



The Vermont Legislative Research Service

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Migration Patterns of College Students and Recent College Graduates

The young, single, and college educated (YSCE) are the most mobile segment of the total U.S. population and display migrational patterns nearly opposite those for the total population.¹ Roughly 75% of YSCE individuals reported moving between 1995 and 2000 compared to 64.9% for young individuals and 45.9 for the total population during the same period.² During the same period, 92% of YSCE individuals migrated to metropolitan areas.³ All age groups except young adults generally exhibit a net migration flow from urban to rural areas.⁴ Larger metro areas are more likely to experience net in-migration of the YSCE population while smaller metro, micro, and rural areas are more likely to experience net out-migration of this population.⁵

Between 1995 and 2000, 18 states experienced net in-migration of the YSCE population and 32 states experienced net out-migration. States with consistent net in-migration were located in the South Atlantic and West regions of the United States and states with consistent net out-migration were mostly located in the Midwest and Northeast. During this period, Vermont experienced a net migration rate of -143.5% for the YSCE population (5,222 YSCE individuals immigrated to Vermont and 7,474 out-migrated). For sake of comparison the net migration rate for the population 5 and older for Vermont was 4.0%.⁶ The consistent out-migration of the YSCE population in the Northeast can be partially attributed to the "heavily private" nature of the region's higher education establishment, which attracts a relatively large number of out-of-

¹ Justyna Goworowska and Todd K. Gardner, "Historical Migration of the Young, Single, and College Educated: 1965 to 2000," *A U.S. Census Bureau Population Division Working Paper*, 2012, accessed March 30, 2015, 11, http://www.census.gov/population/www/cen2000/migration/files/Pop_Working%20Paper_94.pdf.

² Rachel S. Franklin, "Migration of the Young, Single, and College Educated: 1995 to 2000," *A U.S. Census Bureau Special Report*, 2003, accessed March 30, 2015, 3-4, <http://www.census.gov/prod/2003pubs/censr-12.pdf>.

³ Goworowska et al., "Historical Migration of the Young, Single, and College Educated: 1965 to 2000," 9.

⁴ Ruth E. Heuer, "Migration of Recent College Graduates," (PhD diss., North Carolina State University, 2004), 16.

⁵ Goworowska et al., "Historical Migration of the Young, Single, and College Educated: 1965 to 2000," 11.

⁶ Franklin, "Migration of the Young, Single, and College Educated: 1995 to 2000," 6.

state students who are then more likely to out-migrate following graduation. The Pacific region, which consistently displays a high rate of YSCE in-migration, features an extensive and relatively low cost public higher education system that retains a large number of in-state college students.⁷

College Students

In 1997, the overall rate at which individuals left their home state to attend college was 17.1%. This figure was significantly higher in states such as Connecticut (44.3%) and Vermont (43.9%). These states also had high numbers of first-time college students from other states with student in-migration rates of 34% and 60%, respectively during the same year.⁸ Students who out-migrate to attend college in states in the Western region of the United States are less likely than average to leave their college state following graduation, while students who attend college in the Midwest and South regions are more likely to leave their college state following graduation.⁹

Factors that Influence the Migration of College Students and Recent College Graduates

College Students

Studies investigating recent college graduate migration have consistently found that individuals who attend private colleges or universities are more likely to migrate following graduation compared to individuals who attend public institutions.¹⁰ Using data from the 1976 cohort of college graduates, Jeffrey Groen estimates that attending a public in-state university increases the odds a student will remain in-state following graduation by 15%, compared to 9% for private universities and 0% for private colleges.¹¹ States with a higher per-capita income generally attract more out-of-state college students.¹²

Recent College Graduates

Individuals whose parents achieved high levels of educational attainment, grant recipients, those who applied to multiple institutions, those without children, those who migrated to attend college, those born in the U.S. or to U.S. born parents, and those who lived in a rural area, small town, or large town at the time of high school graduation are more likely than

⁷ Yolanda K. Kodrzycki, "Migration of Recent College Graduates: Evidence from the National Longitudinal Survey of Youth," *New England Economic Review January/February* (2001): 29.

⁸ Terry T. Ishitani, "Exploration of Interstate College and Post-Graduation Migration in the United States," *A Paper Presented at the Association for Institutional Research 2011 Forum*, (2004): 2.

⁹ Ishitani, "Exploration of Interstate College and Post-Graduation Migration in the United States," 19.

¹⁰ Heuer, "Migration of Recent College Graduates," 12.

¹¹ Jeffrey A. Groen, "The Effect of College Location on Migration of College-Educated Labor," *Journal of Econometrics* 121 (2004): 137.

¹² Ishitani, "Exploration of Interstate College and Post-Graduation Migration in the United States," 4.

average to leave their native state following college.¹³ Students who reside in states with a high gross domestic product are more likely than average to remain in their native state after college.¹⁴

Graduates of private institutions and individuals who either have completed or plan on completing a doctoral or professional degree have a greater than average tendency to leave their home state following graduation. Engineering and computer science majors are more likely than other majors to migrate following graduation; however, individuals whose jobs were not related to their major report greater migration distances than those with major-related jobs.¹⁵

Young graduates are more likely to migrate if they are in a state that has low employment growth, high unemployment, or low pay for college graduates, and the majority of migrations are to states that offer “improved conditions in one or more areas such as job growth, unemployment, compensation, housing costs, or amenities.”¹⁶ Students who attend college in states with a larger population are more likely than average to remain in the same state following graduation. Quality of life has a significant effect on the migration of students and both in-state and out-of-state college graduates. A higher GDP per capita increases the odds of both in-state and out-of-state students remaining in their college state after graduation, and states with high GDP-per-capita neighbors are more likely than average to lose both in-state and out-of-state graduates to those neighbors.¹⁷

The Impact of Attending College in a State on Post-Graduation Retention

Of the individuals from Groen’s sample of the 1976 cohort of college graduates, 73% of those who attended college in-state lived in their native state 10 years after graduating, compared to 45% of those who attended out of state colleges. Of the individuals who applied to colleges in more than one state, 60% lived in their native state 10 years after graduation.¹⁸

Groen also found that individuals with high SAT scores and recipients of advanced (MA’s, professional, doctoral) degrees were more likely than average to out-migrate following graduation.

The effect of attending college in-state on post-graduation location did not decline with SAT score or the reception of an advanced degree versus a bachelor’s degree. Attending college in

¹³ Terry T. Ishitani, “The Determinants of Out-Migration Among In-State College Students in the United States,” *Research in Higher Education* 52 (2011): 107; Heuer, “Migration of Recent College Graduates,” 151, 153.

¹⁴ Heuer, “Migration of Recent College Graduates,” 151,153.

¹⁵ Ruth E. Heuer, “Migration of Recent College Graduates,” 154.

¹⁶ Yolanda K. Kodrzycki, “Migration of Recent College Graduates: Evidence from the National Longitudinal Survey of Youth,” *New England Economic Review January/February* (2001): 30.

¹⁷ Terry T. Ishitani, “Exploration of Interstate College and Post-Graduation Migration in the United States,” *A Paper Presented at the Association for Institutional Research 2011 Forum* (2011): 19-20.

¹⁸ Jeffrey A. Groen, “The Effect of College Location on Migration of College-Educated Labor,” *Journal of Econometrics* 121 (2004): 136.

state increased the likelihood of remaining in-state after graduation by the same degree for individuals of all academic levels.¹⁹

State Post-College Retention Programs

Multiple studies have found that state merit-based student financial aid programs do have a positive effect on a state's ability to retain native college students, but these higher enrollments do not effectively translate into higher numbers of college-educated persons living in a state following graduation.²⁰ Results by Bound et al. indicate that the link between attending college in a state and remaining in that state following graduation is so minor that state policymakers "have only a modest capacity" to influence their college-graduate retention rate through higher education investment.²¹ Sjoquist found that merit-based programs in states with low retention rates of college-educated individuals had the greatest overall effect on increasing post-college retention rates and suggests that these states had the "most opportunity to reduce the percentage of college attendees leaving the state." Hawley found that merit-based scholarship programs did have a positive effect on reducing the out-migration rate for college students and recent college graduates, the effect took between six and ten years to present itself, and higher college enrollments did not effectively transfer to a higher college graduate retention rate.²²

Sjoquist also found evidence that desirable quality of life is positively correlated with the impact of merit-based scholarship programs, and suggests that states make efforts to combine merit aid with improved amenities to increase post-college retention in a more cost effective manner. Evidence from this study also suggests that merit-based scholarships actually reduce the percentage of high ability students who remain in-state after graduation, but have no meaningful effect on the out-migration rate of low ability students following college.²³

Two studies that examined the Georgia HOPE scholarship program and its effects on the retention of native Georgia students following graduation found that the HOPE program reduced the overall retention rate of students within the Georgia University System by a minor amount, with high ability student population experiencing the most significant reduction in

¹⁹ Groen, "The Effect of College Location on Migration of College-Educated Labor," 137.

²⁰ John Bound, Jeffrey Groen, Gabor Kezdi, and Sarah Turner, "Trade in university training: cross-state variation in the production and stock of college-educated labor," *Journal of Econometrics* 121 (2004): 163; David L. Sjoquist and John V. Winters, "Merit Aid and Post-College Retention in the State," *Journal of Urban Economics* 80 (2014): 48.

²⁰ Zackary B. Hawley, Jonathan C. Rork, "The case of state funded higher education scholarship plans and interstate brain drain," *Journal of Regional Science and Urban Economics* 43 (2013): 248; Groen, "The Effect of College Location on Migration of College-Educated Labor," 139; David L. Sjoquist and John V. Winters, "The Effects of HOPE on Post-College Retention in the Georgia Workforce," *Regional Science and Urban Economics* 43 (2013): 490.

²¹ Bound et al., "Trade in university training: cross-state variation in the production and stock of college-educated labor," 163.

²² Zackary B. Hawley, Jonathan C. Rork, "The case of state funded higher education scholarship plans and interstate brain drain," *Journal of Regional Science and Urban Economics* 43 (2013): 248.

²³ David L. Sjoquist and John V. Winters, "Merit Aid and Post-College Retention in the State," *Journal of Urban Economics* 80 (2014): 48.

retention rate.²⁴ Groen found that of the students who entered the GUS through the HOPE program would have most likely attended college anyways, and Siquost suggests that these students are less attached to the state than students who would have entered the Georgia University system without a scholarship. The reduction in retention rates was highest for high academic ability students.²⁵ Groen estimates that if 100 additional students were induced to attend college in-state rather than out-of-state through the Georgia HOPE program, no more than 10 would be working in the state 10-15 years after college.²⁶

Conclusion

While Vermont has a high rate of net out-migration of the young, single, and college educated, the actual numbers suggest only 2,252 over a 5 year period for the most recent data available. Attending school out-of-state, attending private colleges and the wealth of the state are the most important predictors of net migration patterns after college. State policies to retain college graduates seem to have only marginal effects.

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Disclaimer: This report has been compiled by undergraduate students at the University of Vermont under the supervision of Professor Jack (Anthony) Gierzynski, Professor Robert Bartlett and Professor Eileen Burgin. The material contained in the report does not reflect the official policy of the University of Vermont.

²⁴ David L. Sjoquist and John V. Winters, "The Effects of HOPE on Post-College Retention in the Georgia Workforce," *Regional Science and Urban Economics* 43 (2013): 490; Jeffrey A. Groen, "The Effect of College Location on Migration of College-Educated Labor," *Journal of Econometrics* 121 (2004): 139.

²⁵ Sjoquist et al., "The Effects of HOPE on Post-College Retention in the Georgia Workforce," 490.

²⁶ Groen, "The Effect of College Location on Migration of College-Educated Labor," 139.