

DATA BRIEF

Non-U.S. Citizens are 40 Percent of S&E Doctorate Recipients from U. S. Universities in 1995

by Susan T. Hill

Most non-U.S. citizen doctoral recipients, on either permanent or temporary visas, plan on remaining in the U.S.

Universities in the United States draw students from all over the world to study for a research doctorate; most of these students come to earn a doctorate in a science and engineering (S&E) field. Of the 26,515 doctorates conferred by U.S. universities in S&E fields in 1995, 40 percent were received by persons who were citizens of non-U.S. countries, up from 27 percent a decade earlier. However, the number of non-U.S. citizens who earned a doctorate in S&E fields remained stable in 1994 and 1995, after continuous increases since the 1950's. Data on non-U.S. graduate enrollment in S&E fields also reflect this recent stabilization.¹

One-third of the 10,493 non-U.S. citizen, S&E doctoral recipients in 1995 earned their doctorate in engineering, 51 percent in the natural sciences, and 16 percent in the social sciences. The comparable percents for U.S. citizens were 15 percent in engineering, 50 percent in natural sciences, and 35 percent in the social sciences.

Almost three-fourths of the non-U.S. citizen, S&E doctoral recipients were from Asian countries (see table 1). The top 4 countries were:

- (1) The People's Republic of China (2,751)
- (2) Taiwan (1,239)
- (3) India (1,204)
- (4) Korea (1,004)

Canada and Mexico were home to 274 and 129 S&E doctoral recipients, respectively. In 1995, one-third of the non-U.S. citizens

who earned S&E doctorates from a U.S. university held visas that granted them permanent residency in the United States, while two-thirds held visas granting temporary residency in this country. Based on those who reported definite plans at graduation (two-thirds of graduates), almost all (92 percent) of non-U.S. citizens holding permanent visas planned to remain in the United States. Of those on temporary visas, over half (57 percent) planned to remain in the United States.

Table 1. — Non-U.S. citizens awarded S&E doctorates, by region of citizenship: 1995

Region of the world	Number of S&E doctorates earned in U.S. universities
Total	10,493*
Asia	7,660
Europe	1,253
North America	505
Africa	424
South America	358
Pacific/Australia	203

* Includes the 63 persons for whom country of citizenship was not known.

SOURCE: NSF/SRS, Survey of Earned Doctorates.

Over half of non-U.S. citizens with definite plans to remain in the United States were continuing their studies with postdoctoral appointments. One-fourth were employed in industry and only 13 percent were employed in academia. (see chart 1).

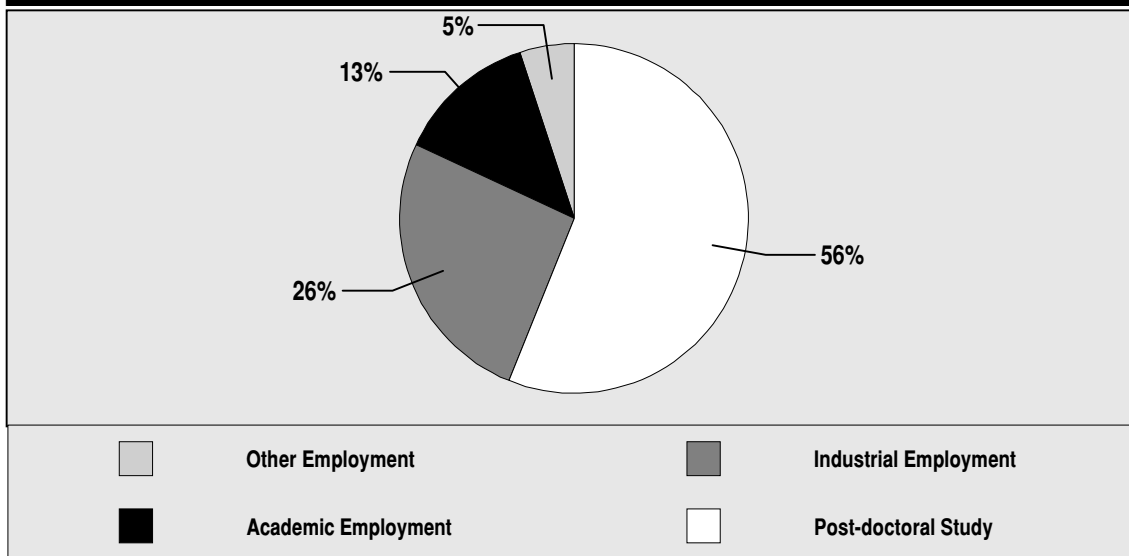
It is difficult to estimate what portion of non-U.S. citizen, S&E doctoral recipients remain in the U.S. labor pool years later. One study of non-U.S. citizen doctoral recipients indicated that 42 percent of those on temporary visas when they earned their doctorate in 1984 were working in the United States eight years

Electronic Dissemination

SRS data are available through the World Wide Web (<http://www.nsf.gov/sbe/srs/stats.htm>) and also through STIS, NSF's online Science and Technology Information System, described in NSF flyer 95-64, "Getting NSF Information and Publications." For a paper copy of the flyer, call 703-306-1130. For an electronic copy of the *STIS User's Guide*, send an e-mail with the phrase "get NSF9410.TXT" to stisserv@nsf.gov. For NSF's Telephonic Device for the Deaf, dial 703-306-0090.

¹ NSF/SRS, "Graduate Enrollment in Science and Engineering Decreased by 1 Percent in 1994," Data Brief, 96-312, and Council of Graduate Schools, Graduate Enrollment Survey, 1995.

Chart 1. Definite Postgraduation Plans of Foreign S&E Doctorate Recipients Who Planned to Remain in the U.S.: 1995



SOURCE: NSF/SRS, Survey of Earned Doctorates.

later.² Another survey indicates that non-U.S. citizens, whether they earned their doctorate in the United States or another country, comprise a significant proportion of U.S. residents trained in S&E.³

² An unpublished working report from the Oak Ridge Institute for Science and Education, "Foreign Nationals Who Receive Science and Engineering Ph.D.s from U.S. Universities: Stay Rates and Characteristics of Stayers" April 1995.

³ NSF/SRS, "Immigrants Are 23 Percent of U.S. Residents With S&E Doctorates." Data Brief, 95-339.

The data presented in this Data Brief were obtained from the Survey of Earned Doctorates. Research doctorate recipients respond to the survey at the time they complete the requirements for their degree from a U.S. university. Almost all doctorate recipients responded (94 percent in 1995), but these data are subject to slight non-response bias and to minor revisions when late respondents are included.

More detailed data are in the SRS reports entitled *Selected Data on*

Science and Engineering Doctorate Awards: 1995 (96-303) and *Leading Countries of Foreign Doctoral Recipients in U.S. Universities* (forthcoming).

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