed awarded 1,153 doctoral degrees from July 1, 1995, to June 30, 1996, a decrease of 6 percent from last year's fall count of 1,226 , an all-time high number.

The number of U.S. citizens reported to have received doctoral degrees in the mathematical sciences is 493 , which is 13.1 percent less than the number earning doctoral degrees last year. The count of 493 is still 36.2 percent above the record low reported in 1986-1987.

The number of non-U.S. citizens receiving doctoral degrees is 657, a number which is within 2.1 percent of the 1992-1993 record high of 671 .

Of the 493 U.S. citizen doctoral recipients, 9 are black; 9 are Mexican American, Puerto Rican, or other Hispanic; and 21 are members of other minority groups. Of the 1994-1995 U.S. citizen doctoral recipients, 6 are black; 9 are Mexican American, Puerto Rican, or other Hispanic; and 25 are members of other minority groups.

The number of women among U.S. citizen doctoral recipients decreased by 17.7 percent from last year's fall count to 116 . The percentage of women among U.S. citizen doctoral recipients is 23.5 percent. Last year, 24.9 percent of the U.S. citizen doctoral recipients were women.

The median starting salary of new doctoral recipients reporting teaching (or teaching and research) was $\$ 36,000$, an increase over the $\$ 35,000$ median for last year. The median for women increased from $\$ 35,000$ to $\$ 36,500$ and the median for men increased from $\$ 35,000$ to $\$ 36,000$.

The fall count of the total number of new doctoral recipients represents a decrease of 6.0 percent from the fall all-time high count of 1,226 in the 1995 Survey. This year's fall count still represents an increase, of 57.5 percent, over the 1984-1985 fall count of 732 new doctoral recipients from U.S. institutions, one of the lowest counts within the last twenty years.

Table 2B records the annual number of new doctoral recipients in the mathematical sciences in the U.S. from the year 1991-1992, exclusive of Group Vb . The response rate for Group Vb , which includes some departments in engineering and management science, is the lowest of all groups.
Table 2B: New Doctoral Degrees Awarded by Groups I-Va, Fall Count

| Year | $91-92$ | $92-93$ | $93-94$ | $94-95$ | $95-96$ |
| :---: | :---: | ---: | ---: | ---: | :---: |
| I-Va | 998 | 1104 | 1025 | 1148 | 1098 |

The columns in Table 3B indicate how the count of 1,153 new doctoral recipients was spread over the mathematical sciences departments in Groups I-V. For mathematics departments (Groups I, II, and III combined), there was a decrease of 4.3 percent in the fall count of new doctoral recipients. Because of the new groupings of mathematics departments, it would not be meaningful to make comparisons involving Groups I, II, or III individually with the counts of 1994-1995 or previous years.

## Employment Status of U.S. New Doctoral Recipients, 1995-1996

The Annual Survey of New Doctoral Recipients provides a view of the employment market for new Ph.D.s in the mathematical sciences from the perspective of job applicants. Additional information about recruitment by four-year colleges and universities is reported in the Second Report of the Annual Survey; see the 1995 Second Report, Notices, August 1996, pages 848-858, for data on the numbers of positions departments attempted to fill and characteristics of the people hired.

Table 3A shows the employment status, by type of employer and field of degree, of the 1,153 recipients of doctoral degrees conferred by mathematical sciences departments in the U.S. between July 1, 1995, and June 30, 1996. The names of the individuals will be listed with their thesis titles in a later issue of Notices. The employment information was obtained initially from the departments granting the degrees and subsequently from data provided by the degree recipients themselves.

Most new doctoral recipients seek and accept academic positions. Of the 732 new doctoral recipients employed in the U.S., a total of 506 (69.1 percent) hold jobs in academia. For compari-

Table 3A: Employment Status of 1995-1996 U.S. New Doctoral Recipients in the Mathematical Sciences

|  |  | FIELD OF THESIS |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TYPE OF EM | OYER | Algebra Number Theory | Real or Complex Analysis | Geometry/ Topology | Discr. Math. Combin./ Logic/ Comp. Sci. | Probability/ Statistics | Applied Math. | Numerical <br> Analysis <br> Approxi- <br> mations | Functional Analysis |  | Differential Integral and Difference Equations | Harmonic Analysis and Topological Groups | Other/ Unknown | TOTAL |
| Group I (Pu |  | 15 | 4 | 15 | 4 | 4 | 3 | 5 | 5 | 2 | 7 | 5 | 1 | 70 |
| Group I (Pr | ate) | 11 | 2 | 14 | 5 | 2 | 3 | 4 |  | 1 | 3 | 3 | 1 | 48 |
| Group II |  | 9 | 2 | 12 | 2 | 5 | 3 | 4 | 3 | 1 | 6 | 1 |  | 48 |
| Group III |  | 7 | 1 | 1 | 1 | 8 | 1 |  |  | 1 | 4 | 2 | 2 | 28 |
| Group IV |  |  | 1 |  |  | 28 | 1 |  |  |  |  |  |  | 30 |
| Group V |  |  |  | 1 | 2 |  | 5 | 4 |  | 2 |  | 1 |  | 15 |
| Masters |  | 14 | 3 | 4 | 10 | 10 | 3 | 5 | 2 | 2 | 6 | 2 | 4 | 65 |
| Bachelors |  | 23 | 5 | 17 | 10 | 14 | 1 | 8 | 5 | 3 | 4 | 4 | 7 | 101 |
| Two-Year C | lleges | 3 |  | 3 |  | 1 | 3 |  | 1 | 1 | 1 | 2 |  | 15 |
| Other Acad | mic Depts. | 4 |  | 6 | 6 | 30 | 16 | 3 |  |  | 2 | 1 |  | 68 |
| Research In | titutes | 3 |  | 5 | 2 | 1 | 1 | 2 |  | 1 | 1 | 2 |  | 18 |
| Governmen |  | 4 | 1 | 4 | 2 | 11 | 2 | 4 |  |  | 2 |  |  | 30 |
| Business and | Industry | 12 | 3 | 12 | 9 | 79 | 37 | 11 | 4 | 14 | 11 | 3 | 1 | 196 |
| Foreign, Ac | demic | 24 | 6 | 25 | 11 | 20 | 12 | 7 | 4 | 2 | 19 | 6 |  | 136 |
| Foreign, N | nacademic | 2 |  | 1 | 1 | 2 | 2 | 1 |  | 1 |  |  |  | 10 |
| Not seekin | employment | 2 | 1 | 1 |  | 4 | 3 | 2 | 6 | 1 | 4 | 1 |  | 25 |
| Still seekin | employment | 13 | 6 | 13 | 10 | 11 | 7 | 10 | 6 | 2 | 11 | 4 | 1 | 94 |
| Unknown ( |  | 13 | 2 | 7 | 12 | 14 | 8 | 5 |  | 3 | 5 |  | 2 | 71 |
| Unknown | n-U.S.)* | 9 | 6 | 10 | 7 | 22 | 11 | 6 | 1 | 3 | 5 | 4 | 1 | 85 |
| Column To |  | 168 | 43 | 151 | 94 | 266 | 122 | 81 | 37 | 40 | 91 | 41 | 19 | 1153 |
| Column | Male | 135 | 33 | 125 | 77 | 196 | 98 | 67 | 30 | 33 | 72 | 30 | 8 | 904 |
| Subtotals | Female | 33 | 10 | 26 | 17 | 70 | 24 | 14 | 7 | 7 | 19 | 11 | 11 | 249 |

*Non-U.S. citizens who return to their country of citizenship and whose status is reported as "unknown" or "still seeking employment".

Table 3B: Employment Status of 1995-1996 U.S. New Doctoral Recipients by Type of Granting Department

| TYPE OF EMPLOYER |  | TYPE OF DOCTORAL DEGREE-GRANTING DEPARTMENT |  |  |  |  |  | $\begin{gathered} \text { ROW } \\ \text { TOTAL } \end{gathered}$ | ROW SUBTOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Group I (Public) Math | Group I (Private) Math | Group II Math | Group III Math | Group IV Statistics | Group V <br> Applied Math/OR |  |  |  |
| Group I (Pu |  | 46 | 16 | 6 |  |  | 2 | 70 | 54 | 16 |
| Group I (Priva |  | 18 | 24 | 3 | 1 |  | 2 | 48 | 41 | 7 |
| Group II |  | 20 | 7 | 16 | 1 | 3 | 1 | 48 | 38 | 10 |
| Group III |  | 7 | 2 | 3 | 11 | 4 | 1 | 28 | 21 | 7 |
| Group IV |  | 1 |  | 1 | 1 | 26 | 1 | 30 | 24 | 6 |
| Group V |  | 3 | 1 |  |  |  | 11 | 15 | 14 | 1 |
| Masters |  | 20 | 4 | 19 | 14 | 4 | 4 | 65 | 43 | 22 |
| Bachelors |  | 22 | 9 | 37 | 26 | 4 | 3 | 101 | 75 | 26 |
| Two-Year | leges | 8 | 1 | 6 |  |  |  | 15 | 12 | 3 |
| Other Acad | mic Depts. | 11 | 9 | 7 | 3 | 23 | 15 | 68 | 51 | 17 |
| Research In | itutes | 7 | 7 | 2 |  | 1 | 1 | 18 | 17 | 1 |
| Governmen |  | 11 | 3 | 1 | 2 | 10 | 3 | 30 | 23 | 7 |
| Business a | Industry | 31 | 16 | 29 | 18 | 55 | 47 | 196 | 163 | 33 |
| Foreign, A | demic | 44 | 31 | 26 | 10 | 15 | 10 | 136 | 109 | 27 |
| Foreign, N | academic | 2 | 3 | 1 | 1 |  | 3 | 10 | 8 | 2 |
| Not seekin | mployment | 7 | 2 | 5 | 6 | 3 | 2 | 25 | 20 | 5 |
| Still seekin | mployment | 23 | 14 | 34 | 12 | 6 | 5 | 94 | 70 | 24 |
| Unknown |  | 23 | 14 | 10 | 5 | 6 | 13 | 71 | 54 | 17 |
| Unknown | n-U.S.)* | 21 | 11 | 16 | 13 | 12 | 12 | 85 | 67 | 18 |
| Column T |  | 325 | 174 | 222 | 124 | 172 | 136 | 1153 | 904 | 249 |
| Column | Male | 263 | 137 | 181 | 89 | 126 | 108 | 904 |  |  |
| Subtotals | Female | 62 | 37 | 41 | 35 | 46 | 28 | 249 |  |  |

*Non-U.S. citizens who return to their country of citizenship and whose status is reported as "unknown" or "still seeking employment".
son, last year's First Report showed 724 new doctoral recipients employed in the U.S., including 534 (73.8 percent) in academic positions. Thus total U.S. employment of new doctoral recipients increased for the second year in a row but the rate of increase this year, 1.1 percent, was slight. The percentage of positions in academia decreased by 5.2 percent. Concomitantly, the number of nonacademic positions in the U.S. taken by new doctoral recipients increased by 18.9 percent to 226.

The 506 U.S. academic positions this year include a total of 239 in U.S. doctoral degree-granting departments (Groups I-V). This number is 3.9 percent higher than last year (230 positions in Groups I-V). The number of new doctoral recipients employed by master's and bachelor's degree-granting colleges and universities (Groups M and B) decreased by 35 (17.4 percent) from the number reported last year. While the numbers of new doctoral recipients hired by government remained constant and new doctoral recipients hired by research institutes increased slightly from those reported last year (by 5.9 percent), hiring by business and industry increased markedly (by 18.1 percent). Employment of the new doctoral recipients by business and industry constitutes 26.8 percent of all U.S. employment of these new doctoral recipients. Last year, 22.9 percent were hired by business and industry.

Though the number of positions into which new doctoral recipients have been hired has decreased (by 2.5 percent), the job market for 1995-1996 new doctoral recipients has been somewhat better than the corresponding markets for 1991-1992, 1992-1993, 1993-1994, and 1994-1995. Table 3A shows that among those whose employment status is known, 9.4 percent are unemployed. (The corresponding rate of unemployment for 1994-1995 doctoral recipients from U.S. institutions, reported in fall 1995, was 14.7 percent). The 1996 unemployment level ranks as the lowest since the fall 1990 rate of 5.7 percent. Last year's unemployment rate of 14.7 percent ranked as the highest ever observed since 1971, when employment information about new doctoral recipients was first reported in the current format.

The data in Table 3A were obtained in many instances early in the summer of 1996 and do not reflect subsequent hiring. Nonetheless, the year-toyear comparisons are all based on data acquired over the same time period of each year, and they reliably reflect the relative state of this year's market. An update of Table 3A will appear in the 1996 Second Report. Table 3C shows the trend in the unemployment figures reported in the respective Annual Survey Reports for the 1989-1990 through 1994-1995 cohorts of new doctoral recipients.

Beyond the unemployment statistics that are explicitly reported in Tables 3A and 3C, the 1996 Survey reveals other indicators of a somewhat improved job market. For example, 32 (3.2 percent) new doctoral recipients are reported to hold part-time posi-
tions, and 69 ( 6.9 percent) new doctoral recipients hold employment at the same institution that awarded their degree, although not necessarily in the same department in which the degree was earned. To compare with the corresponding statistics in 1995, 45 ( 4.2 percent) were part-time and 78 ( 7.2 percent) were held by doctoral recipients in the same institutions where they earned their doctoral degrees.

Table 3C: Percentage of New Doctoral Recipients Unemployed (as reported in the respective Annual Survey Reports 1990-1995)

| Year | Fall | Spring |
| :---: | :--- | :---: |
| $1989-1990$ | 5.7 | 2.2 |
| $1990-1991$ | 12.4 | 5.0 |
| $1991-1992$ | 12.7 | 6.7 |
| $1992-1993$ | 12.4 | 8.9 |
| $1993-1994$ | 14.2 | 10.7 |
| $1994-1995$ | 14.7 | 10.7 |
| $1995-1996$ | 9.4 | $*$ |



The Survey of New Doctoral Recipients per se does not reveal underlying causes of the high rates of unemployment and underemployment reported since fall 1990. However, data reported in the 1995 Second Report show that many faculty positions being vacated by death, incentive retirements, and other retirements are not being filled. In mathematics departments, rates of faculty attrition due to deaths and retirements are currently relatively high, and levels of recruitment have declined substantially ( 27 percent) since 1990 (Notices, August, 1995, page 870), with 1994-1995 showing the first increase in positions under recruitment in five years.

Some information is available from the survey concerning the nature of the academic positions filled. To date, 256 individual responses have been received from new doctoral recipients
employed by academic institutions. Sixty-four percent of these respondents report that their positions are not tenure-eligible and the remaining 34.5 percent report that their positions are tenured or tenure-track positions ( 1.5 percent are unknown). Out of the 164 nontenureeligible respondents, 24.4 percent can hold their current positions for a maximum of one year, and 53.7 percent can hold their positions for up to two years. Thus, the incumbents of many of the nontenure-eligible positions will again be seeking jobs during the current year.

The proportion of the jobs filled which are tenured or tenure-eligible varies significantly between the survey Groups. Among the 256 individual respondents holding jobs in academic institutions, 101 have positions in a doctoral degree-granting department, and 85 have positions in a bachelor's or master's degree-granting department. In the doctoral degree-granting departments 84.2 percent of the positions held by new doctoral recipients are not tenureeligible, while 37.6 percent of the positions in bachelor's and master's degree-granting departments are not tenure-eligible.

Table 3B reveals the dependence of employment patterns on the type of department from which the doctoral degree is received. The patterns of compartmentalization and stratification of the job market for new doctoral recipients are similar to the patterns seen in the 1995 Survey. For example, Table 3B shows that new doctoral recipients hired for positions in doctoral degree-granting mathematics departments (Groups I, II, III) are drawn predominantly from mathematics degree recipients: 93.3 percent of the positions filled in Groups I, II, and III are held by those who received their degrees from Group I, II, or III departments. Similarly, 86.7 percent of the Group IV jobs held by new doctoral recipients went to Group IV degree recipients.

These percentages compare with 86 percent and 90 percent, respectively, from the 1995 Survey.

Women represent 21.6 percent of the population of new doctoral recipients, down from 22.9 percent in 1994-1995, but the proportion is not uniform across different types of departments. For example, 20.7 percent of the new doctoral recipients in mathematics (Groups I+II+III) are women (down from 22.2 percent last year), and 26.1 percent of the new doctoral recipients from statistics departments are women (up from 24.1 percent last year). The proportion of women among new doctoral recipients hired by doctoral degree-granting mathematics departments (20.6 percent) is slightly less than their proportion among mathematics doctoral recipients. The rate of unemployment for the female new doctoral recipients ( 11.2 percent) is greater than the rate for the male new doctoral recipients ( 8.9 percent).

Table 3B shows different rates of unemployment for doctoral recipients from the five Groups. The percentages unemployed, among those whose employment status is known, are Group I (Public)-8.2 percent, Group I (Private)-9.4 percent, Group II-17.3 percent, Group III-11.3 percent, Group IV-3.9 percent, and Group V-4.5 percent.

Table 3D shows the pattern of employment within broad job categories broken down by the citizenship status of the new doctoral recipients (from U.S. institutions). The citizenship status is known for 1,144 of the 1,153 new doctoral recipients. For those whose job status is known, the rate of unemployment for non-U.S. citizens is nearly 3 percentage points higher than that for U.S. citizens ( 10.8 percent noncitizens and 8.0 percent citizens). The unemployment rate for U.S. citizens is 5.6 percentage points below the level reported in the 1995 First Report for 1994-1995 new doctoral recipients. The percentage of U.S. citizens in U.S. nonacademic jobs is higher than the percentage of noncitizens in the same category (24.1 percent of citizens versus 21.6 percent of noncitizens).

Table 3D: Employment Status of 1995-1996 U.S. New Doctoral Recipients by Citizenship Status*

| TYPE OF EMPLOYER | TYPE OF CITIZENSHIP |  |  |  | TOTAL DOCTORAL RECIPIENTS WHOSE CITIZENSHIP IS KNOWN* |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | U.S. Citizens |  | Non-U.S. Citizens |  |  |  |
|  | Number | Percent | Number | Percent | Number | Percent |
| U.S. Academic, Ph.D. Department | 108 | 22 | 131 | 20 | 239 | 21 |
| U.S. Academic, non-Ph.D. Department | 174 | 35 | 72 | 11 | 246 | 22 |
| U.S. Research Institute | 5 | 1 | 13 | 2 | 18 | 2 |
| U.S. Nonacademic | 111 | 22 | 114 | 18 | 225 | 20 |
| Foreign Academic | 18 | 4 | 116 | 18 | 134 | 12 |
| Foreign Nonacademic | 0 |  | 10 | 2 | 10 | 1 |
| Not seeking employment | 8 | 2 | 15 | 2 | 23 | 2 |
| Still seeking employment | 37 | 7 | 57 | 9 | 94 | 8 |
| Unknown status (U.S. address) | 41 | 8 | 29 | 5 | 70 | 6 |
| Unknown status (foreign address) | 0 |  | 85 | 13 | 85 | 7 |
| TOTALS | 502 | 100.0** | 642 | 100.0** | 1144 | 100.0** |

[^0]The percentage of U.S. citizens holding positions in U.S. doctoral degree-granting departments (23.4 percent) is slightly lower than the percentage for non-U.S. citizens ( 24.8 percent). U.S. citizens hold positions in nondoctoral-degree granting U.S. departments in substantially higher proportion than do noncitizens ( 37.7 percent of citizens compared to 13.6 percent of noncitizens). All percentages exclude new doctoral recipients whose job status is unknown.

If complete information about the visa status of the non-U.S. citizens were known, then it would be more natural and common to group those holding permanent-resident status with the U.S. citizens for the comparison of employment patterns. However, the visa status is unknown for many of the non-U.S. citizens simply because this is a detail of their immigration status which is not always known to departmental staff; visa status is not known for 24.8 percent of the nonU.S. citizens.

Nonetheless, the distribution of job categories was gathered for 123 non-U.S. citizens new doctoral recipients who are known to be permanent U.S. residents. Of those whose employment status is known, 23.6 percent are employed by a doctoral degree-granting department in the U.S., 17.9 percent are employed by a non-doctoral degree-granting department in the U.S., and 16.3 percent are unemployed.
Gender, Ethnicity, and Citizenship of U.S. New Doctoral Recipients, 1995-1996
Table 4 presents a breakdown according to gender, ethnic group, and citizenship of the new doctoral recipients. The information reported in this table was obtained in summary form from the departments granting the degrees and in a few cases from the recipients themselves.

The citizenship status is known for 1,150 of the 1,153 new doctoral recipients, including 493 U.S. citizens. (Because different survey forms are used to compile the summary of gender,
ethnicity, and citizenship than are used to learn the country of citizenship of each individual, and the unknown or missing items from the two survey forms may not coincide, this count of known citizenship status and of U.S. citizens differs from the count shown in Table 3D). The number of U.S. citizen new doctoral recipients is 13.1 percent less than the 1994-1995 figure of 567 , which had been the highest reported since 1980-1981. Table 5 shows the changes from year to year in the numbers and proportions of U.S. citizens.

The percentage of U.S. citizens among the new doctoral recipients is 42.9 percent, a significant decrease from last year's percentage of 47.0 percent, and very close to the all-time low of 42.3 percent in 1991-1992. A total of 657 noncitizens were awarded doctoral degrees by U.S. institutions in 1995-1996. This represents an increase of 17 individuals ( 2.7 percent) from last year's count. The 1995-1996 count is 99 percent greater than the number awarded by U.S. institutions ten years ago (330 in 1984-1985).

Among the U.S. citizens receiving doctoral degrees in the mathematical sciences, 9 are black ( 7 men and 2 women) and 9 are Mexican American, Puerto Rican, or other Hispanic (8 men and 1 women). The former is up 3 from last year, while the latter remained the same.

Women account for 23.5 percent of the U.S. citizens receiving doctoral degrees in the mathematical sciences from U.S. universities. This is the fourth highest percentage ever reported but down from the record high percentage ( 28 percent) reported in 1993 and also down from the percentage ( 24.9 percent) reported last year. The total number of U.S. citizen women who were 1995-1996 doctoral recipients (116) decreased by 17.7 percent from last year's reported 141, and is 29 less than the highest number, reported in 1992-1993 (see Table 6).

Table 4: Gender, Ethnicity, and Citizenship of 1995-1996 U.S. New Doctoral Recipients

| RACIAL/ETHNIC GROUP | MEN |  |  |  | WOMEN |  |  |  | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | CITIZENSHIP |  |  | Total Men | CITIZENSHIP |  |  | Total Women |  |
|  | U.S. | Other | Not Known |  | U.S. | Other | Not Known |  |  |
| Asian, Pacific Islander | 13 | 303 | 2 | 318 | 7 | 82 |  | 89 | 407 |
| Black | 7 | 8 |  | 15 | 2 | 2 |  | 4 | 19 |
| American Indian, Eskimo, Aleut | 1 |  |  | 1 |  |  |  |  | 1 |
| Mexican American, Puerto Rican, or other Hispanic | 8 | 28 |  | 36 | 1 | 6 |  | 7 | 43 |
| White (non-Hispanic) | 347 | 179 | 1 | 527 | 105 | 44 |  | 149 | 676 |
| Unknown | 1 | 5 |  | 6 | 1 |  |  | 1 | 7 |
| TOTAL | 377 | 523 | 3 | 903 | 116 | 134 |  | 250 | 1153 |

Table 5: U.S. Citizen Doctoral Recipients

|  | Adjusted Total* of <br> Degrees Granted by <br> U.S. Institutions | Total of U.S. <br> Citizen Doctoral <br> Recipients | $\%$ |
| :---: | :---: | :---: | :---: |
| $75-76$ | 965 | 722 | 75 |
| $76-77$ | 901 | 689 | 76 |
| $77-78$ | 868 | 634 | 73 |
| $78-79$ | 806 | 596 | 74 |
| $79-80$ | 791 | 578 | 73 |
| $80-81$ | 839 | 567 | 68 |
| $81-82$ | 798 | 519 | 65 |
| $82-83$ | 744 | 455 | 61 |
| $83-84$ | 738 | 433 | 59 |
| $84-85$ | 726 | 396 | 55 |
| $85-86$ | 755 | 386 | 51 |
| $86-87$ | 739 | 362 | 49 |
| $87-88$ | 798 | 363 | 45 |
| $88-89$ | 884 | 411 | 46 |
| $89-90$ | 929 | 401 | 43 |
| $90-91$ | 1061 | 461 | 43 |
| $91-92$ | 1016 | 430 | 42 |
| $92-93$ | 1197 | 526 | 44 |
| $93-94$ | 1059 | 469 | 44 |
| $94-95$ | 1207 | 567 | 47 |
| $95-96$ | 1150 | 493 | 43 |

*Number of doctorates whose citizenship is known. Total may vary from that on Table 3D because the data are gathered on different surveys.

Graph for Table 5: U.S. Citizen Doctoral Recipients Total of Doctoral Recipients by Percent


Upper line - Adjusted total of doctorates granted by U.S. Universities. Lower line - Total of U.S. citizen doctoral recipients.

Table 6: U.S. Citizen Doctoral Recipients, Male and Female

Total of U.S.
Citizen Doctoral Recipients Male
$75-76$
$76-77$
$77-78$
$78-79$
$79-80$
$80-81$
$81-82$
$82-83$
$83-84$
$84-85$
$85-86$
$86-87$
$87-88$
$88-89$
$89-90$
$90-91$
$91-92$
$92-93$
$93-94$
$94-95$
$95-96$

722
689
689
602
$634 \quad 54$
$596 \quad 503$
$578 \quad 49$
$567 \quad 46$
$519 \quad 43$
$455 \quad 36$
433
396
386
362
363
411
401
461
430
526
469
567
49337

| Female | $\%$ <br> Female |
| :---: | :---: |
| 86 | 12 |
| 87 | 13 |
| 89 | 14 |
| 93 | 16 |
| 87 | 15 |
| 102 | 18 |
| 88 | 17 |
| 89 | 20 |
| 87 | 20 |
| 81 | 20 |
| 82 | 21 |
| 73 | 20 |
| 76 | 21 |
| 98 | 24 |
| 89 | 22 |
| 112 | 24 |
| 103 | 24 |
| 145 | 28 |
| 124 | 26 |
| 141 | 25 |
| 116 | 24 |

Note that in Table 5 and Table 6 all years prior to 1982-1983 include doctoral recipients from computer science departments.

## Acknowledgments

The Annual AMS-IMS-MAA Survey attempts to provide an accurate appraisal and analysis of various aspects of the academic mathematical sciences scene for the use and benefit of the community and for filling the information needs of the professional organizations. Every year, college and university departments in the United States are invited to respond. The Annual Survey relies heavily on the conscientious efforts of the dedicated staff members of these departments for the quality of its information. On behalf of the AMS-IMS-MAA Data Committee and the Annual Survey staff, I thank the many secretarial and administrative staff members in the mathematical sciences departments for their cooperation and assistance in responding to the survey questionnaires.

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## Reclassification of Departments

As has been the case for a number of years, much of the data in these reports is presented for departments divided into groups according to several characteristics, the principal one being the highest degree offered in the mathematical sciences. Doctorate-granting departments of mathematics are further subdivided according to their ranking of "scholarly quality of program faculty" as reported in the 1995 publication Re-search-Doctorate Programs in the United States: Continuity and Change, ${ }^{1}$ These rankings update those reported in a previous study published in 1982. ${ }^{2}$ Consequently, the departments that now comprise Groups I, II, and III differ significantly from those used in prior surveys. The reader should keep this in mind when attempting to make comparisons by group with previous Annual Survey reports. A list of the departments in each of these groupings appears below.

The subdivision of the Group I institutions into Group I Public and Group I Private is new with the 1996 Annual Survey. With the increase in number of the Group I departments from 39 to 48, the AMS-IMS-MAA Data Committee judged that a further subdivision along the lines of public and private would provide more meaningful reporting of the data for these departments.

Brief descriptions of the groupings used for reporting purposes are as follows:

Group I is composed of 48 departments with scores in the 3.00-5.00 range.

Group I Public and Group I Private are Group I departments at public institutions and privateinstitutions, respectively.

Group II is composed of 56 departments with scores in the 2.00-2.99 range.

Group III contains the remaining U.S. departments reporting a doctoral program, including a number of departments not included in the 1995 ranking program faculty.

Group IV contains U.S. departments (or programs) of statistics, biostatistics, and biometrics reporting a doctoral program.

Group V contains U.S. departments (or programs) in applied mathematics/applied science, operations research, and management science which report a doctoral program.

Group Va is applied mathematics/applied science; Group Vb is operations research and management science.

Group M contains U.S. departments granting a master's degree as the highest graduate degree.

Group B contains U.S. departments granting a baccalaureate degree only.

[^1]
## GROUP I Public

## 25 Mathematics Departments

 (Scores between 3.00 and 5.00)CUNY, Graduate School and University Center
Georgia Institute of Technology
Indiana University at Bloomington
Michigan State University
Ohio State University, Columbus
Pennsylvania State University, University Park
Purdue University
Rutgers University
SUNY at Stony Brook
University of California, Berkeley
University of California, Los Angeles
University of California, San Diego
University of California, Santa Barbara

University of Illinois at Chicago
University of Illinois at UrbanaChampaign
University of Maryland, College Park
University of Michigan
University of Minnesota, Minneapolis
University of North Carolina at Chapel Hill
University of Oregon
University of Texas at Austin
University of Utah
University of Virginia
University of Washington
University of Wisconsin, Madison
GROUP I Private
23 Mathematics Departments
(Scores between 3.00 and 5.00)
Boston University
Brandeis University

Brown University
California Institute of Technology
Carnegie Mellon University
Columbia University
Cornell University
Duke University
Harvard University
Johns Hopkins University
Massachusetts Institute of Technology
New York University, Courant Institute
Northwestern University
Princeton University
Rensselaer Polytechnic Institute
Rice University
Stanford University
University of Chicago
University of Notre Dame

University of Pennsylvania University of Southern California Washington University Yale University

## GROUP II

56 Mathematics Departments
(Scores between 2.00 and 2.99)
Arizona State University
Auburn University
Case Western Reserve University
Claremont Graduate School
Clemson University
Colorado State University
Dartmouth College
Florida State University
Iowa State University
Kansas State University
Kent State University
Lehigh University
Louisiana State University, Baton Rouge
North Carolina State University
Northeastern University
Oregon State University
Polytechnic University
SUNY at Albany
SUNY at Binghamton
SUNY at Buffalo
Syracuse University
Temple University
Texas A \& M University
Texas Tech University
Tulane University
University of Arizona
University of California, Davis
University of California, Irvine
University of California, Riverside
University of California, Santa Cruz
University of Cincinnati
University of Colorado, Boulder
University of Connecticut, Storrs
University of Delaware
University of Florida
University of Georgia
University of Hawaii
University of Houston
University of lowa
University of Kentucky
University of Massachusetts, Amherst
University of Miami

University of Missouri, Columbia
University of Nebraska, Lincoln
University of North Texas
University of Oklahoma
University of Pittsburgh, Pittsburgh
University of Rochester
University of South Carolina, Columbia
University of Tennessee
University of Texas at Arlington
Vanderbilt University
Virginia Polytechnic Institute \& State University
Washington State University
Wayne State University
Wesleyan University

## GROUP III

72 Mathematics Departments
(Scores below $\mathbf{2 . 0 0}$, or unranked)
Adelphi University
Air Force Institute of Technology
American University
Bowling Green State University
Brigham Young University
Bryn Mawr College
Catholic University of America
Central Michigan University
Clark University
Clarkson University
College of William and Mary
Colorado School of Mines
Drexel University
Emory University
Florida Atlantic University
George Washington University
Howard University
Idaho State University
Illinois Institute of Technology
Illinois State University
Indiana University-Purdue University, Indianapolis
Marquette University
Mississippi State University
Montana State University, Bozeman
Naval Postgraduate School
New Jersey Institute of Technology
New Mexico State University
North Dakota State University Northern Illinois University Ohio University

Oklahoma State University
Old Dominion University
Portland State University
Rockefeller University
Southern Illinois University at Carbondale
Southern Methodist University
St. Louis University
Stevens Institute of Technology
Tufts University
University of Alabama, Birmingham
University of Alabama, Huntsville
University of Alabama, Tuscaloosa
University of Alaska, Fairbanks
University of Arkansas at Fayetteville
University of Central Florida
University of Colorado, Denver
University of Denver
University of Idaho
University of Kansas ${ }^{1}$
University of Maryland Baltimore County
University of Memphis
University of Mississippi
University of Missouri, Kansas City
University of Missouri, Rolla
University of Montana
University of New Hampshire
University of New Mexico ${ }^{1}$
University of North Carolina, Charlotte
University of Northern Colorado
University of Rhode Island
University of South Florida
University of Southwestern Louisiana
University of Texas at Dallas
University of Toledo
University of Vermont
University of Wisconsin, Milwaukee
University of Wyoming
Utah State University
West Virginia University
Western Michigan University
Wichita State University
Worcester Polytechnic Institute
${ }^{1}$ These departments were in Group II based on the 1982 NRC rankings. They are now in Group III because they were not included in the NRC study published in 1995.

## Salary Survey for New Recipients of Doctoral Degrees

The figures for 1996 were compiled from questionnaires sent to individuals who received doctoral degrees in the mathematical sciences during the 1995-1996 academic year from universities in the United States.

Questionnaires requesting information on salaries and professional experience were distributed to 922 recipients of degrees using addresses provided by the departments granting the degrees; 364 individuals returned forms between late June and mid-September. Responses with insufficient data or from individuals who indicated they had part-time employment, were not yet employed, or were not seeking employment, were considered unusable. Numbers of usable responses for each salary category are reported in the following tables.

Readers should be warned that the data in this report are obtained from a self-selected sample, and inferences from them may not be representative of the population.

Key to Tables. Salaries are listed in hundreds of dollars. Nine-month salaries are based on 9-10 months teaching and/or research, not adding extra stipends for summer grants or summer teaching or the equivalent. Years listed refer to the academic year in which the doctorate was received. $M$ and $F$ are Male and Female, respectively. One year or less experience means that the persons had experience limited to one year or less in the same position or a position similar to the one reported; some persons receiving a doctoral degree had been employed in their present position for several years. Quartile figures are given only in cases where the number of responses is large enough to make them meaningful.

Graphs. The graphs show variants of standard box plots summarizing salary distribution information. The horizontal line shows the 1995 median salary in hundreds of dollars. Values plotted for other years are converted to 1995 dollars using the implicit price deflator prepared annually by the Bureau of Economic Analysis, U.S. Department of Commerce. The 1996 salary data are not shown on the graphs because the deflator is not yet available for this year.

For a given year, the box shows the first and third quartiles and the median salary. (Prior to 1975, the quartiles are not available, and only the median is depicted by the horizontal stroke.) The "whiskers" give additional information about the spread of the data, extending to points that are 1.5 interquartile distances from the median. Minimum and maximum salaries are depicted by asterisks or dots outside the whiskers; dots are used to distinguish extreme outliers, i.e., values that are more than 3 interquartile distances from the median.

Note that salaries for teaching or teaching and research have yet to return to their high point of 1970, although considerable progress has been made since 1980.

Teaching or Teaching and Research Nine-Month Salaries
(102 men + 38 women)

|  |  | 02 | $\mathrm{n}+38$ | m |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ph.D. Year | Min | $\mathrm{Q}_{1}$ | Median | $\mathrm{Q}_{3}$ | Max | Reported Median in 1995 \$ |
| 1960 | 49 |  | 65 |  | 80 | 300 |
| 1965 | 70 |  | 80 |  | 105 | 344 |
| 1970 | 85 |  | 110 |  | 195 | 387 |
| 1975 | 90 | 120 | 128 | 135 | 173 | 326 |
| 1980 | 105 | 155 | 171 | 185 | 250 | 305 |
| 1985 | 170 | 230 | 250 | 270 | 380 | 343 |
| 1990 | 230 | 305 | 320 | 350 | 710 | 368 |
| 1993 | 160 | 310 | 340 | 370 | 750 | 357 |
| 1994 | 150 | 330 | 350 | 375 | 730 | 334 |
| 1995 | 220 | 320 | 350 | 382 | 640 | 350 |
| 1996 | 240 | 333 | 360 | 400 | 636 | ----- |
| 1993M | 160 | 310 | 340 | 370 | 750 |  |
| 1993F | 230 | 310 | 338 | 380 | 520 |  |
| 1994M | 150 | 329 | 350 | 378 | 730 |  |
| 1994F | 270 | 330 | 348 | 370 | 520 |  |
| 1995M | 220 | 320 | 350 | 388 | 640 |  |
| 1995F | 240 | 323 | 350 | 380 | 525 |  |
| 1996M | 240 | 330 | 360 | 400 | 636 |  |
| 1996F | 270 | 345 | 365 | 399 | 500 |  |
| One year or less experience ( 79 men +29 women) |  |  |  |  |  |  |
| 1996M | 240 | 340 | 360 | 400 | 636 |  |
| 1996F | 280 | 350 | 374 | 399 | 500 |  |

## Teaching or Teaching and Research Nine-Month Salaries

900

800

700




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Research
Twelve-Month Salaries
( 23 men +8 women)

| (23 men +8 women) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ph.D. Year | Min | $\mathrm{Q}_{1}$ | Median | $\mathrm{Q}_{3}$ | Max | Reported Median in 1995 \$ |
| 1960 | 97 |  | 105 |  | 140 | 485 |
| 1965 | 81 |  | 93 |  | 107 | 400 |
| 1970 | 90 |  | 120 |  | 205 | 422 |
| 1975 | 90 |  | 119 |  | 180 | 303 |
| 1980 | 120 |  | 180 |  | 321 | 321 |
| 1985 | 190 | 295 | 342 | 400 | 520 | 469 |
| 1990 | 180 | 280 | 300 | 365 | 546 | 345 |
| 1993 | 237 | 300 | 330 | 400 | 570 | 346 |
| 1994 | 210 | 330 | 350 | 400 | 490 | 334 |
| 1995 | 196 | 280 | 340 | 370 | 587 | 340 |
| 1996 | 192 | 270 | 330 | 400 | 585 | ----- |
| 1993M | 237 | 272 | 310 | 365 | 480 |  |
| 1993F | 300 | 330 | 365 | 400 | 570 |  |
| 1994M | 210 | 300 | 340 | 433 | 490 |  |
| 1994F | 330 | 340 | 365 | 400 | 400 |  |
| 1995M | 196 | 280 | 350 | 370 | 587 |  |
| 1995F | 200 | ----- | 287 | ----- | 400 |  |
| 1996M | 210 | 273 | 330 | 360 | 585 |  |
| 1996F | 192 | 265 | 390 | 455 | 500 |  |
| One year or less experience ( 18 men + 5 women) |  |  |  |  |  |  |
| 1996M | 210 | 275 | 330 | 360 | 400 |  |
| 1996F | 260 | 380 | 400 | 450 | 500 |  |

Government
Twelve-Month Salaries
(11 men + 3 women)

| Ph.D. Year | (11 men + 3 women) |  |  |  |  | Reported |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Min | Q | Median | Q | Max | Median in 1995 \$ |
| 1960 | 72 |  | 93 |  | 130 | 430 |
| 1965 | 70 |  | 126 |  | 160 | 542 |
| 1970 | 100 |  | 150 |  | 223 | 528 |
| 1975 | 78 |  | 182 |  | 247 | 464 |
| 1980 | 156 |  | 244 |  | 501 | 435 |
| 1985 | 263 | 294 | 325 | 381 | 440 | 446 |
| 1990 | 320 | 345 | 378 | 430 | 587 | 435 |
| 1993 | 300 | 378 | 412 | 571 | 800 | 432 |
| 1994 | 250 | 355 | 455 | 530 | 576 | 434 |
| 1995 | 370 | 440 | 494 | 507 | 650 | 494 |
| 1996 | 360 | 420 | 427 | 504 | 650 | ----- |
| 1993M | 300 | 402 | 480 | 611 | 800 |  |
| 1993F | 340 | 350 | 378 | 462 | 528 |  |
| 1994M | 250 | 350 | 423 | 550 | 576 |  |
| 1994F | ----- | ----- | ----- | ----- | ----- |  |
| 1995M | 440 | ----- | 499 | ----- | 650 |  |
| 1995F | ----- | ----- | ----- | ----- | ----- |  |
| 1996M | 360 | 405 | 427 | 500 | 650 |  |
| 1996F | ----- | ----- | ---- | ----- | ----- |  |
| One year or less experience (10 men + 1 woman) |  |  |  |  |  |  |
| 1996M | 360 | 390 | 425 | 500 | 534 |  |
| 1996F | ----- | ---- | ----- | ----- | ----- |  |

Research Twelve-Month Salaries

900


800

700


200

100
$\begin{array}{llllllll}60 & 65 & 70 & \begin{array}{c}75 \\ \text { Year }\end{array} & 80 & 85 & 90 & 95\end{array}$

## Government Twelve-Month Salaries



|  |  | Busin Twelv (42 | ss and Month + 4 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Ph.D. } \\ & \text { Year } \end{aligned}$ | Min | $\mathrm{Q}_{1}$ | Median | $\mathrm{Q}_{3}$ | Max | Reported Median in 1995 \$ |  | 900 |
| 1960 | 78 |  | 110 |  | 150 | 508 |  | 800 |
| 1965 | 100 |  | 136 |  | 180 | 585 |  |  |
| 1970 | 96 |  | 170 |  | 235 | 598 |  |  |
| 1975 | 114 |  | 187 |  | 240 | 477 |  | 700 |
| 1980 | 190 |  | 284 |  | 400 | 506 |  |  |
| 1985 | 260 | 360 | 400 | 420 | 493 | 548 |  |  |
| 1990 | 320 | 438 | 495 | 533 | 700 | 569 | $\stackrel{\square}{0}$ |  |
| 1993 | 270 | 480 | 560 | 600 | 1100 | 587 | $\bar{\square}$ | 600 |
| 1994 | 200 | 418 | 525 | 600 | 750 | 501 | $\bigcirc$ |  |
| 1995 | 288 | 480 | 568 | 690 | 1250 | 568 |  |  |
| 1996 | 250 | 510 | 580 | 610 | 1000 | ----- |  | 500 |
| 1993M | 270 | 500 | 560 | 600 | 1100 |  | $\frac{5}{0}$ |  |
| 1993F | 424 | 475 | 568 | 600 | 670 |  |  | 400 |
| 1994M | 200 | 405 | 490 | 600 | 750 |  |  |  |
| 1994F | ----- | ----- | ---- | ----- | ----- |  |  | 300 |
| 1995M | 288 | 480 | 550 | 690 | 1250 |  |  |  |
| 1995F | 397 | 550 | 630 | 680 | 1000 |  |  |  |
| 1996M | 250 | 480 | 580 | 610 | 1000 |  |  |  |
| 1996F | 520 | ----- | 590 | ----- | 650 |  |  |  |
| One year or less experience ( 28 men +3 women) |  |  |  |  |  |  |  |  |
| 1996M | 320 | 481 | 580 | 615 | 950 |  |  |  |
| 1996F | ----- | ---- | ----- | ----- | ----- |  |  |  |

## Salary Survey for Faculty

The charts on the following pages display faculty salary data for Groups I Public, I Private, II, III, IV, V, M, and B: faculty salary distribution by rank, mean salaries by rank, information on quartiles by rank, and the number of usable returns for the group. Since groupings used for the mathematics departments in this year's report differ from prior years, comparisons are not pos sible. Departments were asked to report the number of faculty whose 1996-1997 academicyear salaries fell within given salary intervals. Reporting salary data in this fashion eliminates some of the concerns about confidentiality but does not permit determination of actual quartiles. What can be determined is the salary interval in which the quartiles occur; the salary intervals containing the quartiles are denoted by $<\mathrm{n}, \mathrm{n}+5>$.




Group III Faculty Salaries



Group V Faculty Salaries
Doctoral degree-granting departments of applied mathematics and oper. res. (33)
11 usable responses (33\%)

| Rank | 1996-1997 |  |  |  |  | $\begin{gathered} \hline 1995-1996 \\ \text { Mean } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. Reported | Q | Median | $\mathrm{Q}_{3}$ | Mean |  |
| Assistant Professor | 27 | <50,55> | <50,55> | <55,60> | 55,122 | 53,487 |
| Associate Professor | 34 | <55,60> | <60,65> | <60,65> | 59,133 | 60,344 |
| Full Professor | 89 | <70,75> | <85,90> | <100,105> | 87,205 | 87,189 |






[^0]:    * The adjusted total varies from that in Table 5 because the data are gathered on different surveys.
    ** Column percents are rounded to the nearest whole percent.

[^1]:    ${ }^{1}$ Research-doctorate programs in the United States: continuity and change, edited by Marvin L. Goldberger, Brendan A. Maher, and Pamela Ebert Flattau; National Academy Press, Washington, D.C., 1995
    ${ }^{2}$ These findings were published in An assessment of research-doctorate programs in the United States: Mathematical and physical sciences, edited by Lyle V . Jones, Gardner Lindzey, and Porter E. Coggeshall; National Academy Press, Washington, D.C., 1982. The information on mathematics, statistics, and computer science was presented in digest form in the April 1983 issue of the Notices, pages 257-267, and an analysis of the classifications was given in the June 1983 Notices, pages 392-393.

