

# INTRODUCTION

The mobility of educated individuals has been a source of ongoing concern among educators and policymakers (see, e.g., Boyle, Cooke, and Halfacree 2001; Mills and Hazarika 2001; and Woroby 2000). Most attempts to identify factors associated with an individual's decision to migrate are rooted in some version of a human capital approach that emphasizes the influence of economic variables (Mills and Hazarika 2001). The decision to migrate is viewed as a response to constraints at the place of origin and/or perceived incentives at the place of destination. This traditional model also suggests that brain drain is likely to occur when the marginal returns to human capital (e.g., degree earned, years of schooling, field of study) are higher in the destination than the place of origin. In addition, recent multidisciplinary research has emphasized the influence of demographic and cultural factors—rather than strictly economic ones—on migration; these factors include the individual's sex, marital status, race/ethnicity, kinship ties, and social networks (Woroby 2000).

This report examines the extent and patterns of interstate migration of one of the highly skilled segments of the American labor force—recent recipients of bachelor's and master's degrees in the fields of science and engineering (S&E). It describes the characteristics of S&E bachelor's and master's recipients who change states during key periods from birth to postgraduate employment. The report also examines residential stability, i.e., the extent to which S&E bachelor's and master's recipients remain in the same state (or return to prior roots) for postgraduate employment.

The data in this report refer only to S&E graduates who were employed during the survey reference week,<sup>1</sup>

regardless of whether they were employed full or part time, held career path jobs, and/or were enrolled as full- or part-time students. The tables present migration rates for various transition periods from birth to postgraduate employment with the primary focus of examining the extent to which S&E bachelor's and master's degree recipients changed states between the receipt of the eligible degree and employment during the survey reference week. For brevity, this transition period is referred to as the transition to postgraduate employment, although the respondents' employment during the survey reference week may not have been his or her initial postgraduate employment. Mobility patterns during the transition to postgraduate employment provide insight into the extent of brain drain and brain gain across states among this highly skilled segment of the U.S. workforce.<sup>2</sup>

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<sup>1</sup> The survey reference week was between 1 and 3 years after degree receipt. The survey reference week for the 1999 NSRCS cycle was the week of April 15, 1999; the reference week for the 2001 cycle was the week of April 15, 2001.

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<sup>2</sup> Because migration between degree receipt and survey reference week employment is a primary focus of the report, the population was limited to those who were employed. However, this analysis included an examination of whether the migration patterns of graduates who were not employed were significantly different than employed graduates (not shown in tables). When comparing migration rates during the time period between degree receipt and the survey reference week, some differences were discovered between employed and not employed graduates. For example, among bachelor's degree recipients who were full-time students, those who were not employed were more likely to migrate than those who were full-time employed (44 percent versus 38 percent). To control for the effect of other characteristics on these rates, a logistic regression was conducted of the migration rates by demographic and educational characteristics (not shown in tables). When controlling for other factors, including student status, there was no significant difference in migration rates between graduates who were not employed and those employed full-time for either the bachelor's or master's degree groups.