

Getting to Work: Boosting Massachusetts' Workforce Competitiveness via Immigrants, Education and Training

Eva Millona, Executive Director, MIRA Coalition

Shannon Erwin, State Policy Director, MIRA Coalition

Sam Tsoi, Policy Associate, MIRA Coalition

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I. Executive Summary

At any given moment, there are over 100,000 job openings in Massachusetts, especially in persistent fields such as nursing, technology and human services. At the same time, unemployment rates are still at high levels. With promising practices across the state and in various sectors and skill-levels, Massachusetts is poised to meet the challenges of training and matching unemployed and recently-arrived immigrants to critical vacancies in the short-term. Immigrants, both skilled and less-skilled are associated with job creation for native-born in aggregate, according to national trends. Being among the top states with high levels of foreign-born residents, policymakers, businesses and educators in Massachusetts will have to maintain its competitiveness by integrating all human capital, especially in the absence of federal immigration reform. Moreover, recalibrating the state's educational, non-profit and private institutions to leverage high-growth industries such as technology, healthcare and non-profits could boost hiring and investment in workforce development in the medium- to long-term.

II. Introduction

It is a frustrating irony. Even with unemployment hovering around 237,500, or 6.9 percent (as of January 2012)¹, there are still roughly 120,000 job openings in Massachusetts that are not filled because employers cannot find workers to fill them. Still, the Commonwealth is well-positioned to match skilled employees with these jobs, as well as add new ones. Among three critical ingredients economists agree are essential to growing a competitive workforce are demography, education, and an innovative environment— all of which Massachusetts possesses. From the 2010 Census, the Bay State's population was among the slowest growing, with some counties experiencing shrinkage or significant aging. However, with its legacy of embracing newcomers, Massachusetts has steadily attracted a healthy influx of workers from states and international migrants. This is good news for the tax-base, labor demands and workforce development potential, and is a trend which many

¹ Source: U.S. Bureau of Labor Statistics. Accessed on March 16, 2012

other advanced economies can only dream of as they are experiencing high retirement and low birth rates.

A majority of Massachusetts' foreign-born migrants are in the prime workforce age group of age 20-44. The immigrant population is already disproportionately represented in the labor market, with 15 percent of the state's population and 18 percent of its workforce. Coupled with this reality is the fact that Massachusetts is home to one of the world's finest and most dense networks of educational institutions, meaning immigrants, non-immigrants and native-born citizens alike have the access to education and training to make the Massachusetts workforce among the most competitive in the world, at least in theory.

Thus, the following questions arise: are Massachusetts' educational institutions training people to fill the most critical and high-growth industries? How can we leverage these assets to spur greater hiring of Massachusetts-grown talent, and in turn encourage even more investment and innovation from existing businesses, institutions and entrepreneurs? Addressing these questions in depth and offering extensive policy recommendations are beyond the scope of this analysis, but this paper will present research distilled from government, industry and academic reports, to illuminate specific workforce areas where the supply of skilled workers is not currently meeting demand. It will present the most relevant and concise data such as the impact of immigration on native-born employment, demographic characteristics of immigrants vis-à-vis native-born workforce and industry sectors with persistent labor needs. Lastly, it will showcase a few best practices that have successfully harnessed our state workforce to retrain or match unemployed individuals to existing vacancies in the short-term, and cultivate long-term employment opportunities for all residents in the Commonwealth. This paper's synthesis of existing studies and best practices can serve to inform stakeholders regarding policy recommendations that incorporate immigrant integration strategies into human capital solutions in Massachusetts.

III. Overall Labor Market Vacancies

The supply and demand of labor are broad categories captured in several ways by various agencies conducting studies of varying scopes. For this paper, the following

indicators will be used to provide a general sense of Massachusetts' labor needs: on the supply side, workforce, employment and unemployment statistics (provided by the federal Bureau of Labor Statistics) and broad demographic statistics regarding age, education and migration (provided by the U.S. Census Bureau) inform our analysis. On the employer demand side, state-level job vacancy estimates, industry projections and the unemployment claimant statistics reveal demand at a given moment or trajectory.

As of the fourth quarter of 2009, the Massachusetts Job Vacancy Survey, the most comprehensive state-level indicator for workforce shortages, found that there were 4.9 unemployed workers for each job vacancy. A job vacancy is defined as a position for which employers are actively recruiting from outside the company. This includes full, part-time, temporary and seasonal positions. This survey samples 10,000 employers across the state via telephone survey, the largest data set for this type of research.

At the same time as unemployed workers exceed job vacancies, the unemployment rate in Massachusetts has declined since the start of 2010 (peaking at 8.7 percent) to the current 6.9 percent. At the same time, an independent research group, The Conference Board put the number of unemployed workers in Massachusetts at 119,600, which is higher than the bellwether indicator for Massachusetts, both because of the timeframe of the study and a different methodology.² It can be said that the unemployment situation in Massachusetts has not worsened since the height of the Great Recession, with peaks in the first quarter of 2009 with over 2.7 million lost jobs nationwide, and a 10.1 percent unemployment rate in October 2009 (MA: 8.7 percent). However, the road to a robust recovery must include matching the almost quarter million people (which does not include the underemployed or those who are long-term unemployed and stopped looking) to these vacancies.

From the Massachusetts Job Vacancy Survey report, the industry categories with highest vacancy rates are: social services, healthcare practitioner and technical, management and computer/mathematical.

² Marcus 2012

To hone in on the areas most vital to Massachusetts' workforce needs and to account for seasonal shifts in employment and vacancies, the survey also analyzes vacancies that are "critical" or "persistent." According to the Commonwealth Corporation, a quasi-governmental entity focusing on the state's economic development, a vacancy is considered "critical" based the following criteria, and "persistent" if it remains critical in three previous surveys:³

1. Median annual salary greater or equal to \$25,000 (job that meets self sufficiency standards);
2. Occupational Employment greater or equal to 1,000 (to filter out occupations with very low employment);
3. Excludes residual occupations (i.e. catch-all categories such as "all other engineers");
4. Vacancy rate greater or equal to 5 percent in the latest survey;
5. Number of Vacancies greater or equal to 200 in the latest survey;
6. Average no. of vacancies since 2004 greater or equal to 300

The top ten critical vacancies as of 2008 Q4 were:⁴

1. Registered nurses: 2,537
2. Nursing aides and attendants: 1,264
3. Customer service representatives: 1,166
4. Cooks , restaurants: 660
5. First line supervisors/managers in retail: 637
6. Computer software engineers: 609
7. Accountants and auditors: 602
8. Medical and health services managers: 594
9. Tax preparers: 594
10. Office clerks, general: 542

Funding limitations impact the timeliness and reliability of this data. The most recent state-wide data provided by the Massachusetts Job Survey, which gives the best snapshot of labor shortages in a given period, has not been updated in the last two years due to state budget constraints. However, other indicators illustrate a similar trend of certain professions lacking sufficient qualified workers. For example, Commonwealth Corporation's analysis of

³ Singh 2009

⁴ Ibid.

unemployment insurance claimants found that some of the industries with the most critical vacancies, such as: healthcare practitioner and technical, social services, and sales, also experience labor shortages.

Estimates by groups such as Jobs For the Future and The Conference Board, which are based on online employment postings data, are less accurate than the state-level telephone surveys conducted by the Executive Office of Labor and Workforce Development (EOLWD). One advantage these surveys do have is the ability to provide real-time analysis based on online job postings. Nevertheless, these estimates, with slight differences in categorization and the most current data (Q4 2011) but without seasonal adjustments, found a similar set of occupations presented high number of job openings:⁵

1. Software applications developers: 3,662
2. Computer programmers: 2,594
3. Wholesale and manufacturing salespeople: 1,984
4. Retail sales people: 1,862
5. Computer systems analysts: 1,799
6. Registered nurses: 1,749
7. Retail supervisors: 1,720
8. Administrative assistants: 1,432
9. Marketing managers: 1,340
10. Information technology project managers: 1,291

Again, we see a general trend that emerges consistent with other forms of analysis that shows healthcare, retail and hospitality, social services, management and technology/engineering as the industries with continuous workforce needs.

In addition to conducting surveys of current vacancies, analysts have projected Massachusetts' labor needs in the long-term. The most recent Labor Market Information report by EOLWD, published in May 2010, projected 29,050 net new openings for registered nurses between 2006-2016, including 12,940 replacement jobs and 16,110 new jobs. Replacement needs tend to be greatest in occupations with high proportions of workers nearing retirement, for example teachers and machinists, or occupations with large

⁵ Marcus 2012

concentrations of young and part-time workers, for example, waiters waitresses and retail salespersons.⁶

For healthcare and other fastest growing industries, more than half (60 percent) of all new jobs related will require an Associate's Degree or higher. Overall, findings from the EOLWD report shows:

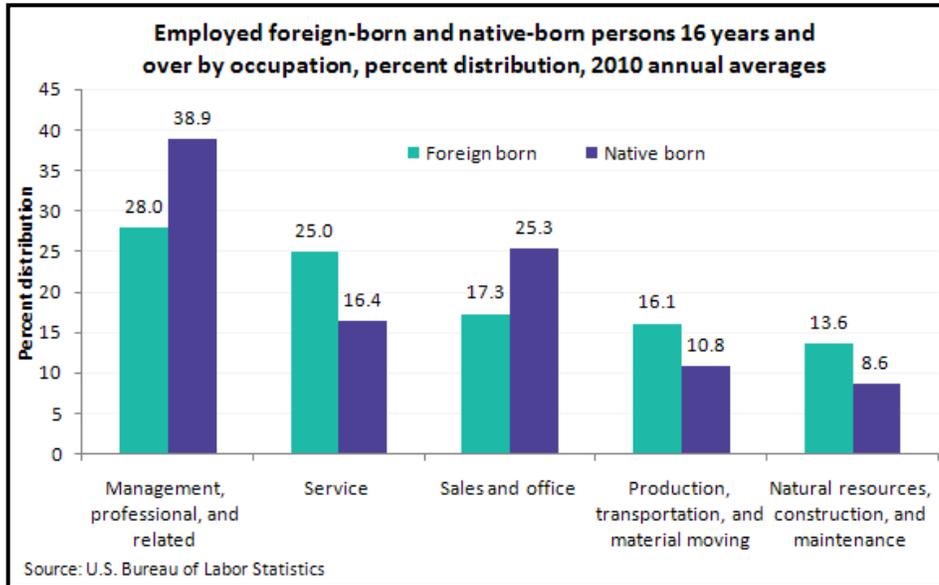
- In total, *a million jobs* will need to be filled in the Commonwealth by 2016:
 - 216,650 net new jobs will be generated between 2006-2016 (+6.3%)
 - 768,330 job openings will result from the need to replace workers who retire, change industries or change occupations.
- The top three fastest growing sectors are:
 - Professional, technical and business services (+18.1%, or 85,400 jobs)
 - Health and educational services (+16.8%, or 102,020)
 - Leisure and hospitality (+9.2%, or 27,160)
- The top five occupations generating the most new jobs are:
 - Registered Nurses (+16,110)
 - Customer Service Representatives (+8,390)
 - Computer Software Applications Engineers (+8,260)
 - Combined Food Preparation and Serving Workers (+7,760)
 - Home Health Aides (+5,820)

IV. Workforce Characteristics: Native-born/Foreign-born Comparisons

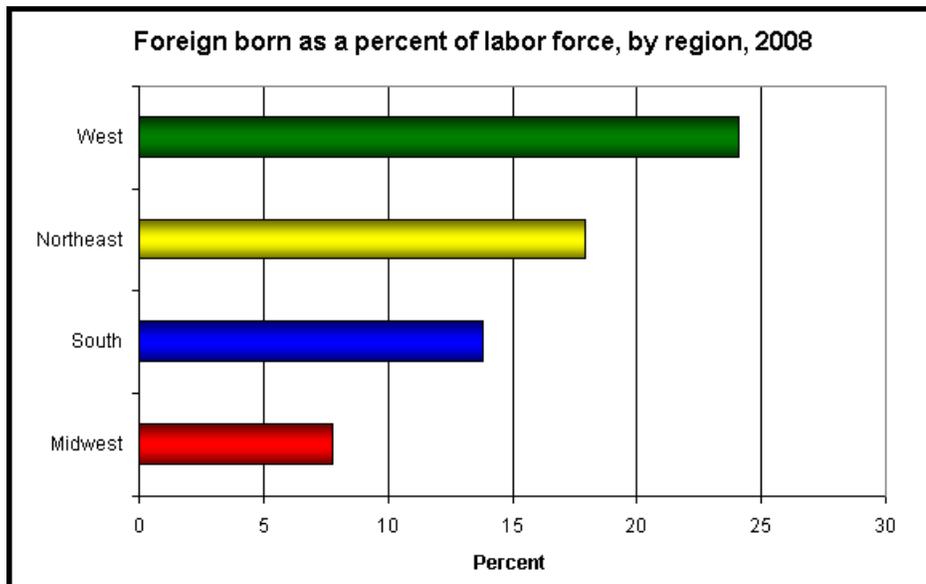
A. National Workforce Characteristics

According to the Bureau of Labor Statistics, in 2010, foreign-born workers were more likely than their native-born counterparts to be employed in service occupations (25.0 versus 16.4 percent); in production, transportation, and material moving occupations (16.1 versus 10.8 percent); and in natural resources, construction, and maintenance occupations (13.6 versus 8.6 percent).

⁶ Massachusetts Executive Office of Labor and Workforce Development 2010



When divided by region, foreign workers made up a larger share of the total labor force in the West (24.1 percent) and in the Northeast (17.9 percent). In comparison, the foreign-born workers in the South (13.8 percent) and Midwest (7.8 percent) were lowest in the nation.



B. National Findings – Immigration and Native-born Employment⁷

The American Enterprise Institute and the Partnership For A New American Economy commissioned a 2011 report on the impact of immigration on U.S. employment among native-born populations, and how reform on immigration policy, without changes to taxation or government spending, can accelerate the economic recovery by attracting and integrating an immigrant workforce. By comparing areas that receive large numbers of immigrants with areas that receive relatively small numbers, the report show whether having a higher share of workers who are foreign born in a given state increases or decreases the employment rate among U.S. natives in that state.⁸ The report's primary findings include the following:

1. Immigrants with advanced degrees boost employment for U.S. natives.
 - From 2000-2007, every 100 foreign-born workers with advanced degrees in STEM (Science, Technology, Engineering, Mathematics) fields from U.S. or foreign institutions is associated with an additional 86 jobs among U.S. natives.
2. An additional 100 immigrants with advanced degrees, regardless of field or origin of degree, is associated with 44 jobs among U.S. natives.

Temporary workers, both skilled and less skilled, boost U.S. employment.

 - Adding 100 H-1B (temporary skilled) workers results in additional 183 jobs among U.S. natives.
3. Adding 100 H-2B (seasonal/less-skilled, not agriculture) workers results in an additional 464 jobs for U.S. natives.

Foreign-born workers, in aggregate, do not hurt U.S. employment.

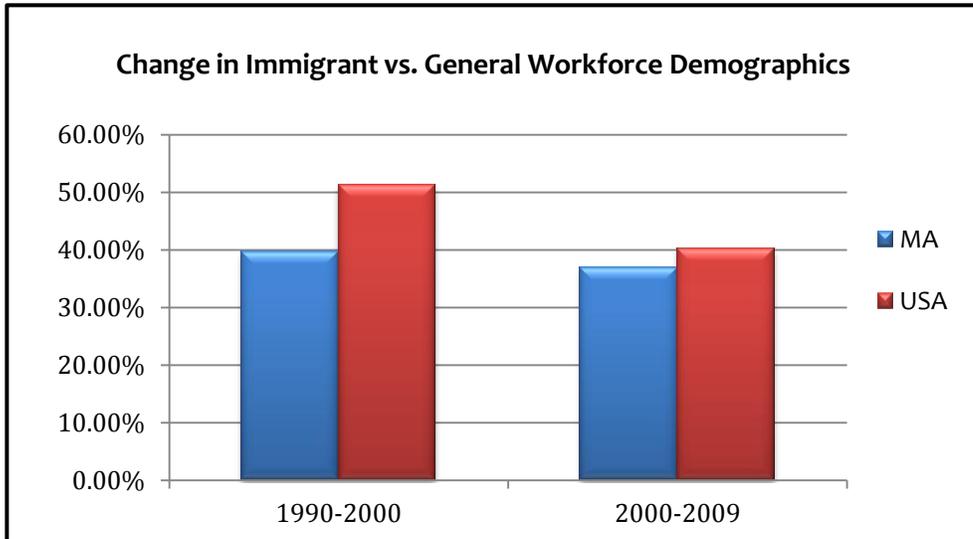
 - There is no evidence, either positive or negative, on the employment rate among U.S. natives with the current immigration pattern, even though it is currently not maximized for job creation.

C. Rankings – Massachusetts Immigration Statistics among Other States

The immigrant workforce, both in Massachusetts and across the U.S., has increased significantly, becoming an integral portion of the state and national labor force and economy.

⁷ Zavodny 2011

⁸ Ibid., p. 8



Between 2000 and 2009, the number of immigrant, civilian employed workers age 16 and older in Massachusetts increased from 422,829 to 578,995, representing a change of 36.9 percent. In addition to that increase, the number of foreign-born workers changed from 302,963 to 422,829 between 1990 and 2000, a difference of 39.6 percent.

At the national level, the number of foreign-born workers increased from 10,623,071 to 16,073,543 between 1990 and 2000, representing an increase of 51.3 percent, and grew from 16,073,543 to 22,532,396 (40.2 percent) between 2000 and 2009.

From 2000 to 2009 the number of foreign born workers in Massachusetts increased by 36.9% and by 51.3% in the U.S.

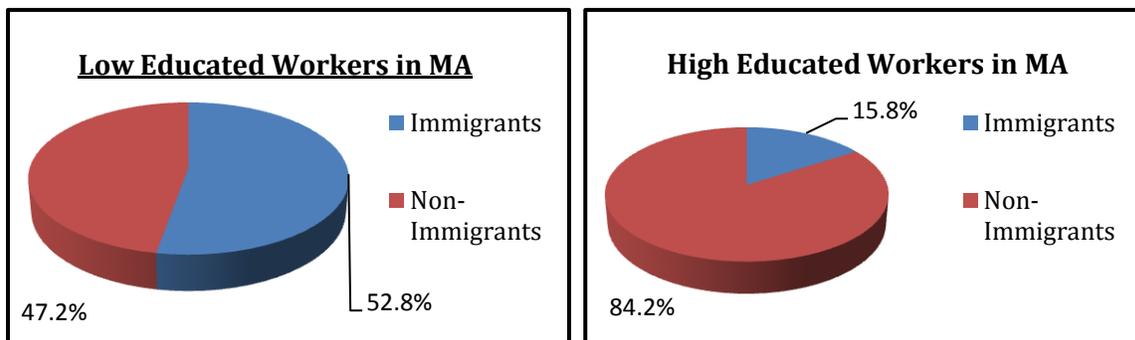
In 2009, 17.5 percent of civilian employed workers age 16 and older in Massachusetts were immigrants, compared with 13.4 percent in 2000 and 10.0 percent in 1990. At the national level, the foreign-born population represented 16.0 percent of all civilian employed workers in 2009, compared to 12.4 percent in 2000 and 9.2 percent in 1990.

In 2009, the foreign born represented 17.5% of Massachusetts' civilian employed workforce and 16.0% of the U.S. workforce.

D. Immigrants among Low- and High-Educated Workers

Immigrants accounted for 52.8 percent of civilian employed workers with no high school degree and for 15.8 percent of college-educated workers age 25 and older.⁹ There were 2,878,380 civilian employed workers age 25 and older in Massachusetts in 2008. Immigrants made up 18.2 percent (or 523,078) of these workers.

Of all low-educated workers age 25 and older employed in Massachusetts in 2008, 52.8 percent (or 95,977) were immigrants. Among the college-educated workforce, immigrants accounted for 15.8 percent (or 206,108).



At the national level, immigrants accounted for 47.5 percent of low-educated and 15.4 percent of college-educated employed workers.

E. Time in the U.S.

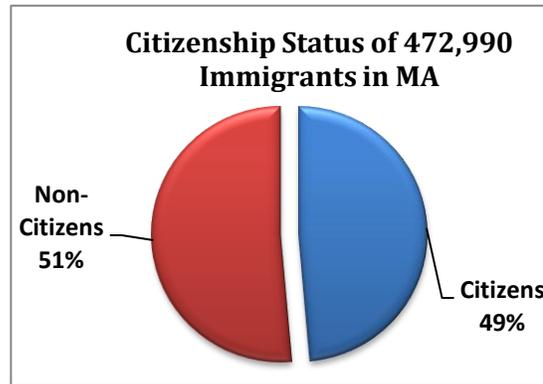
Of immigrant workers in Massachusetts, 68.0 percent entered the country before 2000 and 32.0 percent entered in 2000 or later.

Of the foreign-born, civilian employed population age 16 and older in Massachusetts in 2009, 68.0 percent entered the country prior to 2000 and 32.0 percent entered in 2000 or later. Nationally, 72.0 percent of foreign-born, civilian employed workers entered the country before 2000 and 28.0 percent entered in 2000 or later.

⁹ Refers to civilian employed workers age 25 and older. Data source: three-year merged 2007-2009 ACS file; the reference year is assumed to be 2008.

F. Citizenship Status

Of foreign-born, civilian employed workers age 16 and older in Massachusetts, 48.6 percent were naturalized citizens, and 51.4 percent were noncitizens. There was a change of 46.7 percent in the number of naturalized citizen workers between 2000 and 2009.



At the national level, 45.0 percent of foreign-born, civilian employed workers were naturalized citizens and 55.0 percent were noncitizens.

G. Top Three Industries and Occupations

Industries:

The top three industries of immigrant workers in Massachusetts were educational services, and healthcare and social assistance; professional, scientific, and management, and administrative and waste management services; and manufacturing. Of the foreign-born, civilian employed population age 16 and older (578,995) in Massachusetts in 2009, 24.2 percent worked in educational services, and healthcare and social assistance, 13.9 percent in professional, scientific, and management, and administrative and waste management services, and 13.6 percent in manufacturing. In comparison, among the native-born, civilian employed population age 16 and older (2,725,926), 27.8 percent worked in educational services, and healthcare and social assistance, 12.6 percent in professional, scientific, and management, and administrative and waste management services, and 11.2 percent in retail trade.

Similarly, at the national level, the top three industries of the foreign born were educational services, and healthcare and social assistance (18.1 percent); manufacturing (12.3

percent); and arts, entertainment, recreation, accommodation, and food services (12.2 percent).

Occupations:

The top three occupations of immigrant workers in Massachusetts and the U.S. were also reflective of each other. In Massachusetts, management, professional, and related occupations; service occupations; and sales and office occupations were the highest. Of the foreign-born, civilian employed population age 16 and older (578,995) in Massachusetts in 2009, 35.4 percent worked in management, professional, and related occupations, 26.8 percent in service occupations, and 16.8 percent in sales and office occupations. In comparison, among the native-born civilian employed population age 16 and older (2,725,926), 44.5 percent worked in management, professional, and related occupations, 25.5 percent in sales and office occupations, and 15.1 percent in service occupations.

At the national level, the top three occupations for the foreign born were management, professional, and related occupations (28.5 percent); service occupations (24.6 percent); and sales and office occupations (17.9 percent).

H. Skill Underutilization of College-Educated Immigrants

Both the Commonwealth of Massachusetts and the U.S. continued to struggle with the issue of “Brain Waste.” In 2008, there were 41,261 college-educated immigrants who were either unemployed or working in unskilled jobs such as dishwashers, security guards, and housemaids—representing 19.3 percent of the college-educated immigrant labor force in Massachusetts. Among the native-born college-educated persons, 188,541 (or 16.6 percent) were underutilized.

On a national scale, 22.2 percent of college-educated immigrants (or 1,463,614) were underutilized compared to 16.9 percent of college-educated natives (or 6,080,955).^{10 11}

¹⁰ Refers to persons 25 and older with at least a Bachelor's degree.

¹¹ The terms “brain waste” and “skill underutilization” are used interchangeably and describe a phenomenon when college-educated persons are either unemployed or employed in unskilled jobs, i.e., jobs that require only

I. New Group Entering the Workforce

One subset of the underutilized immigrant population is commonly referred to as the “DREAMers.” These are young adults who were brought unlawfully to the United States as children and meet specific criteria including age, year of entry, etc. “DREAMers” are given this name due to the Development, Relief, and Education for Alien Minors (DREAM) Act that has been a point of advocacy since 2001.

On June 15, 2012, President Obama created the Deferred Action for Childhood Arrivals (DACA) program, providing temporary status and employment authorization to eligible youth across the U.S. This new policy change is generating up to 1.4 million employees for the workforce; with 17,040 in Massachusetts.

In the Commonwealth, these DACA youth and young adults qualify for in-state tuition and are eligible to work. This new population of educated and employable immigrants provides a new and vibrant segment of the workforce.

J. Spoken Languages and English Proficiency

Of the total civilian employed population (native and foreign born) in Massachusetts in 2009, 6.5 percent spoke Spanish, 9.1 percent spoke other Indo-European languages, and 3.8 percent spoke Asian or Pacific Island languages.

Languages among civilian employed workers (ages 16 and older)		
	Massachusetts	United States
English	79.6	79.8
Spanish and other Indo-European languages	9.1	16.0
Asian and Pacific Island languages	3.8	3.3
Other	1.1	0.8

moderate on-the-job training or less such as construction laborers, taxi drivers, file clerks, or nannies. Data source: three-year merged 2007-2009 ACS file; the reference year is assumed to be 2008.

In Massachusetts in 2009, 8.4 percent of all civilian employed workers age 16 and older (both native and foreign born) were limited English proficient, meaning that they reported speaking English less than “very well” on their American Community Survey questionnaire. 69.8 percent of those who spoke only English were in the labor force, compared to 69.5 percent of those who spoke Spanish at home and 72.7 percent of those who spoke Asian and Pacific Island languages at home.

Among the total population age 25 and older in Massachusetts in 2009 (both native and foreign-born), 69.8 percent of those who spoke only English were in the labor force, compared to 69.5 percent of those who spoke Spanish at home, 67.0 percent who spoke other Indo-European languages at home, 72.7 percent who spoke Asian and Pacific Island languages at home, and 74.8 percent who spoke other languages at home.

At the national level, 9.0 percent of all civilian employed workers were limited English proficient in 2009. 65.7 percent of people age 25 and older who spoke only English were in the labor force, compared to 71.3 percent of those who spoke Spanish at home, 64.1 percent who spoke other Indo-European languages at home, 68.9 percent who spoke Asian and Pacific Island languages at home, and 68.4 percent who spoke other languages at home.

V. Industry-Specific Needs

Besides state-wide surveys and overall economic data, industry-specific analyses address persistent vacancies from both the employer’s perspective and the vantage points of institutions that provide education and workforce development. Three major industries are Healthcare, Technology and Human Services.

A. Healthcare

Rising costs, consistent negative health outcomes and deep health disparities continue to characterize the healthcare industry. With national reform underway, and Massachusetts looking ahead to the next phase of controlling skyrocketing costs, the fluctuations and demands of the health workforce will be crucial. Besides the concentration of colleges and universities, perhaps the most renowned sector in the Commonwealth is its hospitals. The healthcare industry is the state’s largest in terms of workforce, employing 15

percent of the labor force, or roughly half a million of workers.¹² As presented above, it is an industry that also has some of the most critical job vacancies and as well as the highest growth potential.

In fact, the Commonwealth of Massachusetts ranks high in the ratio of number of healthcare providers (nurses, physicians and dentists) to the population served. Yet, with the existing wealth of services, coupled with the highest insurance enrollment rate in the country, Bay State residents are actually experiencing reduced ability to access primary care services because the workforce supply has not kept up with the demand for services.¹³ Because of this pressure, turnover rates of primary care physicians have also increased.

In 2008, the Massachusetts Department of Public Health, in partnership with other agencies, provider networks, and the UMass Medical School, sought to identify promising practices and practical recommendations for addressing health workforce shortages. According to the department, accurately forecasting supply of providers is a challenge which affects comprehensive health planning and workforce training. Still, the response to the workforce need is focusing on solutions such as training more clinicians by expanding educational programs, class size, tuition support and other recruitment incentives. Policy solutions are also needed to pursue a number of different avenues and bring best practices to scale in order to alleviate the workforce shortages. Attention has also focused on attracting new and retaining current healthcare workers, re-training workers who have left the field, encouraging career development, and measuring the impact of these efforts.

The immigrant population and its concentration in the healthcare field represents both a niche that the foreign-born workforce has successfully filled and a potential labor pool for meeting current and future industry needs. Immigrants are strongly represented in the high-skill end of the state healthcare sector; for example, 52 percent of medical scientists, 40 percent pharmacists, and 28 percent of doctors are immigrants.¹⁴ On the middle and lower-skill sides of the spectrum, immigrant workers serve in such roles as

¹² Borges-Mendez & Friedman 2008

¹³ Massachusetts Department of Public Health 2008

¹⁴ Ibid.

nurses' aides and home caregivers. Demographic trends have significant implications for this industry, which explains some of the critical vacancies. The demand for more services increases as the population as whole ages. In particular, responding to immigration requires culturally competent services, as well as a boosting the pipeline of a multilingual workforce as native-born workers retires As with many industries, ESOL and job training would be critical in preparing new workers and developing existing workers to steadily move up the career ladder.

B. Technology

Across the U.S., the need for workers with advanced Information Technology (IT) skills has surged since 2011. Technology has rebounded strongly since the downturn, helping keep the Massachusetts' unemployment rate well below the national. As of 2011, nearly 265,000 are now employed in the sector than before the pre-recession employment peak in 2008, according to Moody's Analytics.¹⁵

According to the technology career website *Dice.com*, IT job openings in the Boston area are up 19 percent compared to a year ago, suggesting a shortage of talent coming out of colleges and universities. One factor behind the rise is a shortage of Massachusetts graduates receiving computer-related bachelor's and associate's degrees.¹⁶ Massachusetts ranks fifth on a list of "shortage states" that are not producing enough IT graduates to fill job openings. With technologies such as mobile apps, cloud-computing, and the new federal demand for electronic medical records rapidly expanding, tech talent has been hard to find around the country, with California, New Jersey, Texas, and New York experiencing the highest shortages.

"There are easily two or three jobs for every computer science grad. Easy," says Anne Hunter of the Massachusetts Institute of Technology. "There's definitely an emerging tech boom," she explains. The shortage is creating a serious pipeline problem for the high-tech industries in the state.

¹⁵ Johnston 2011

¹⁶ Dice.com 2011

While high-skilled technology jobs are in demand, the often overlooked skill-set in the middle-tier of the STEM fields faces equal if not higher labor shortages. Employers have indicated there is a significant shortage of the technicians and middle-skill workers needed to implement the new technologies developed by highly skilled innovators, ranging from construction to green jobs to auto maintenance. A 2005 National Association of Manufacturers report found that while 35 percent of manufacturers anticipated a shortage of scientists and engineers, more than twice as many respondents anticipated a shortage of skilled production workers, precisely the kind of middle-skill jobs that require more than high school but less than a four-year degree. A 2010 SkillWorks report notes a mismatch in Massachusetts between labor market demand and associate's degrees awarded in STEM fields.¹⁷

C. Human Services

With an aging population and demographic shifts such as lower birth rates (except for the foreign-born population), existing shortages of human service workers across Massachusetts are expected to rise. With all the attention on healthcare and technology, thousands of people across the Commonwealth of Massachusetts turn for human services providers, especially in this long road ahead for economic recovery. According to a report by the UMass Donahue Institute and the Massachusetts Council of Human Service Providers, demand for human service workforce is expected to grow 37.5 percent between 2004 and 2014.¹⁸

Through nearly 100,000 workers, the human and social service providers care for people in nearly every segment of society, including children, the elderly, persons with mental retardation, mental illness or substance abuse difficulties, the poor, the homeless, the disenfranchised, people in crisis, and survivors of abuse.¹⁹ This workforce is also one of the most widely distributed and impactful across every part of the state. Many human services employees live and work in local communities, meeting not only social needs but

¹⁷ Wilczynski 2010

¹⁸ University of Massachusetts Donahue Institute 2006

¹⁹ Ibid.

also generating \$4.6 billion in annual revenue, with industry payroll alone exceeding \$2 billion.²⁰

The human services sector also grew 18 percent throughout the recent recession. In recent years, increasing attention has been paid to the needs of the human services workforce. As the demographics of our nation shift, the need for human services workers is expected to grow significantly. The U.S. Bureau of Labor Statistics estimates 37.5 percent growth in this industry between 2004 and 2014. In contrast, the most recent New England Economic Partnership forecast for Massachusetts predicts that between 2005 and 2009 overall employment in Massachusetts will grow at just under one percent per year. This growth disparity is in part due to demographic changes taking place, which are expected to increase the demand for health and human services over the next two decades. Over the next 25 years, the U.S. Census Bureau estimates that the number of Massachusetts residents of traditional working age (20 to 65 years old) will grow much more slowly than the younger and elderly populations. Today, for every 100 working-age residents of Massachusetts, 65 residents are being supported. By 2030, this will increase to 83 residents for every 100 working-age residents. Essentially, the need for human services workers is expected to grow significantly during a period in which the working age population is expected to decline.

As an industry focused on meeting the needs of vulnerable populations, human services providers must rely on workers at home. They, unlike other employers, are not able to “outsource” work to other regions when they are unable to find the skilled and unskilled workers they need. Given the realities of rising demand for human services, changing demographics, and increasing competition for qualified workers, the human services industry will confront greater challenges with workforce recruitment and retention in the coming years. The costs of failing to meet these challenges will undoubtedly be high, with significant implications for both the cost and quality of critical services required by the Commonwealth’s most vulnerable residents.

²⁰ Ibid.

As documented in *MASS Migration*, a report prepared by the University of Massachusetts Donahue Institute and MassINC, over 213,000 more domestic residents moved out of Massachusetts than moved into the state between 1990 and 2002.²¹ Between 2002 and 2004, this imbalance grew. A review of recent tax data indicates that the Bay State experienced a net loss of over 100,000 residents during this period. Migrants from other nations helped to offset these population losses in absolute terms, but these new residents frequently arrive with much lower levels of educational attainment and skill than the residents they are replacing. In this scenario, the human services industry will face a dual challenge: the population will need an increased level of services, even as the workforce available to deliver these services shrinks. Other highlights from the report include:

- More than 80 percent of human services occupations are filled by women; fewer than half (45.5 percent) of jobs in other sectors are filled by women.
- Nearly 70 percent of the human services workforce provides direct service; 30 percent are in management or support positions.
- In 2001, 45 percent of human services workers did not receive health insurance from their employer or some other source.
- As of 2006, for every 100 working-age residents of Massachusetts, 65 residents are being supported by human services. By 2030, this will increase to 83 residents for every 100 working-age residents.
- At present pace, dependent populations will grow 24.3 percent over the next 25 years while the working-age population will shrink by 3.3 percent.
- Human services employment is projected to grow 37.5 percent nationally over the next decade, indicating an estimated need for 135,000 additional human services jobs in Massachusetts by 2014.
- Nearly 30,000 additional jobs will be needed by 2014 to staff the fields of mental retardation, mental health, child care and others.

VI. Promising Practices in Education & Training

As we see in the technology industry, an obvious source of talent is higher education, but nearly half the estimated 250,000 students who attend the state's private colleges and universities each year leave Massachusetts after they graduate.

²¹ UMass Donahue Institute and MassINC 2003

Innovation within the higher education community is underway to slow this brain drain and train students for jobs in Massachusetts. The UMass Boston Venture Center, an incubator for high tech, life science, and social venture start-ups, attempts to start at the entrepreneur end, getting students invested in a Massachusetts company before Silicon Valley starts recruiting, and recruiting middle-skill workers to staff those labs and factories that do not necessarily need a bachelor's or higher degree.

Governor Patrick's administration has also taken steps to leverage and improve the match between skills and jobs in Massachusetts. The Executive Office of Labor and Workforce Development recently hired a director to connect the education, workforce development, and economic development departments and create training programs to meet employer needs. Meanwhile, the administration is starting to streamline vocational schools and community colleges across the state to meet those labor demands, especially for the vast number of middle-skill job opportunities. To keep companies competitive, the state also administers a grant for companies that provide on-the-job technical training, and funds programs such as the Adult Biomanufacturing Certificate Program at the Minuteman Career & Technical High School in Lexington, which trains participants for entry-level technician jobs.

For community colleges, the U.S. Department of Labor recently made a \$20 million grant to the Massachusetts community college consortium to support efforts to assist low-skilled and other workers to meet industry needs via flexible, online and technology-enhanced learning. Bunker Hill Community College (BHCC) is currently developing new certificate programs for pharmacy technicians, and energy and sustainability management. BHCC is also partnering with other Boston-area colleges to develop and deliver IT programming, support services and job placement assistance to train and support the IT workforce.

In an even broader and longer-term vision, steps have been taken to address this issue within the entire Pre-K to 16 education system through the Department of Higher Education's STEM Pipeline Fund, but there is no equivalent program targeted towards those already in the workforce in need of skills training to take advantage of STEM-related careers.

One of the most exciting programs is the North Shore Community College partnership with its corporate neighbor, General Electric. The two-year associate's degree program in manufacturing technology is a public-private collaboration that connects students, already faced with skyrocketing tuition costs, with a practical, relevant and cost-effective pathway to career in an ever-evolving economy.²² The GE plant in Lynn, MA is expecting a large segment of their employees to reach retirement soon, and has been an anchor to the region's economy, and teamed up with the local community college to respond to this opportunity in a high-growth field. Similar partnerships are sprouting up across the state, for example between Northern Essex Community College and Raytheon, BHCC and NStar.

Two of the more established pipelines to careers are the Welcome Back Center at BHCC and Northern Essex's Learning Enrichment Program. These programs tackle the healthcare shortage program by increasing the state's capacity to train health-care workers, particularly nurses. The curricula focus on increasing the number of culturally and linguistically component graduates to pass licensure exams. The Welcome Back Center especially targets internationally-educated nurses, to leverage their languages, renew their skills for the American context, to bridge the gap between healthcare workers and linguistically-isolated communities. The program has catered coaching for the licensure process, supplemental training, and ESOL education.

Besides colleges, industry and the non-profit sector is also providing much-needed programs to address the gap. The Healthcare Training Institute at Jewish Vocational Services works with the Longwood Medical institutions to train 1,000 people to enter entry-level positions, improve and retain the current workforce, or prepare for nursing and other health services degrees and licenses. Data and resource gathering are also critical in matching workforce development with industry needs. As a result of the Donahue Institute report on human services needs, a follow-up guide now serves as a blueprint and model for industries to recruit and retain workers. The guide catalogs organizations, articles, toolkits and instructions for implementing strategies for training and hiring human services workers.

²² Marcus 2012

VII. Conclusion

Immigrants make up an important part of the Massachusetts and U.S. workforce. The market has demonstrated a demand for workers to fill critical vacancies in key industries in the Commonwealth. Promising practices in higher education, vocational education and industry have shown that when talent is matched with needs, it is a win-win situation that should be taken to scale. Our state's native-born and foreign-born workforce, attractiveness to new immigrants and educational resources should all be maximized, since the growth of each of those factors mutually reinforces job creation and economic vitality. Developing public policies and cross-sector collaboration to leverage those assets will be critical to both Massachusetts and the U.S.'s ability to compete in this global marketplace, boost the economy, and employ its residents. In all situations, solutions vary across geography and demographics. What is clear, however, is that meeting workforce needs will require workers, employers and public and private funders to work together to find ways to obtain and effectively utilize the resources that will be required to recruit, retain and sustain the Commonwealth's human capital for the future.

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