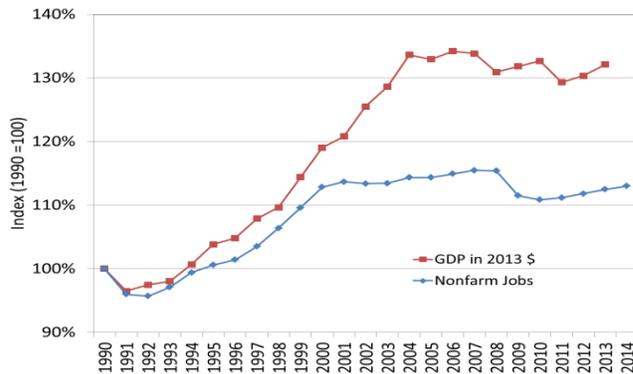


Economic and Workforce Analysis

Workforce conditions in Maine continue to improve, though there has been virtually no real economic growth for a decade. Underlying those seemingly contradictory statements is a rapidly advancing age structure of the population that is constraining growth and tightening the labor market at the same time.

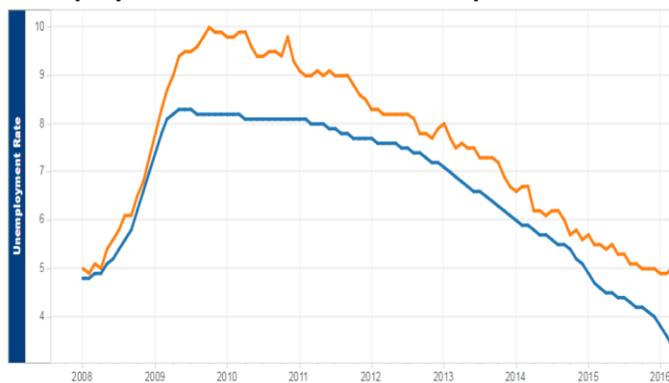
Through 2015, real gross domestic product has been little changed since 2004, after relatively steady growth in previous decades. Meanwhile, the number of jobs is up since the 2010 post-recession low, but still short of the 2008 peak level. At the end of 2015 the state has about the same number of jobs as ten years earlier. This situation is in stark contrast to the nation, which began reaching new highs in GDP in 2012 and in nonfarm payroll jobs in 2014.

Economic and job growth in Maine the last decade has been constrained by declining working-age population



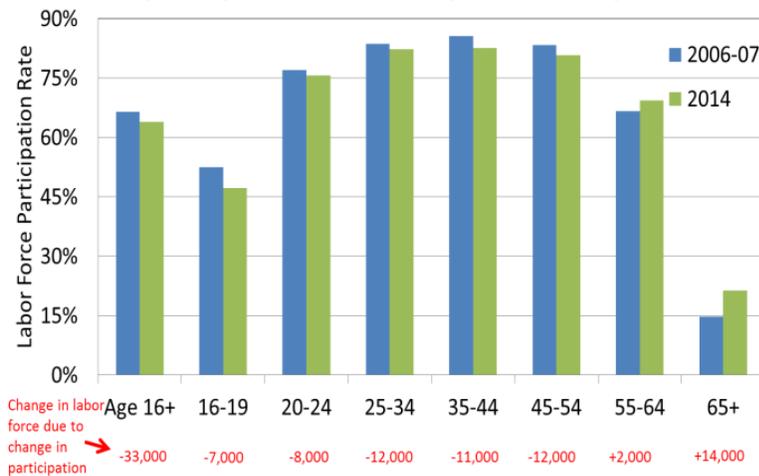
Though lagging from a net growth perspective, Maine is outperforming the nation in terms of employment and unemployment rates. The 4.0% unemployment rate at the end of 2015 was back to pre-recession levels and below the 5.0 percent U.S. average.

Unemployment rates have declined to pre-recession levels



The reason the unemployment rate is lower, but labor force, GDP, and other measures of net growth are lagging is that growth is increasingly being constrained by the sharp decline in births in the 1990s that leaves Maine with much smaller numbers of young people entering the labor force than baby boomers retiring. The 25 to 54 age cohort that has the highest rates of labor force participation, near 85%, has been declining since around the turn of the century. The broader 16 to 69 population, which comprises nearly everyone in the workforce, peaked in 2008 and today is more than 30,000 lower. Maine has the lowest share of youths and highest share of people in their upper 50s and 60s in the nation. The imbalance between entrants and exits has caused us to have almost no labor force growth over the last decade. The Center for Workforce Research forecasts the size of the labor force will decline through 2022, dropping 12,000 from the 2013 peak.

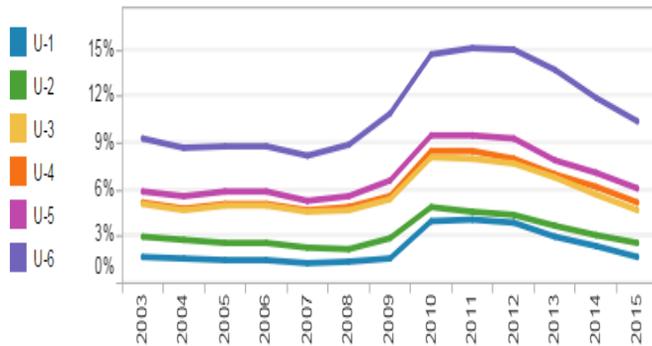
Labor force participation had not fully recovered by 2014 in most age groups



Slack in the Labor Market

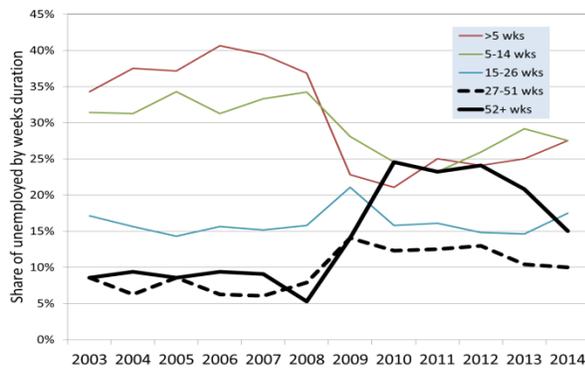
The unemployment rate is one of six measures of labor underutilization. It includes jobless people actively seeking and available for work. The broadest measure of underutilization, known as U-6, adds discouraged and other marginally attached workers who want a job but are not looking and those working part-time who prefer full-time work to the job seeking unemployed. Though unemployment rates have returned to pre-recession levels, U-6 remains more elevated, a full two percentage points higher than in 2007.

The broadest measures of labor underutilization remain more elevated than the unemployment rate



Additionally, the 29.9 weeks average duration of unemployment in 2014 was nearly double the 2007 average (15.1 weeks). Though most job seekers became employed relatively quickly, 25% were unemployed more than 26 weeks, up from just 15% in 2007. If not for the elevated share of long term unemployed, the unemployment rate in Maine would be even lower.

The share of long term unemployed remains elevated



In an environment in which the labor force is shrinking, Maine does not have the luxury of tens of thousands of people less than fully engaged in the workforce.

Skills Gap

There has been a great deal of discussion about a rising skills gap as the recovery has advanced and unemployment rates have reached very low levels. Among many businesses and trade associations there seemingly is a near-consensus that the available labor supply lacks the knowledge and skills they need, which has been widely reported in the media.

It is impossible to measure a gap between what employers need and job seekers possess for skills. Skills are attributes of performance requirements, ranging from basic functions such as hand-eye coordination, repetitive machine feeding, and following instruction to advanced functions such as deductive reasoning, analytical thinking, and complex problem solving. There is no way to catalog or inventory skills – who possesses what skills, to what level. Additionally, employer requirements for certain functions vary.

Though we cannot broadly define or measure skill gaps, we can see indications of a mismatch between employer needs and the available workforce in job trends over the last decade. High rates of displacement from manufacturing production, construction, office administrative support and certain other occupations during the recent downturn left many people whose previous experience was in functions that valued physical labor, routine, and following direction looking for work in an environment in which good paying job openings have been concentrated in the professional services, healthcare, and education sectors in managerial, professional, and technical occupations. High demand jobs that pay well in those sectors require skills such as critical thinking, problem solving, reading comprehension, social perceptiveness, and communication. The transition from operating a machine on a production line to running a diagnostic imaging machine in a hospital or lab is complicated and involves learning entirely new skills in a very different environment.

The recession accelerated the decline of middle income jobs that do not require education or training beyond high school, while the proliferation of technology into a much wider array of job functions has accelerated the rise of middle and high income jobs that require post-secondary education or training certification. This has caused a mismatch between the experience of many job seekers and the needs of employers. This mismatch is the primary reason for suppressed rates of labor force participation among prime-age workers, the high share of long term unemployed, and elevated rates of labor underutilization not measured by the unemployment rate.

Current Job Demand and Outlook

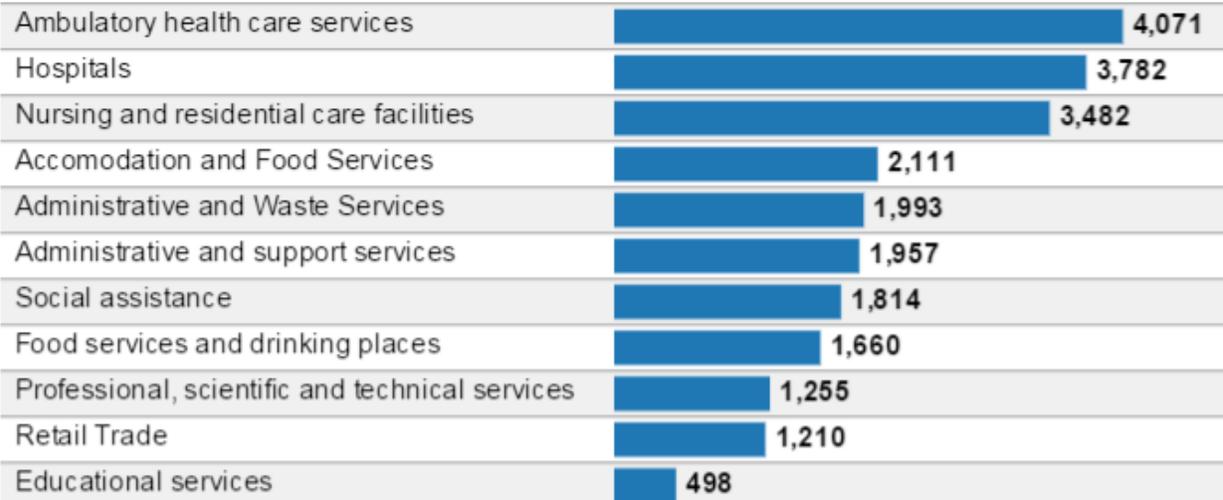
A recent survey of employers on job vacancies provides a snapshot of demand for workers among industries. The survey found that 80% of job vacancies occurred in five sectors: healthcare and social assistance, retail trade, administrative and waste services, accommodation and food services, and construction. Sectors with above-average demand for workers (measured as vacancies relative to employment in the sector) were administrative and waste services, construction, healthcare and social assistance and transportation, warehousing and utilities.

The survey also asked employers to indicate openings that were difficult to fill and the reason. Among sectors with above average demand, the share of difficult-to-fill vacancies ranged from 68 percent at healthcare and social assistance firms to 98 percent at construction firms.

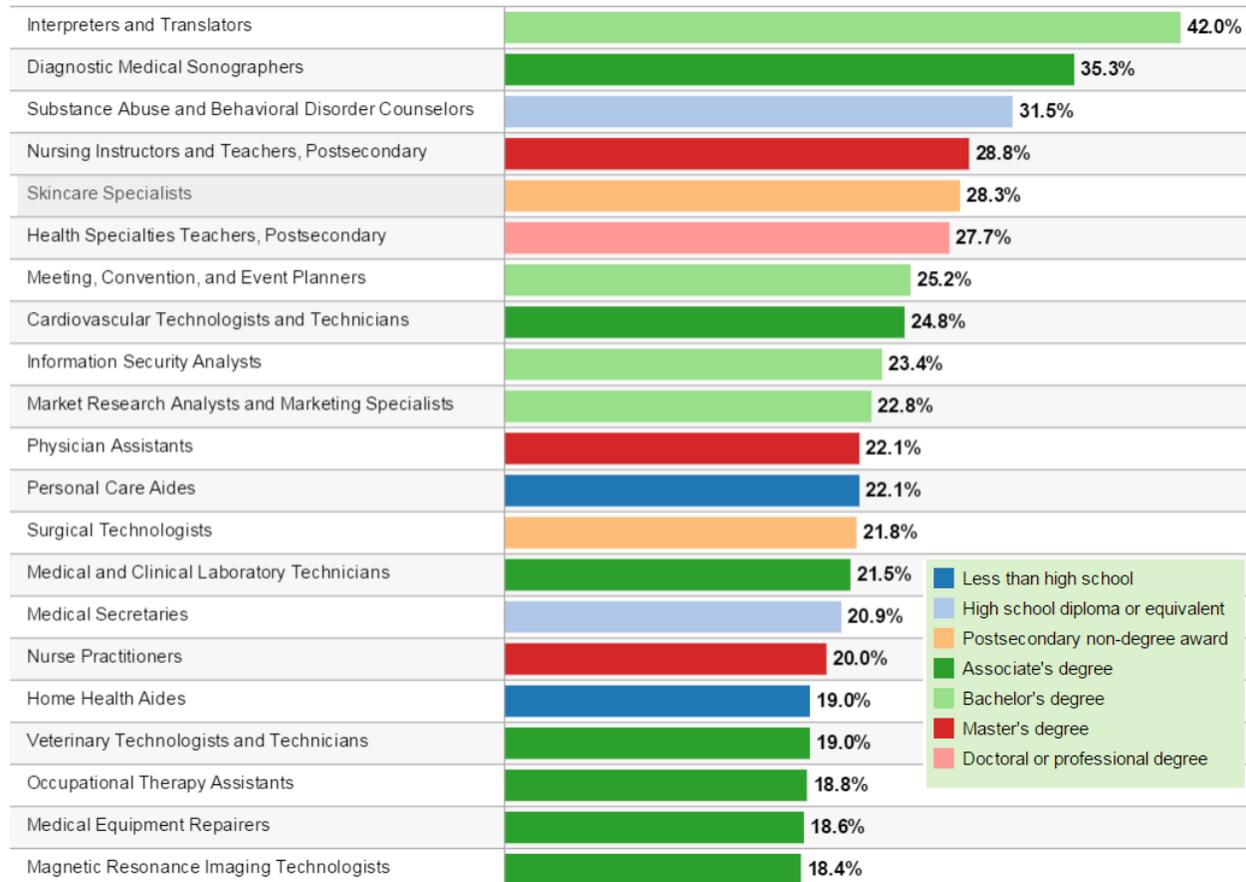
Among occupations, there was above-average demand for workers in personal care and service, healthcare support, construction and extraction, food preparation and serving, building and grounds maintenance, transportation and material moving, and sales related occupational groups. Of these groups, the most difficult to fill were: construction and extraction (99%), personal care and service (85%), and building and grounds maintenance (82%) occupations. Other groups with lower demand but above-average shares of difficult-to-fill openings were: legal (100%), installation, maintenance and repair (90%), education, training and library (90%), business and financial (86%) and life, physical and social science occupations (81%).

Findings from the job vacancy survey largely mirror projections of job change among industries and occupations through 2022. Expected job openings and job growth are concentrated in two areas: human capital-intensive functions that generally offer above average earnings and labor intensive functions that generally offer lower than average earnings. At the same time, middle income jobs that traditionally have had limited education or skill demands are either declining or rapidly changing as higher levels of technology competency increasingly are a performance requirement. Many individuals displaced from production, administrative support, and similar jobs are finding that what is available to them is the low skill jobs with lower earnings, because they lack the education or experience for entry into higher paying human capital-intensive jobs or the technology competency for the new middle income jobs.

Most net job growth through 2022 is expected in healthcare



The fastest job growth is expected in healthcare occupations that require a degree

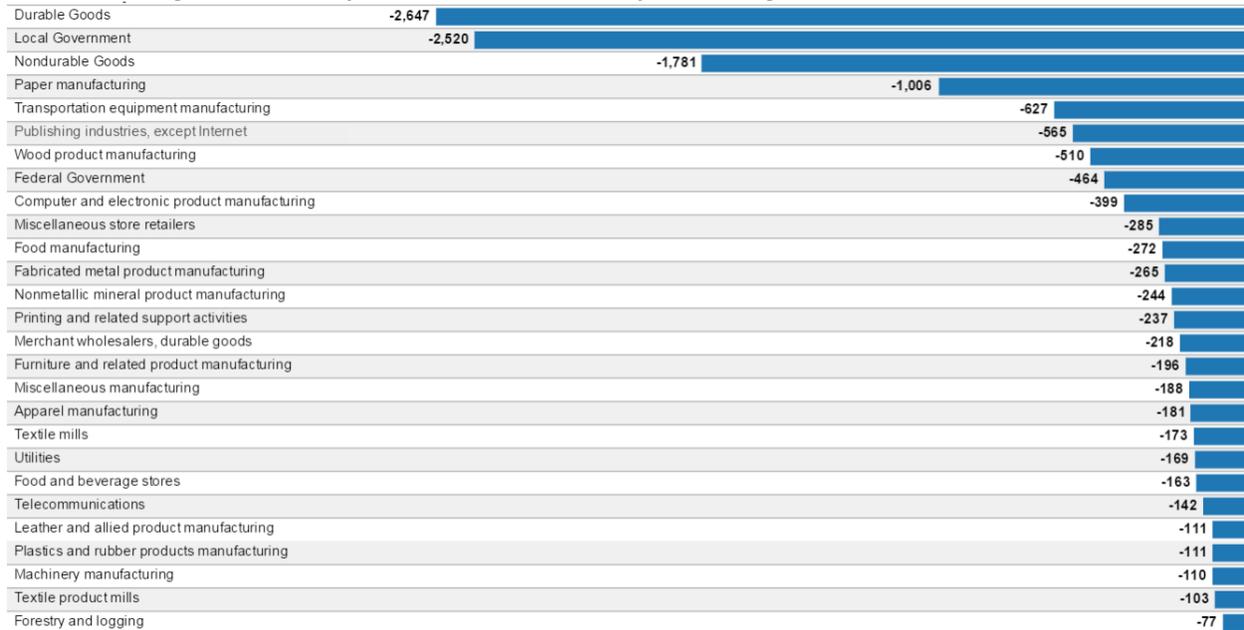


Healthcare is the largest sector in Maine, accounting for 17% of jobs. Of the net job growth expected through 2022, most is expected in this sector. Large numbers of physicians, nurses, lab, and diagnostic technicians will be required. Healthcare practitioner and technician occupations require post-secondary education ranging from certifications to highly advanced degrees.

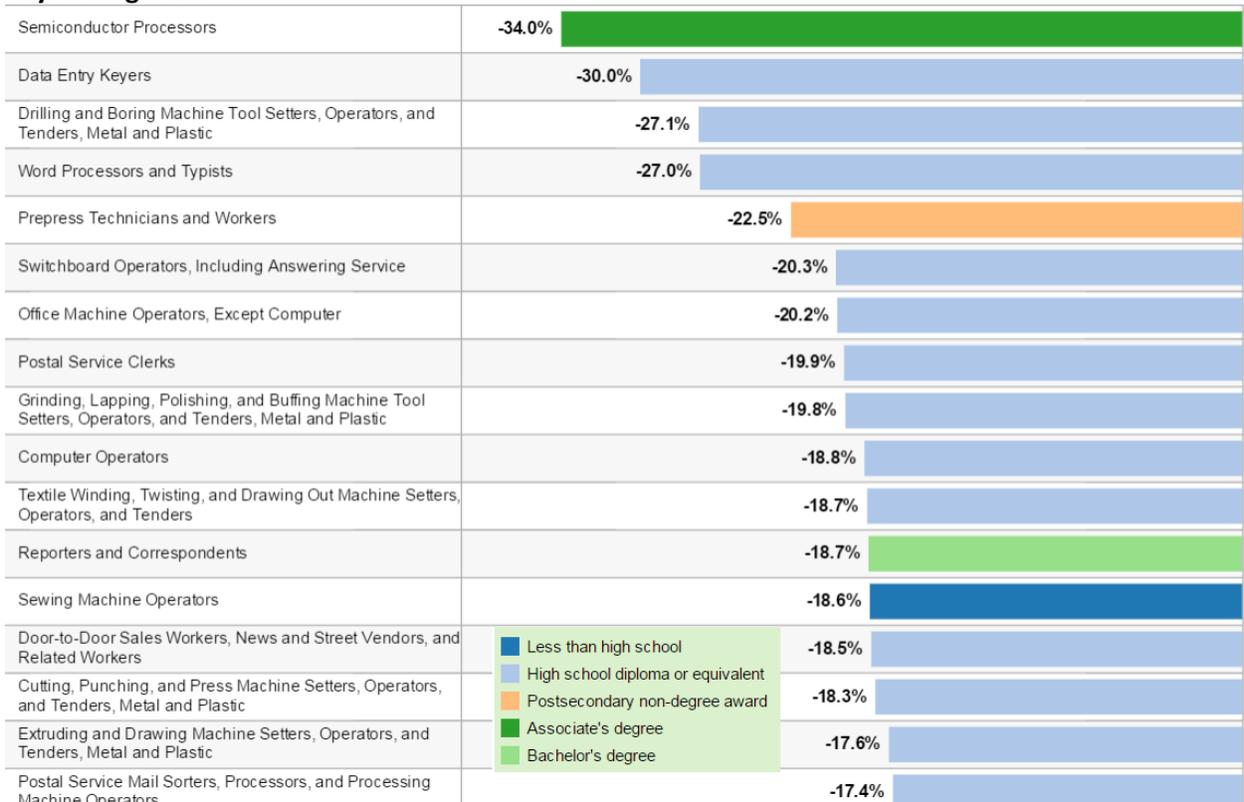
Information technology is expected to continue to increase in importance across every sector of the economy, with IT-related occupations continuing to be among the fastest growing. Many IT jobs not only require certification in certain applications, but the types of applications, systems, and platforms are fast changing requiring a flexible, adaptable workforce that is regularly pursuing continuing education. Additionally, technology competency will increasingly pervade most occupations, often in ways we cannot yet anticipate.

Other areas of projected job growth include hospitality industries, which include concentrations of food service and other occupations mostly with limited education and skill demands.

Manufacturing industries expected to lose the most jobs through 2022



The fastest rates of job loss through 2022 are expected in occupations that do not require education beyond high school

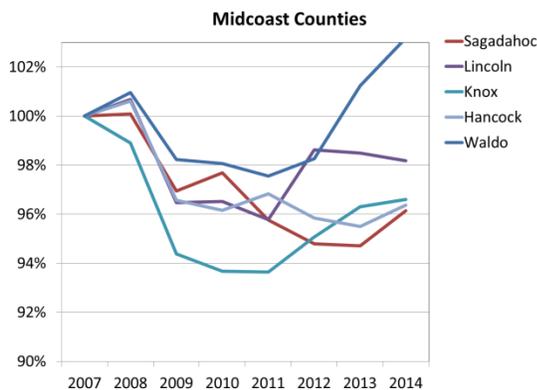
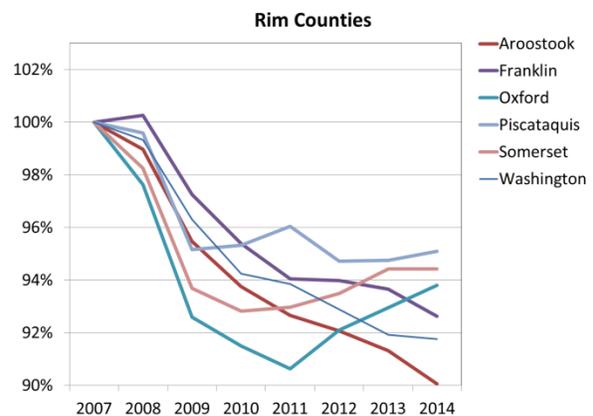
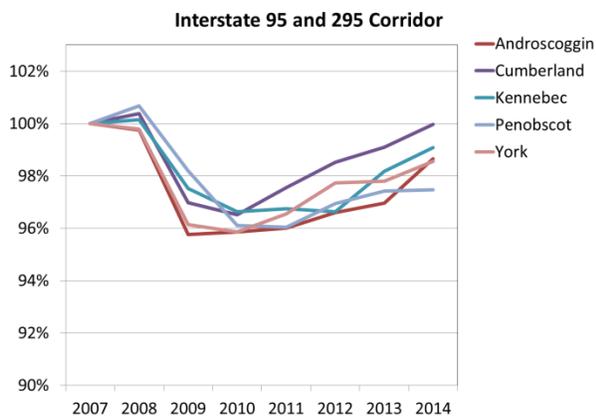


Manufacturing was the backbone that built many cities in Maine in the 19th and 20th centuries. Textile mills, shoe shops, paper and saw mills, and others provided middle

income jobs for tens of thousands, especially those without post-secondary education. But the number of manufacturing jobs peaked in the late 1970s and has been declining ever since. Projections to 2022 are for that trend to continue, resulting in fewer jobs in production occupations. At the same time, the increasing capability and proliferation of office technology is expected to continue to eliminate large numbers of administrative support jobs.

Regional Trends

Economic performance across the state has been uneven. The recovery has been strongest in the south along the Interstate 95 and 295 corridors; there has been more limited recovery in the mid-coast region; and some counties along the northern rim of the state continue to decline.



There are a wide range of factors involved in the differing performance of regions. The economic structure of northern Maine is highly concentrated in forest products and agriculture. Advances in mechanization of harvesting of timber and crops, as well as trade, and other factors have displaced thousands of workers from those industries over the years. Much of the region has not found the economic development “what’s next?” to replace those industries. This has caused stagnation or decline in many communities as a large share of young people leave for southern Maine or other states in search of better job

opportunities. The population that is left behind is generally older. Several counties in Maine are among the oldest in the nation by median age.

Jobs are increasingly concentrated in and around cities. This is primarily because the nature of stable and growing industries is to be in densely populated areas. Healthcare, the strongest growing industry in Maine, is mostly concentrated in and around hospitals, which are only found in places of population density. Law and accounting firms, and other types of professional services, colleges, and other industries that comprise a rising share of jobs also are primarily found in cities.

Individuals with Employment Barriers

The 208,400 people with one or more disabilities in Maine comprised 16 percent of the civilian population, above the 12 percent U.S. average. More than half of those with disabilities were between ages 18 and 64. Labor force participation of adults with disabilities averaged just 32 percent, half the rate of those with no disability from 2011 to 2013. The 17 percent unemployment rate was more than twice the rate for other workers.

Workers with disabilities were less likely to hold year-round, full-time jobs and most earned less than \$25,000 per year. Disabled adults were more likely to live in or near poverty, regardless of work status, and were less likely to have post-secondary education than adults with no disability. In the face of a declining labor force, it is imperative that we do all we can to mitigate employment barriers for disabled people.

Education of the Workforce

A look at employment rates (the share of the population that is employed) of the working-age population is illustrative of the very different outcomes those with limited education face compared to those with higher attainment. Among the population age 25 to 64 in Maine, only 43 percent of those who do not have a high school diploma and 70 percent with only a high school diploma were employed. The situation they face contrasts significantly with those having higher educational attainment. Nearly 77 percent with some post-secondary education or an associate's degree were employed, with rising employment rates for higher levels of attainment: 84 percent with a bachelor's; 84 percent with a master's; and 90 percent with a professional or doctoral degree.

Employment has shifted towards industries with a greater share of educated workers. Over the last two decades, industries recording employment gains had a higher share of workers with a bachelor's degree than industries that shed jobs. The education, health, business, and professional services industries have a higher-than-average share of workers with a bachelor's degree level. Conversely, manufacturing and construction, which have shed thousands of jobs, have a lower-than-average share of workers with a bachelor's degree.

To a large degree, the changing educational needs of employers reflect the changing nature of work; that is, the shifting occupational structure of the workplace. Changes that have been taking place and are expected to continue include:

- continuing increases in higher level jobs and a decline in traditional manual occupations;
- movement away from skills associated with manual dexterity towards skills associated with understanding and monitoring complex systems;

- shifting away from routine processes toward coordination and collaboration;
- increase of general work skills required in many jobs such as the ability to use computers;
- need for communication skills;
- growing range of responsibilities within jobs.

Even among production workers, the demand for highly educated workers has grown. Since 1990 the share of production workers with some college or an associate's degree and a bachelors' degree increased rose by 15 percentage points and 2 percentage points, respectively, even as the number of workers fell by 52 percent.

Approximately 80 percent of Maine students graduate from high school in four years, placing Maine above the national average for high school completion. However, only 65 percent of them enroll in some form of post-secondary education. University of Maine data suggest that a substantial number of students who do matriculate fail to complete a college degree. Forty-eight percent of those who start a University of Maine System bachelor's degree program earn the credential. Just 26 percent of Maine students who start work on an associate's degree earn it within three years.

Occupational projections to 2022 indicate that 60 percent of net job growth is expected to occur in occupations requiring some form of post-secondary training or credential, including 35 of the 50 fastest growing occupations. Workers entering or returning to the job market with lower levels of education find a much more challenging environment to prosper in than was the case not many years ago.