

A Matter of Degrees

How Undergraduate College Completions Shape Labor Supply

NEETA P. FOGG AND PAUL E. HARRINGTON

Perhaps more than any other measure of higher education, college completions provide a clear indication of the contributions of this important sector to the economy and to society at large. Measured by the number and kinds of degrees and certificates awarded during a given period, completions represent the output produced by colleges. Degree completions, particularly, allow for the assessment of a wide variety of issues pertaining to higher education, ranging from minority access and gender equity to the role of higher education in supplying the highly educated and skilled workers needed to sustain economic growth.

Since the mid-1980s, the U.S. Department of Education's Independent Postsecondary Education Data System (IPEDS) has collected information from colleges and universities on the number of degrees they confer each year. An analysis of the IPEDS undergraduate degree data from 1990 to 2002 sheds light on higher education's role in New England's social and economic development.

The number of undergraduate degrees awarded annually in the United States has increased considerably since 1990. The number of associate degrees rose from 469,100 in 1990 to 608,400 in 2002, an increase of nearly 30 percent in just 12 years. The number of bachelor's degrees awarded also grew by about 23 percent over the 12-year period. The nation's colleges and universities awarded more bachelor's degrees than associate's degrees. In 1990, higher education institutions in the nation awarded 45 associate degrees per 100 bachelor's degrees. By 2002, this proportion had increased to 47 associate degrees per 100 bachelor's degrees.

The increase in the number of degrees awarded nationally is the product of a variety of factors. These include growth in the "traditional" college-age population since the mid-1990s, a continued increase in enrollment rates of new high school graduates over much of the 1990s (though with some leveling off at the end of the decade) and continued growth in the labor market advantages—namely increased wages—that accrue to individuals with college degrees.

The forces that led to sizable increases in college

completions nationally seem to have had widely different impacts in different places. Figure 1 reveals that higher education institutions in New England lagged far behind their counterparts in increasing the number of undergraduate degrees granted despite a strong regional economy that, by the end of the 1990s, had produced widespread labor shortages in many occupations that require college degrees.

Figure 1

Associate and Bachelor's Degrees Granted in the United States by Region: 1990 to 2002

| | Change in Associate Degrees, 1990-2002 | | Change in Bachelor's Degrees, 1990-2002 | |
|---------------------|--|----------------|---|----------------|
| | Absolute Change | Percent Change | Absolute Change | Percent Change |
| New England | -2,349 | -8.6% | 1,658 | 2.0% |
| Mid Atlantic | 10,732 | 13.6% | 26,346 | 15.2% |
| East North Central | 5,447 | 6.7% | 28,503 | 14.8% |
| West North Central | 13,119 | 37.6% | 18,067 | 19.5% |
| South Atlantic | 25,926 | 32.9% | 55,954 | 34.4% |
| East South Central* | 12,519 | 38.9% | 16,345 | 29.3% |
| West South Central | 11,799 | 31.8% | 28,816 | 29.5% |
| Mountain | 17,784 | 65.5% | 27,603 | 47.1% |
| Pacific | 44,322 | 62.5% | 39,237 | 28.6% |
| United States* | 139,299 | 29.7% | 242,529 | 23.0% |

* Data for the Community College of the Armed Forces was not reported in 2002. The institution awards about 13,800 degrees per year. We assigned 2001 values for its response. This impacts figures for both the East South Central region and the nation.

At the bachelor's level, New England was able to increase the number of degrees granted by only 2 percent—less than one-tenth of the national rate. Some regions of the country registered growth in bachelor's degrees granted that was 14 to 23 times greater than New England's. Of the total increase of nearly 243,000 bachelor's degrees granted nationwide between 1990 and 2002, New England colleges conferred fewer than 1,700—a meager 0.7 percent of the total increase. As a result of this, New England employers began seeing a sharp shift in college-educated labor supply to other parts of the nation.

Dis-associated

During the 1990s, U.S. policymakers and educators placed renewed emphasis on associate degree pro-

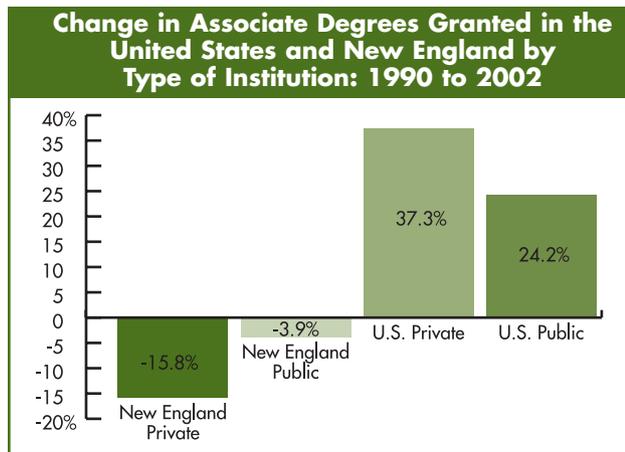
grams. Some elected officials began to talk about the associate degree as the new minimum educational credential for success in the labor market. Most regions substantially expanded the number of associate degrees they granted. The major exception was New England, where the number of associate degrees granted actually declined by nearly 9 percent between 1990 and 2002. Meanwhile, colleges in the Rocky Mountain and Pacific regions increased the number of two-year degrees they granted by more than 60 percent from 1990 to 2002.

Most regions substantially expanded the number of associate degrees granted during the 1990s. The major exception was New England.

The decline in associate degrees in New England may be traced to both private and public colleges. Nationally, the number of two-year degrees granted by private colleges swelled by 37 percent between 1990 and 2002. In New England, the number granted by private colleges shrank by 16 percent.

Meanwhile, public sector two-year degree awards declined by about 4 percent in New England over the period. Virtually all this reduction occurred in Massachusetts, where the number of associate degrees granted by public colleges fell by about one-tenth.

Figure 2



This reduction in the Bay State’s public associate degree completions has occurred largely since the mid-1990s, even though funding of Massachusetts community colleges increased consistently from the end of the recession of the early 1990s through the early years of this decade.

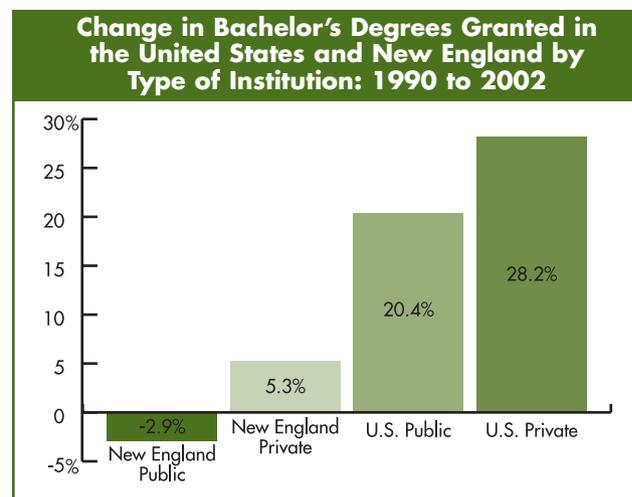
Bachelor party?

At the bachelor’s level, New England’s public colleges decreased the number of degrees they awarded by nearly 3 percent between 1990 and 2002, while public colleges

nationally increased their output of bachelor’s degrees by 20 percent. Again, the largest decline occurred in Massachusetts. The number of bachelor’s degrees awarded by public institutions in the Bay State plunged by 11 percent or nearly 1,600 between 1990 and 2002.

New England’s private colleges posted a 5 percent increase in the number of bachelor’s degrees granted. This looks like an impressive performance compared with the region’s public colleges, but it pales in comparison with the 28 percent growth in bachelor’s degrees awarded by private colleges nationally over the period. This national increase was fueled by growth in both for-profit four-year institutions and the conversion of two-year colleges into four-year colleges.

Figure 3



Gender trends

In the 1960s, the rate of increase in the number of women earning undergraduate degrees began to outpace the rate of growth in men earning them, and by the early 1980s, rough equity was reached in the share of degrees earned by men and women. But the continued higher rate of growth in undergraduate degrees granted to women eventually gave women a disproportionate share. By 2002, 149 women nationally earned associate degrees for every 100 men. This disparity is even higher in New England, where in 2002, 156 women earned associate degrees for every 100 men. At the bachelor’s level in 2002, both New England and the nation awarded degrees to 135 women for every 100 men.

Data in Figure 4 reveal that the size of the associate degree gender gap nationally increased considerably between 1990 and 2002. In sharp contrast, the gender gap at the associate level in New England declined over the same time period as the overall level of awards fell. More than three-quarters of the total decline in associate degree awards in New England were concentrated among women. And the ratio of associate degrees awarded to women fell from 165 per 100 men in 1990 to 156 per 100 men in 2002. So, the gender gap closed because the rate of decline was even greater for women

Figure 4

| Associate Degrees Granted in the United States by Region and Gender: 1990 to 2002 | | | | |
|---|-----------------|----------------|-----------------|----------------|
| | Males | | Females | |
| | Absolute Change | Percent Change | Absolute Change | Percent Change |
| New England | -528 | -5.1% | -1,821 | -10.7% |
| Mid Atlantic | 4,411 | 13.9% | 6,321 | 13.4% |
| East North Central | 901 | 2.7% | 4,546 | 9.4% |
| West North Central | 4,936 | 32.5% | 8,183 | 41.6% |
| South Atlantic | 9,511 | 30.6% | 16,415 | 34.4% |
| East South Central | NA | NA | NA | NA |
| West South Central | 2,605 | 15.0% | 9,194 | 46.5% |
| Mountain | 7,286 | 56.2% | 10,498 | 74.1% |
| Pacific | 16,090 | 53.0% | 28,232 | 69.5% |
| United States | 39,889 | 20.1% | 85,641 | 31.7% |

than for men. This may be the result of the closing, downsizing or upscaling of New England’s traditional two-year women’s colleges.

The rise in the number of bachelor’s degrees granted in the nation between 1990 and 2002 was heavily concentrated among women. Women accounted for 76 percent of the net increase in the number of bachelor’s degrees awarded nationally over the period. The number of degrees earned by women grew at a pace that was nearly 2.8 times that of men. The result was that by 2002, 135 bachelor’s degrees were awarded to women for every 100 men; up from 113 women per 100 men in 1990.

Nearly 53,000 Hispanic and black young adults in New England are disconnected—jobless and not enrolled in school.

In New England, the entire increase in bachelor’s degrees granted occurred among women. In fact, the number of bachelor’s degrees awarded to men declined by 4 percent. As a result, between 1990 and 2002, women accounted for 187 percent of the net increase in bachelor’s degrees granted in New England, and the region’s young men now lag far behind women in average educational attainment. Basic skills gaps, particularly in reading and writing, may account for the growing higher education gender gap. Boys had substantially lower pass rates than girls on the English language portion of the 2002-03 MCAS exam that Massachusetts 10th-graders must pass to graduate from high school (the two sexes maintained near parity on the math portion of the test). Lower basic skills, higher high school dropout rates, lower college-going rates and lower college retention rates all contribute to growing educational disparity between young men and women in New England and the nation.

Figure 5

| Bachelor’s Degrees Granted in the United States by Region and Gender: 1990 to 2002 | | | | |
|--|-----------------|----------------|-----------------|----------------|
| | Males | | Females | |
| | Absolute Change | Percent Change | Absolute Change | Percent Change |
| New England | -1,446 | -3.9% | 3,104 | 6.8% |
| Mid Atlantic | 3,416 | 4.2% | 22,930 | 24.9% |
| East North Central | 3,447 | 3.8% | 25,056 | 24.8% |
| West North Central | 3,962 | 9.0% | 14,105 | 28.8% |
| South Atlantic | 17,653 | 23.7% | 38,301 | 43.3% |
| East South Central | 4,525 | 17.8% | 11,820 | 38.9% |
| West South Central | 7,543 | 16.7% | 21,273 | 40.6% |
| Mountain | 9,606 | 32.1% | 17,997 | 62.8% |
| Pacific | 9,494 | 14.6% | 29,743 | 41.4% |
| United States | 58,200 | 11.8% | 184,329 | 32.9% |

Racial and ethnic trends

Demographic change has become a powerful force in New England—with much of the change coming from unexpected sources. The 1990s saw net out-migration of a substantial number of New Englanders to other regions of the United States. Despite this loss of population, New England’s total population grew during the 1990s, albeit modestly, because of rapid increases in foreign immigration to the region.

Indeed, the total U.S. population measured by the 2000 census was much larger than expected because of the unexpectedly high volume of new foreign immigrants nationally. Most of these new immigrants were young adult members of racial and ethnic minorities, many of them poorly educated. The educational attainment of these new immigrants, however, varied considerably by country of origin.

During the second half of the 1990s, some shift in the racial and ethnic composition of college degree recipients did occur in New England, but the absolute overall size of the shift was quite small. Figure 6 examines trends in undergraduate degrees awarded to different racial and ethnic groups in New England between 1995 (when IPEDS began reporting reliable race/ethnicity data on the state level) and 2002. The number of white, non-Hispanic students receiving associate degrees declined by nearly 4,800, or about one-fifth, between 1995 and 2002, accounting for the entire decline in the number of two-year degrees granted in the region. This is likely associated with the declines in two-year degrees granted by private colleges, especially two-year women’s colleges.

Partially offsetting the large declines in associate degrees granted to white students was a rapid increase in degrees awarded to black and Hispanic students at the two-year level. Between 1995 and 2002, the number of associate degrees awarded increased by 35 percent

The source for all figures in this article is: Northeastern University Center for Labor Market Studies analysis of U.S. Department of Education IPEDS data.

among black students and 41 percent among Hispanic students. While these growth rates appear very large, the total number of associate degrees granted to either group was small. Only 1,900 associate degrees were awarded to black students in 2002, while fewer than 1,100 were awarded to Hispanics.

Figure 6

| Undergraduate Degrees Granted in New England by Race/Ethnicity: 1995 to 2002 | | | | |
|---|---------------|---------------|------------------------|------------------------|
| Associate | 1995 | 2002 | Absolute Change | Relative Change |
| White, non-Hispanic | 23,633 | 18,860 | -4,773 | -20.2% |
| Black, non-Hispanic | 1,412 | 1,900 | 488 | 34.6% |
| Hispanic | 767 | 1,083 | 316 | 41.2% |
| Asian or Pacific Islander | 552 | 563 | 11 | 2.0% |
| International | 514 | 698 | 184 | 35.8% |
| Unknown | 2,396 | 1,910 | -486 | -20.3% |
| Total | 29,274 | 25,014 | -4,260 | -14.6% |
| Bachelor's | | | | |
| White, non-Hispanic | 64,931 | 62,333 | -2,598 | -4.0% |
| Black, non-Hispanic | 2,562 | 3,507 | 945 | 36.9% |
| Hispanic | 2,036 | 2,987 | 951 | 46.7% |
| Asian or Pacific Islander | 3,750 | 4,462 | 712 | 19.0% |
| International | 3,441 | 4,115 | 674 | 19.6% |
| Unknown | 4,693 | 7,188 | 2,495 | 53.2% |
| Total | 81,413 | 84,592 | 3,179 | 3.9% |

Extraordinarily large numbers of New England's black and Hispanic young adults have low levels of educational attainment and are "disconnected" from education and the labor market. Data from the 2000 decennial census reveal that nearly 53,000 Hispanic and black young adults in the region were disconnected—jobless and not enrolled in school. These numbers represent enormous social and economic costs for the region, and they have likely grown since 2000 due to continuing immigration and a recession that has caused substantial job losses.

While Asian-Americans received just 2.2 percent of New England associate degrees, their experience at the bachelor's level is very different. Indeed, Asian-Americans earn 127 bachelor's degrees for every 100 bachelor's degrees earned by black, non-Hispanic students and 149 degrees per 100 Hispanic bachelor's degree recipients. The number of Asian-American students receiving bachelor's degrees has increased by about 19 percent since 1995.

Surprisingly, international students—counted as a distinct "race-ethnic group" by IPEDS—received the second largest number of bachelor's degrees among all

non-white race-ethnic groups. During 2002, more than 4,100 degrees were awarded to international students in New England, compared with fewer than 3,500 awarded to black students and under 3,000 to Hispanic students.

These findings make a compelling case for a serious examination of the ability of the region's two-year colleges to not only enroll, but to graduate minority students. Some well-funded New England community colleges graduate only a few hundred students per year—less than the output of a small high school. Two-year college presidents often point to other roles for their institutions besides the awarding of degrees. But the fact remains that the dominant currency in New England labor markets is a college degree—and over time, this currency is only likely to grow stronger relative to the alternatives.

Overall, black, Asian-American and Hispanic students accounted for about 13 percent of all bachelor's degrees conferred in New England in 2002, up from 10 percent in 1995. This increase has been fueled primarily by the rapid population growth among these groups. Yet black and Hispanic students are still sharply underrepresented in the distribution of bachelor's awards in New England.

This underrepresentation of blacks and Hispanics among college graduates is due in part to high shares of high school dropouts among blacks and Hispanics in the region. In 2000, more than one-fifth of all black and Hispanic young adults between ages 16 and 24 were dropouts.

In recent years, much of the emphasis on elementary and secondary education reform has relied on key measures of academic achievement such as reading and math test scores. While this is important, the region should not turn a blind eye on the dropout problem, especially in urban schools. With large numbers of poorly educated young immigrants entering the region and very high dropout rates in many school districts, it is not surprising to find underrepresentation of blacks and Hispanics among college graduates.

New England educational leaders should be asking tough questions about the role of higher education in serving New England's large and growing "disconnected youth" population. While the rhetoric of diversity is commonplace on New England's college campuses, the reality is that a large and growing number of black and Hispanic young adults—especially young men—are being closed out of the opportunities that a college degree provides.

Neeta P. Fogg is a senior economist at Northeastern University's Center for Labor Market Studies. Paul E. Harrington is associate director of the center.