

The Middle-Skills Gap: Ensuring an Adequate Supply of Skilled Labor in Northern and Southern New England

By Julia Dennett and Alicia Sasser Modestino

New England Public
Policy Center

Staff

Robert Clifford
David Coyne
Julia Dennett
Tal Elmatad
Yolanda Kodrzycki
Alicia Sasser Modestino
Darcy Rollins Saas
Jennifer Weiner
Bo Zhao

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In the past, New England's highly skilled workforce has served as a boon to the region, acting as a catalyst for economic growth. Looking to the future, policymakers and business leaders are concerned about the ramifications of a potential shortage of skilled labor—particularly as the Baby Boom generation retires. Indeed, Census Bureau projections indicate that the number of individuals entering the labor force in New England will be 15 percent smaller than the number retiring by 2020.

Besides worrying about a sufficient *number* of workers, policymakers and business leaders are also concerned that the region's workforce will not have the right *mix of skills* to fill the jobs created by the New England economy. As the region continues to shift away from traditional manufacturing and production toward professional service and technology-related sectors, employers are demanding workers with more formal education or training. In the short run, an insufficient supply of skilled labor may make it difficult for employers to fill jobs in high demand after the Great Recession, potentially slowing the region's recovery. In the long run, a shortfall of skilled workers may create barriers for businesses looking to locate to or expand in New England, impeding the region's economic growth.

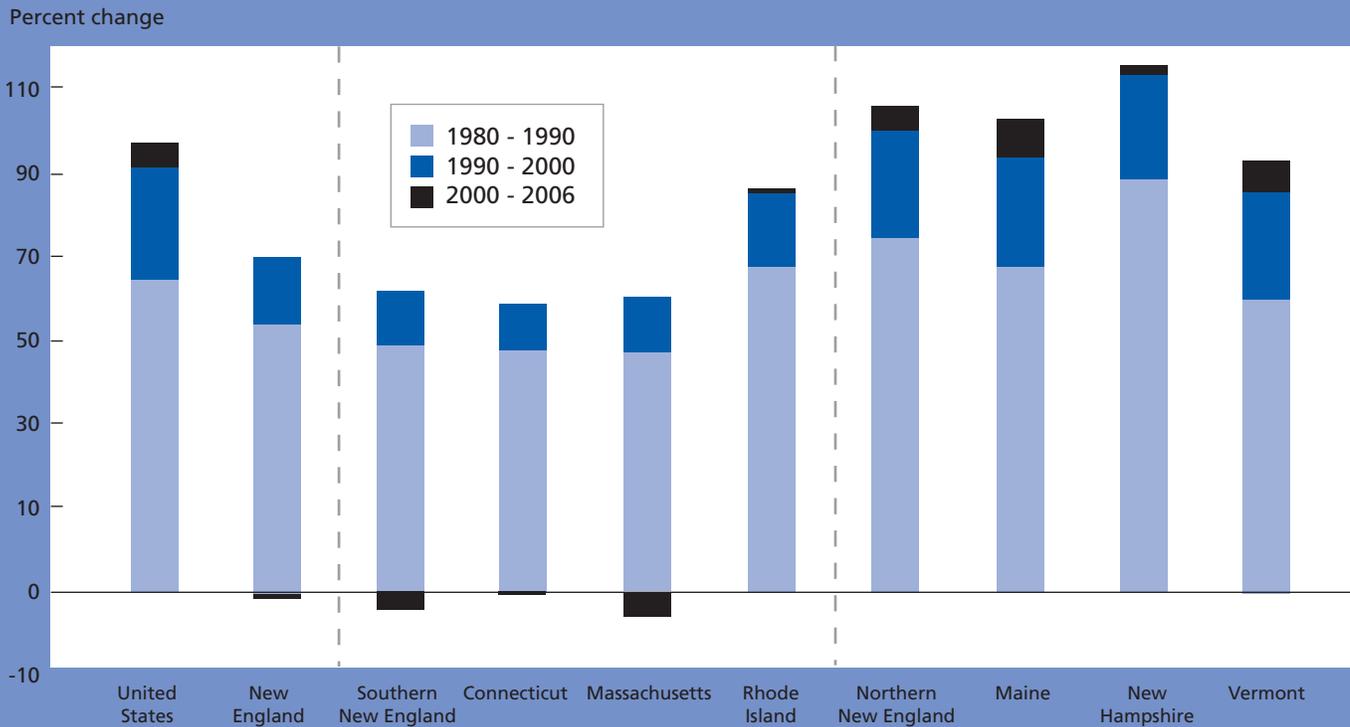
Evidence suggests that a mismatch between the skill levels of the population and the skills demanded by employers may already be occurring—particularly in the “middle” of the labor market. A recent research report from the New England Public Policy Center, *Mismatch in the Labor*

Market: Measuring the Supply of and Demand for Skilled Labor in New England, identifies the middle-skill category as facing the greatest imbalance between the supply of and demand for labor in New England over the next two decades. Middle-skill workers are individuals with some college education or an associate's degree, who are often needed to fill critical jobs in healthcare (nurses, EMTs, therapists), education (teacher assistants), information technology (network administrators, computer support specialists), and other growing occupations. These jobs require some specialized skills, and often involve interpersonal interaction that cannot be easily outsourced or automated.

This policy brief explores the middle-skill mismatch by comparing recent labor market trends and future projections for northern (Maine, New Hampshire, and Vermont) versus southern (Connecticut, Massachusetts, and Rhode Island) New England. It finds that the middle-skill mismatch differs between these two areas of the region, suggesting that policymakers should tailor their potential responses rather than taking a one-size-fits-all approach. In northern New England, where population growth is projected to stagnate, policies aimed at attracting and retaining skilled workers will be a priority. In southern New England, where the population is projected to shift toward minority and immigrant groups, policies need to ensure that workers have the right skills to fill jobs created by the region's economy.

Figure 1. The number of middle-skill working-age adults in New England has been growing more slowly in recent decades, particularly in the southern part of the region.

Individuals aged 25-64 years with some college or an associate's degree



Source: Authors' calculations based on the 1980, 1990, and 2000 decennial Census and the 2005-07 combined American Community Survey.
 Note: Educational attainment in 1980 is defined by number of years of education completed and is not strictly comparable to that in 1990 and later years, which are based on degrees completed.

The supply of middle-skill workers has not kept pace with demand

Over the past several decades, the population of middle-skill working-age adults has grown more slowly in New England compared with the nation, particularly in the southern part of the region (see Figure 1). From 1980 to 2006, while the number of individuals aged 25 to 64 years with middle-skill training grew by 78 percent in New England, this population more than doubled nationwide. The supply of middle-skill labor in New England has also been growing more slowly with each passing decade—and has actually shrunk by 1.2 percent since 2000. The slowdown has been particularly acute in southern New England. Meanwhile the supply of middle-skill labor has continued to grow by 4.4 percent since 2000 nationwide.

New England has experienced slower population growth across all skill levels in recent decades, but the slowdown in the number of middle-skill individuals has been

especially pronounced—altering the *mix of skills* in the region's labor force. As a result, the *percentage of the population* with middle-skill training has also grown more slowly in New England compared with the nation. As of 1980, middle-skill adults accounted for roughly equal shares of the population (19 percent in the region versus 20 percent in the nation). Yet by 2006, the share of middle-skill adults was roughly 3 percentage points lower in New England (26 percent) versus nationwide (29 percent). Again, southern New England states have the lowest shares.

At the same time, demand for middle-skill workers has expanded, as shown by a rapid increase in their earnings relative to individuals with only a high school degree. From 1980 to 2006, employers paid a rising premium for middle-skill workers even as the supply of these workers grew—indicating that demand outpaced supply. In 1980, men with an associate's degree in New England earned 12.7 percent more per hour than men

with only a high school diploma. By the year 2006, this premium had more than doubled, to 30.2 percent.

The wage premium for middle-skill workers has also been rising more rapidly in New England relative to the nation since 2000, indicating that the imbalance between supply and demand has grown more severe in the region. This is particularly true in key sectors of the New England economy that employ middle-skill labor, including health-care, business and financial operations, and computer and mathematical sciences. These industries have higher than average job vacancy rates that have persisted throughout the recent recession.

The supply of middle-skill workers will be constrained in the future

Significant demographic changes suggest that the supply of middle-skill workers may not keep pace with demand. Our projections indicate that the size of the working-age population in New England will likely stagnate, increasing by only 2.2 percent between 2009 and 2019 (see Table 1). The population slowdown is particularly evident in northern New England, where it reflects slower growth in the foreign-born population. The working-age population in the nation as a whole, in

contrast, is projected to grow by 11.3 percent in the coming decade.

At the same time, the region's population will shift to include a greater share of minority and immigrant groups, particularly in the southern part of the region. Over the coming decade, the share of New England's labor force that is non-Hispanic white is projected to fall by 8.2 percentage points (see Table 2). Among the region's minority populations, the share of Hispanic workers will see the largest increase: 4.3 percentage points. These shifts will be even greater in southern New England, where the foreign-born population is projected to grow more rapidly.

The changing composition of the region's population will put downward pressure on New England's education distribution. This is because cohorts of foreign-born and minority groups entering the labor force typically have lower levels of educational attainment at age 25 years compared with the native white population. However, recent trends show that these groups continue to obtain education and training through age 39, which will help offset the slower educational attainment due to the shifting composition of the labor force. Our projections of future labor supply by skill level reflect both these countervailing forces.

These projections indicate that the

Table 1. Projections of future labor supply indicate that New England's population will stagnate in the coming decade, particularly in the northern part of the region.

Individuals aged 25-64 years

Population (thousands)	Total	Foreign-born	Native
2009 - Actual			
United States	162,475.7	29,669.1	132,806.6
New England	7,829.2	1,345.3	6,484.0
Southern New England	6,043.4	1,231.1	4,812.3
Northern New England	1,785.7	107.0	1,678.7
Growth (percent change)			
2009-2019 - Projected			
United States	11.3	47.5	3.2
New England	2.2	31.9	-4.0
Southern New England	2.9	33.1	-4.8
Northern New England	1.3	20.7	0.1

Source: Authors' calculations based on data from the 2006-2008 combined American Community Survey.

Note: Supply projections are made by using a cohort-component model which ages the current population (as of 2009) over time. Calculations are made for individuals aged 25 to 64 years broken down by 5-year age cohorts, nativity, gender, and race/ethnicity.

changing composition of the population will slow the rate of skill acquisition in New England, particularly among middle-skill individuals. By 2019, the share of individuals who have completed an associate's degree is projected to decrease slightly, even though the share of individuals with some college is projected to increase. That is because completion rates at the associate's degree level are extremely low, and have improved little over the past decade. So even if more high school graduates attend community college, the percentage of the population that completes a degree rises by much less.

How will the skill levels of future labor force participants stack up against those that firms need over the next decade? Projections of demand for middle-skill workers similarly reflect two forces at work in the labor market. The first is changes in demand related to job growth *across* occupations, as the economy continues to shift away from manufacturing and production toward professional service and technology sectors. The second is rising demand for skilled workers *within* occupations, reflecting technological changes that favor workers with postsecondary education who can perform non-routine cognitive tasks.

According to our projections, these trends mean that future demand for middle-skill la-

bor in New England will continue to outpace supply, with a shortfall among workers with either some college education or an associate's degree (see Figure 2). Combined, these two categories of workers will account for roughly 27 percent of New England's labor force, yet middle-skill jobs will account for about 31 percent of the region's economy—leaving a 4 percentage point gap by 2019. To fill this gap, the *number* of middle-skill workers in the region would need to grow by nearly 30 percent over the coming decade.

How will New England close the middle-skill gap? Although the labor market will adjust somewhat over the next decade, our projections indicate that the gap is likely to persist in the absence of any policy response. For example, as the demand for middle-skill workers outpaces supply, it is likely that their wages will rise relative to those with less education. In response, individuals just entering the workforce may obtain more education and training. Or younger middle-skill workers may migrate into the region, and older middle-skill workers may delay retirement.

Yet workers in the middle of the skills distribution have fewer resources and are less mobile than workers at the top. Thus, even after we adjust for these market responses, our projections indicate that the supply of middle-

Table 2. New England's population will shift to include a greater share of minority and immigrant groups, particularly in the southern part of the region.

Individuals aged 25-64 years

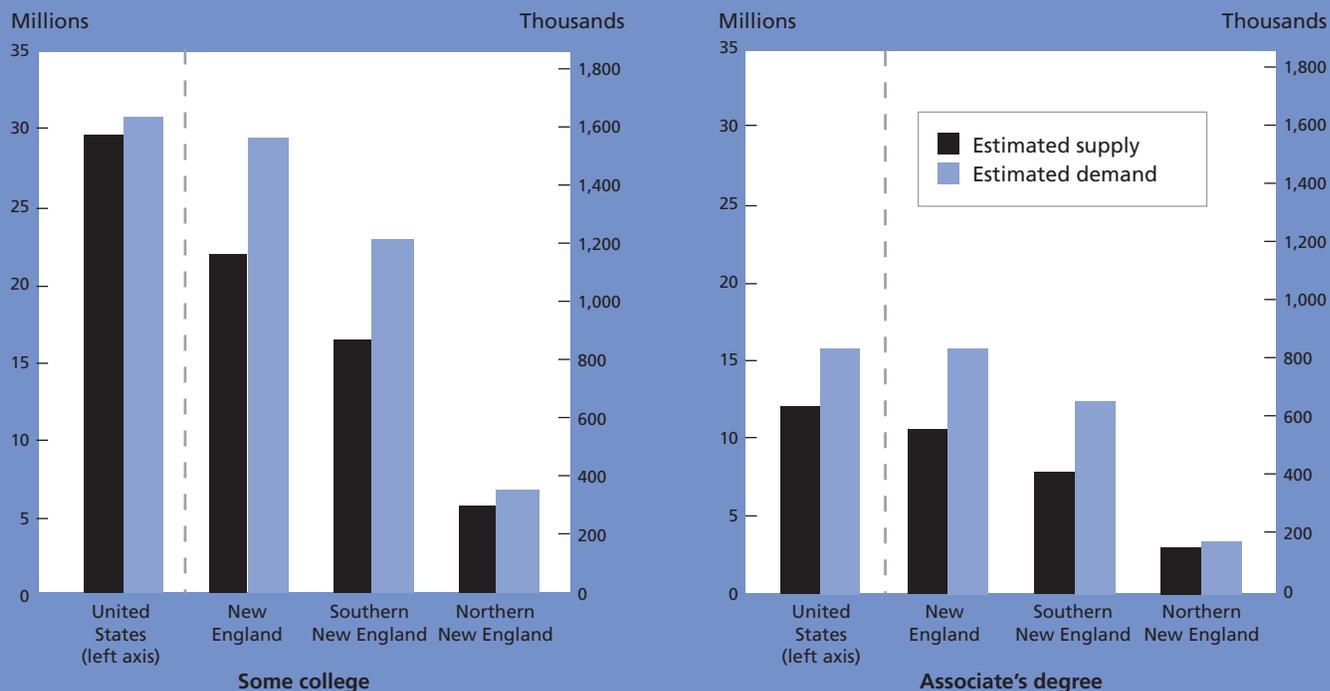
Racial/ethnic share as a percent of population	White	African-American	Hispanic	Asian	Other
2009 - Actual					
United States	66.8	12.0	14.4	5.0	1.8
New England	82.1	5.4	7.6	3.9	1.0
Southern New England	78.3	6.7	9.3	4.7	1.0
Northern New England	94.9	0.9	1.7	1.4	1.1
2019 - Projected					
United States	58.2	13.0	20.2	6.4	2.3
New England	73.9	7.0	11.9	5.7	1.6
Southern New England	68.7	8.5	14.5	6.7	1.6
Northern New England	91.4	1.6	3.0	2.1	2.0

Source: Authors' calculations based on data from the 2006-2008 combined American Community Survey.

Note: Supply projections are made by using a cohort-component model which ages the current population (as of 2009) over time. Calculations are made for individuals aged 25 to 64 years broken down by 5-year age cohorts, nativity, gender, and race/ethnicity.

Figure 2. The number of workers in New England is projected to fall short of demand, but the nature of the shortfall varies across the region.

Number of labor force participants aged 25-64 years, 2019



Source: Supply projections are the authors' calculations based on a cohort component model applied to data from the 2006-2008 combined American Community Survey. Demand projections are the authors' calculations based on projected employment growth for 2008-2018 by the U.S. Bureau of Labor Statistics.

skill workers will still fall short of demand. For example, net migration of middle-skill workers into the region would need to increase by approximately 70,000 individuals per year over the next decade—yet New England typically experiences net outmigration in most years.

The nature of the mismatch varies within the region, suggesting different public policy responses

Although the imbalance between supply and demand in the middle-skill labor market extends to both northern and southern New England, the nature of the mismatch differs across the two subregions. Any potential policy responses to closing the middle-skills gap are therefore likely to differ across the two areas. Indeed, states may look to neighbors in their subregion for policy solutions they may want to adopt.

The shortfall of middle-skill workers in northern New England largely reflects slowing population growth. Our projections show that the number of working-age individuals in

northern states is expected to stagnate, growing by only 1.3 percent from 2009 to 2019 (see Table 1). The number of native-born individuals is likely to remain virtually unchanged over this period, while the number of foreign-born individuals starts from a low base and is likely to grow at less than half the national rate.

In southern New England, the labor market mismatch stems less from a shortage in the *number* of workers and more from a lack of the *right mix of skills* among workers. The overall number of individuals is projected to increase by 2.9 percent, due to rapid growth among the foreign-born population. As a result, southern New England will experience a greater shift in the composition of its population than the north, with the share of working-age individuals who are white falling by 9.6 percentage points (see Table 2). This shift is projected to lead to slower skill acquisition in southern New England, such that the share of individuals with an associate's degree will decrease slightly while increasing in the northern part of the region.

Because the nature of the middle-skill mismatch varies within the region, the role of public policy in addressing these labor market imbalances will differ between northern and southern New England. Given northern New England's projected population slowdown, policymakers in these states have focused on attracting and retaining skilled workers.

For example, New Hampshire's 55% Initiative has created a marketing campaign to help ensure that students do not leave the state owing to a lack of information about job opportunities and quality of life. Similarly, Maine's Opportunity Tax Credit seeks to boost college attendance, degree completion,

While there are a variety of initiatives designed to enhance education and training, little is known about their effectiveness.

and retention of college graduates by allowing recipients of associate's or bachelor's degrees who stay in the state after graduating to claim a tax credit for payments on student loans for up to 10 years.

While both initiatives have the potential to increase retention, it has been difficult to measure how many individuals are aware of these incentives, and whether they have been a factor in decisions to remain in the state. For example, in tax year 2009, only 35 individuals in Maine claimed the credit, at a total cost to the state of \$7,556.

In southern New England, policymakers have focused on improving education and training, to alleviate the skills mismatch within categories of middle-skill jobs that are expanding. For example, the Middle Skills Solution Act, recently filed in the Massachusetts legislature, aims to bolster communication between educational institutions and firms that hire middle-skill workers. By creating "regional skills academies" composed of employers, community colleges, and other training providers, the legislation aims to better align curricula with employer needs, speed up the attainment of credentials, and ultimately increase the number of adults with middle-skill training.

The Career Ready Certificate program may be one example of such a program already in action. Created two years ago through

a partnership between the Community College of Vermont, the state Department of Labor, and the state Agency of Commerce and Community Development, the program is designed to train workers to industry-specific national standards to fill jobs in high demand by Vermont employers. Some 600 people have enrolled in the program in the past two years, with roughly 80 percent earning a national Career Readiness Certificate. Classes are free, and program administrators anticipate that roughly 200 individuals will enroll in 2011, at a cost of roughly \$200,000 in state funding.

Despite these efforts, ensuring further gains in educational attainment among middle-skill workers often requires helping them overcome a number of challenges, such as by providing financial aid and boosting college readiness. Among two-year college students, roughly 40 percent are above the traditional college-going age (18 to 24); more than half are employed and attend school part-time; and upwards of 40 percent enroll in a remedial course at some point.

States are experimenting with practices designed to improve college access and graduation rates. For example, Florida's College Placement Test determines whether students need more preparation before college, and allows them to take remedial courses while still in high school. Another example is the Student Emergency Assistance Fund established by Bunker Hill Community College in Massachusetts. From January to June 2009, the college made grants totaling \$63,000 to 87 students, including \$75 to replace a lost monthly transit pass, \$428 to replace books and supplies in a stolen book bag, and \$700 for car repairs for a student with disabilities.

Yet while state policymakers and educators can consider a variety of initiatives designed to enhance education and training, little is known about their effectiveness. To determine which practices are the most promising, the Obama administration has announced that it will provide \$2 billion in competitive grants to community colleges, under the Trade Adjustment Assistance Community College and Career Training Grant Program. States and institutions can submit proposals to expand and improve their ability to deliver education and career-training programs across an entire community, region, state, or industry sector.

This initiative will certainly encourage innovation, and could improve labor market

outcomes in a given area. However, federal policymakers should tie such support to rigorous requirements for evaluation, to determine which strategies work and are cost-effective. Armed with such information, policymakers should then provide both adequate funding and more incentives for community colleges to implement successful models on a scale that expands education and training in their regions. Integrating innovations at community colleges into each state's workforce development system is also a promising strategy for alleviating the middle-skills gap—in New England and beyond.

This policy brief is based on NEPPC Research Report 10-2: *Mismatch in the Labor Market: Measuring the Supply of and Demand for Skilled Labor in New England*. The full report is available on the New England Public Policy Center's website.
<http://www.bostonfed/neppc>

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Federal Reserve Bank of Boston
600 Atlantic Avenue
Boston, MA 02210**

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