Socioeconomic Indicators

January 2022

UMassAmherst
Donahue Institute
Economic and
Public Policy Research

Prepared by the UMass Donahue Institute's
Economic & Public Policy Research Group

This report was prepared by the UMass Donahue Institute and the information in text, tables, charts and graphs are the most recently available information as of January 4, 2022.

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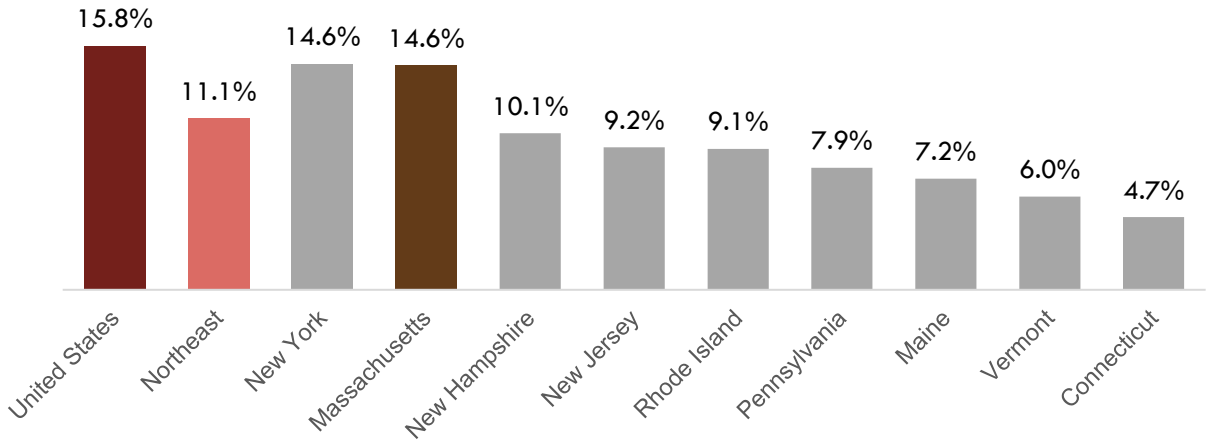
Economy

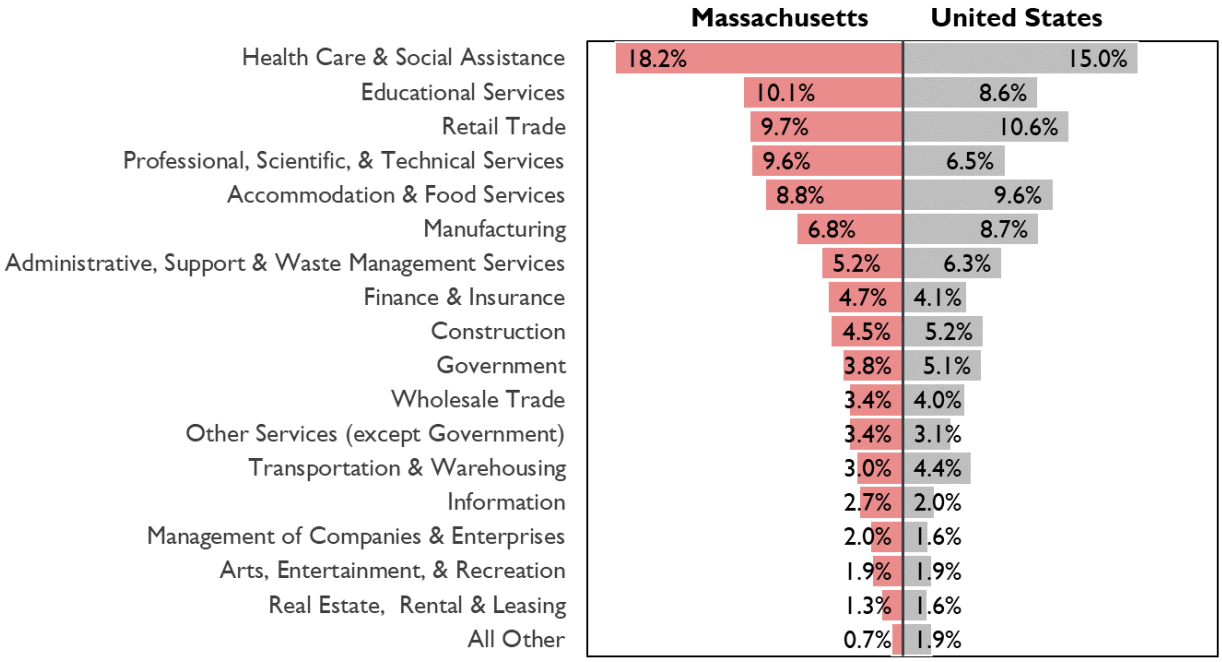
Over the past decade, Massachusetts has been a leader in job growth in the Northeast (Figure1), driven largely by the state's highly-educated workforce, the overall diversity of industries, and strengths in knowledge-based industries, such as health care, education, and professional services (Figure 2). Professional services and technical services have been increasingly important in the state, both as a share of employment and in terms of its contribution to state GDP. In terms of employment, professional services and technical services is fourth in the state and makes up 9.6 percent of jobs; the sector is second in the state as a share of GDP, making up 13.5 percent of the state GDP. While the sector includes everything from legal services to veterinary services, in Massachusetts the two leading subsectors in terms of employees are computer systems design and related services, and scientific research and development services. These subsectors benefit from the Commonwealth's well-established higher education and health care sectors.

Figure 1: Percent change in employment by Northeast state, 2010-2019



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW); UMDI analysis

Figure 2: Industry mix in Massachusetts and the United States, 2019 (Percent of total jobs)

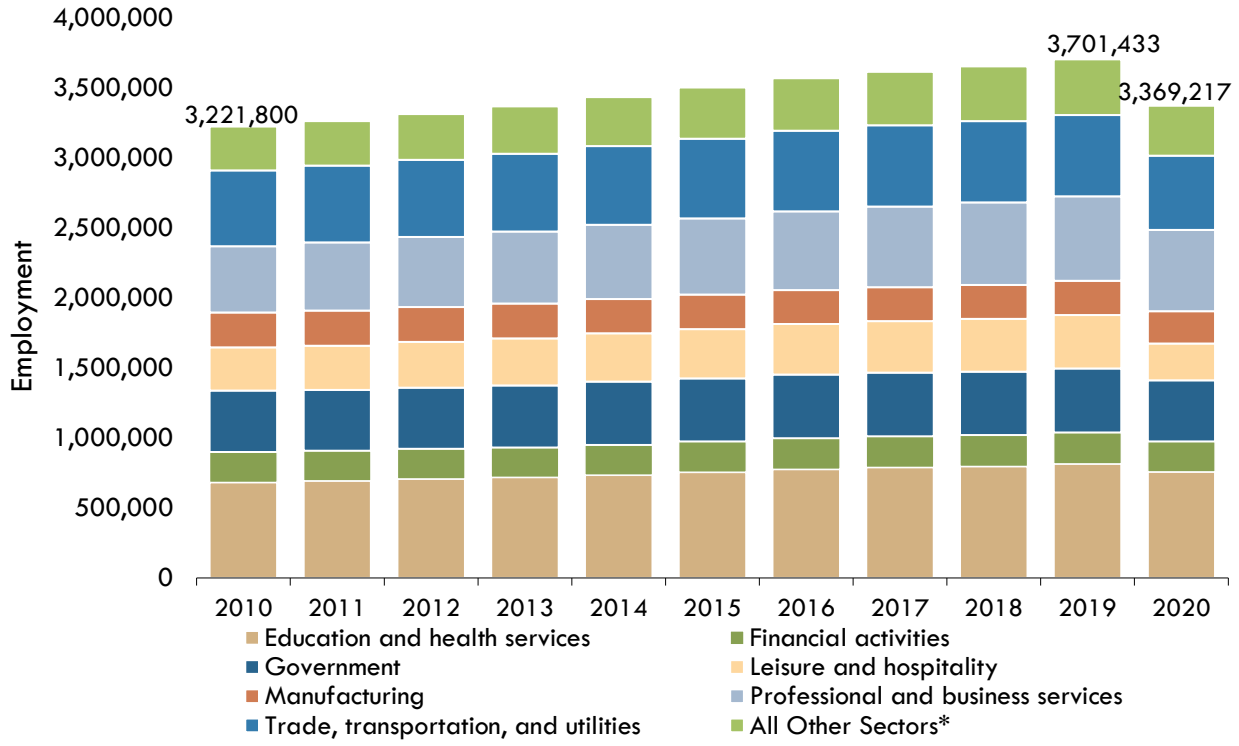


Source: Massachusetts Executive Office of Labor and Workforce Development, ES-202; U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), UMDI analysis.
Note: All Other includes: Utilities; Agriculture, Forestry, Fishing, & Hunting; and Mining, Quarrying, and Oil & Gas Extraction.

Massachusetts continues to experience a decline in manufacturing employment and the Commonwealth's share of manufacturing employment is lower than in the United States as a whole. Since 1990, the earliest year for which NAICS data are available, manufacturing in Massachusetts went from 16.1 percent of the nonfarm payroll to 6.8 percent in 2020. The rate of decline has slowed considerably.

Several NAICS service sectors, education and health services, professional services, and leisure and hospitality have grown to take the place of manufacturing in driving the Massachusetts economy and now account for almost half of total payroll employment, while financial activities, government, information, and trade, transportation and utilities have remained relatively level or declined in share (Figure 3).

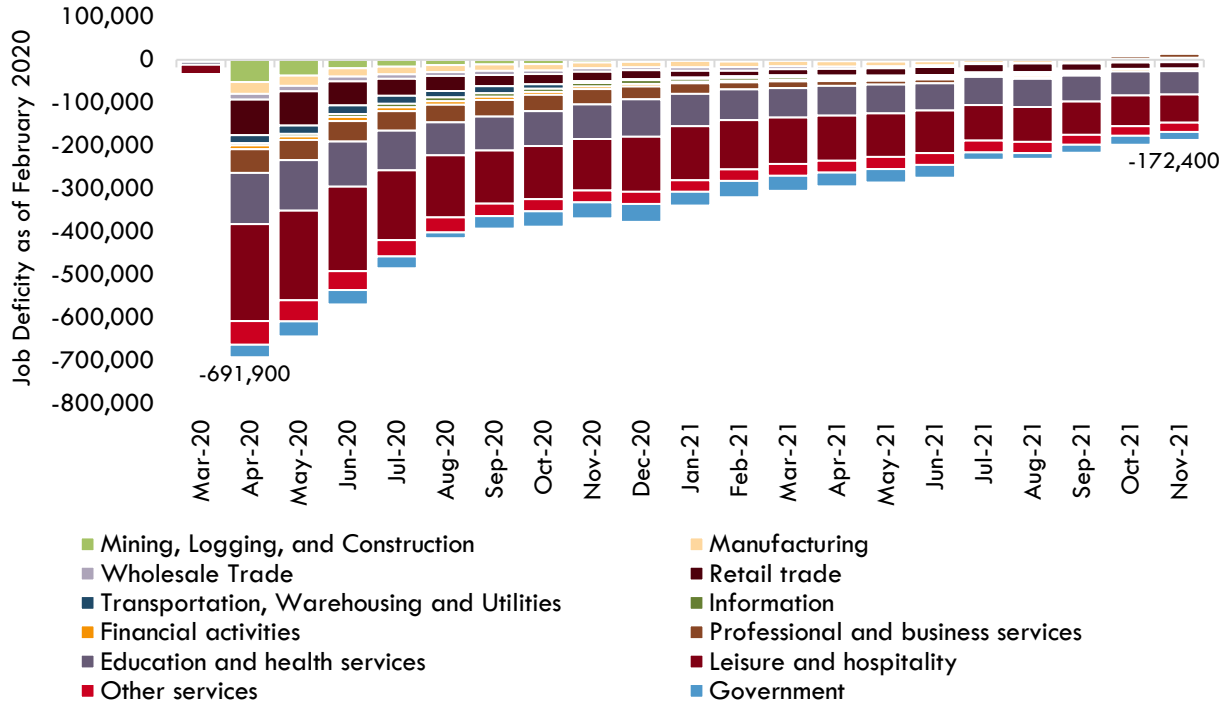
Figure 3: Annual Average Employment in Massachusetts, 2010-2020 by NAICS Supersectors



Source: U.S. Bureau of Labor Statistics, Current Employment Statistics (CES). *Includes Mining & Natural Resources, Construction, Information, and Other Services.

The COVID-19 pandemic interrupted the trajectory of the state's economic growth and has had tremendous short- and long-term ramifications for the state's economy. Over 690,000 jobs were lost in Spring 2020. The pandemic recovery continues, but as of November 2021, the state still has over 170,000 fewer jobs than the peak in February 2020 (Figure 4). Leisure and hospitality services is the slowest sector to recover both in terms of absolute number of jobs lost and as a share jobs lost compared to levels prior to the pandemic (Figure 4). Leisure and hospitality jobs are now recovering fastest, but the disproportionate losses mean that the sector's recovery continues to lag behind others'. The size of the labor force, which includes those who are unemployed and employed, has also begun to rebound, but is still below pre-pandemic levels: with a labor force of 3.74 million in November 2021, there were 6,800 fewer people in the labor force than there were in February 2020.

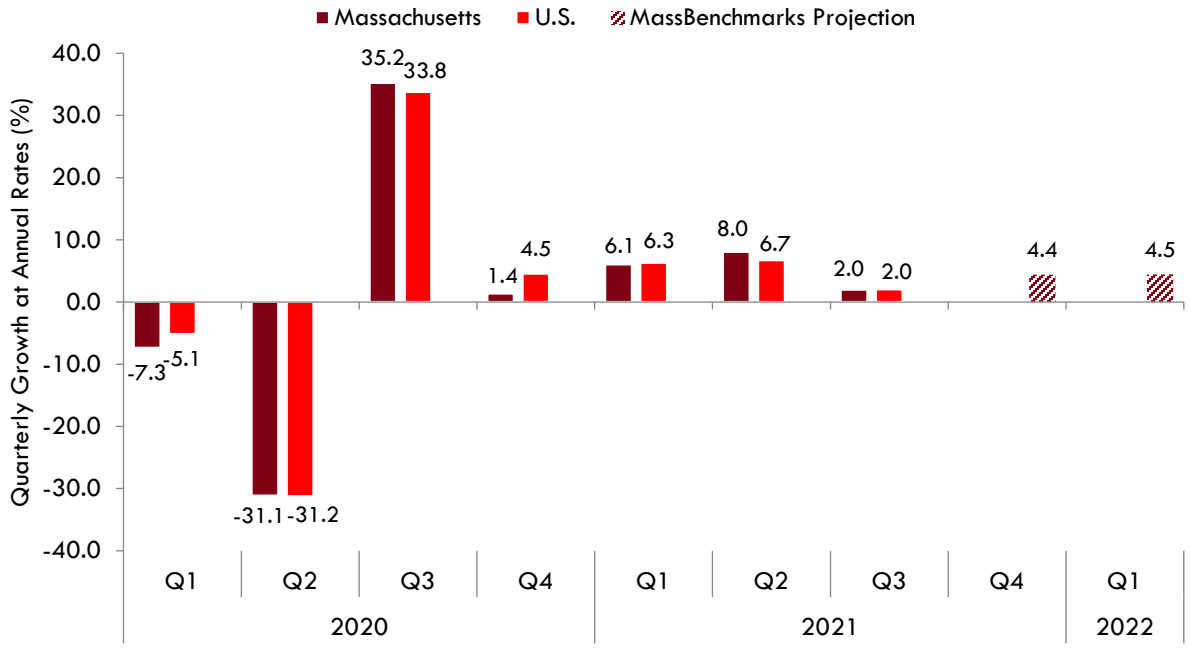
Figure 4: Jobs deficit in Massachusetts relative to February 2020 peak



Source: Massachusetts Executive Office of Labor and Workforce Development, Current Employment Statistics (CES-790); UMDI analysis

Over the course of 2021, the state has demonstrated continued economic recovery. That said, the pace of economic growth has slowed recently after robust gains in the first half of the year. According to MassBenchmarks, the journal of the Massachusetts economy produced by the University of Massachusetts Donahue Institute (UMDI) and Federal Reserve Bank of Boston, real gross domestic product (GDP) increased at a 2.0 percent annualized rate in Massachusetts during the third quarter of 2021. This is similar to the U.S., which also grew at a 2.0 percent rate, according to the U.S. Bureau of Economic Analysis (BEA). Comparatively, Massachusetts real gross domestic product grew at annualized rates of 6.1 percent in the first quarter and 8.0 percent in the second quarter, while U.S. real gross domestic product grew at annualized rates of 6.3 percent and in the first quarter and 6.7 percent in the second quarter (Figure 5).

Figure 5: Growth in Real Product, Massachusetts and the United States



Source: U.S. Bureau of Economic Analysis, MassBenchmarks calculations by Dr. Alan Clayton-Matthews

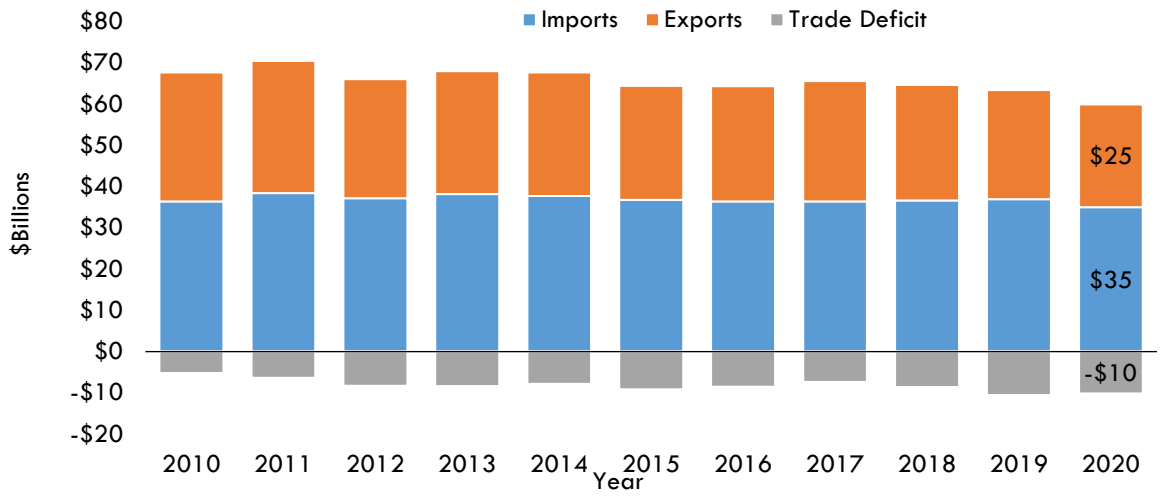
The slowdown in the pace of growth from the second to third quarter of 2021 is the result of the Delta variant of COVID-19 restraining the pace of reopening, associated ongoing supply chain disruptions and labor shortages, and less exuberant consumer spending on goods, especially durable goods such as automobiles and home appliances. Much of the growth that did occur was driven by increased consumer spending and associated job growth in the leisure and hospitality, as well as other services sectors. Inflation diminished the impact of this consumer spending on real output and by extension real GDP growth.

Despite the slowdown in economic activity, payroll employment in the third quarter of 2021 expanded at a faster pace than in the second quarter. The number of jobs in Massachusetts grew at a 6.9 percent annual rate in the third quarter as compared to a 6.3 percent rate for the U.S. Despite this growth, total employment in Massachusetts remains 5.8 percent below the pre-pandemic peak in February 2020, a larger jobs deficit than the nation, which in Q3 stood at 3.3 percent below its previous peak.

Looking ahead to the end of 2021 and the start of 2022, MassBenchmarks projections, which were made prior to the Omicron variant and the seasonal surge, expected the state economy to expand at a 4.5 percent annual rate, consistent with continued gradual progress in getting back to normal. This reflects a dampening of the optimism that was present earlier this summer. The AIM Business Confidence Index fell in both August and September, and the Conference Board's Consumer Confidence Index for the U.S. declined throughout the third quarter. However, both indexes are at levels that indicate a continuation of moderate growth.

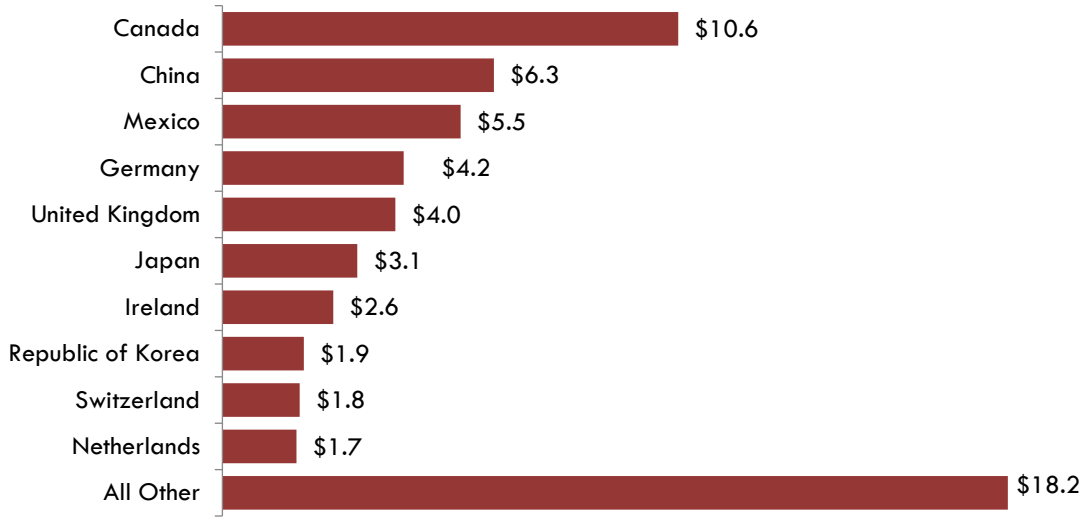
While it is not possible to isolate the impacts of COVID-19 on trade, the declines of 2020 were most likely related to the pandemic. Compared to the U.S. as a whole, the Massachusetts' declines were modest. The national total trade volume (exports and imports) decreased 13.9 percent from 2019, and Massachusetts decreased 5.5 percent (Figure 6). Massachusetts' total trade volume was $59.9 billion in 2020. Canada was by far our most valuable trading partner, with a trade volume of $10.6 billion, 17.6 percent of the total state trade (Figure 7). The Massachusetts' trade deficit, $10.1 billion, decreased 3.4 percent in 2020. Massachusetts ranked 18th in the U.S. in 2020 and first in New England with $24.8 billion in exports. This was a 5.9 percent decrease from the previous year's export value, while national exports decreased by 14.3 percent and total exports from New England decreased by 10.3 percent (Figure 8). Canada was again our top export destination in 2020 with $2.8 billion. Imports decreased 5.2 percent to $35.0 billion in 2020. Canada was also the largest source for Massachusetts imports in 2020, from which we imported $7.8 billion, or 22.3 percent, of our total.

Figure 6: Massachusetts Imports, Exports, and Trade Deficit



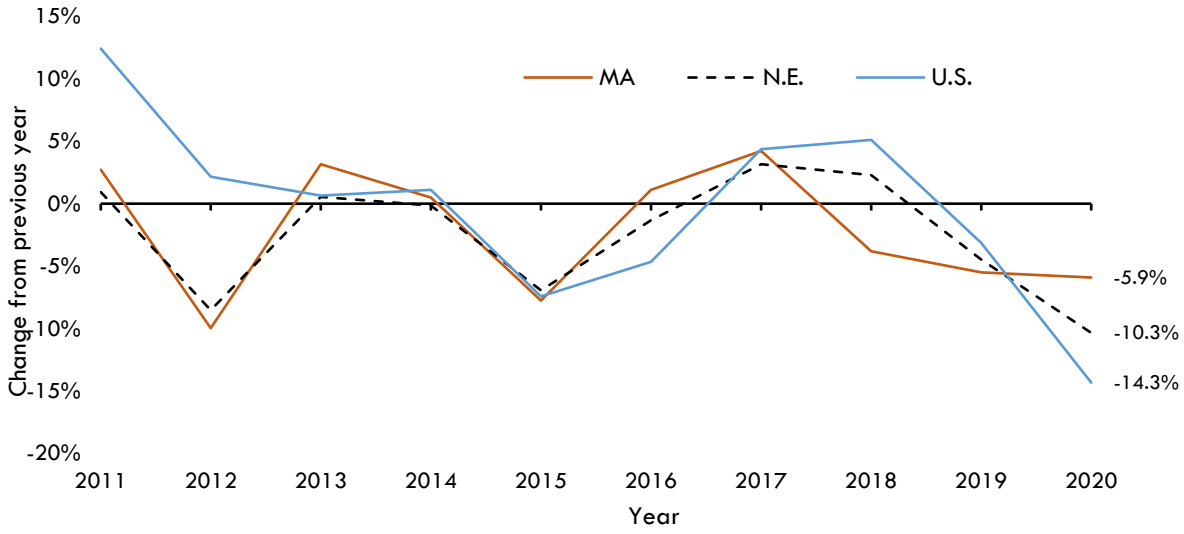
Source: WISERTrade.org; UMDI analysis

Figure 7: Massachusetts Top Ten Trade Partners in 2020 (In billions of $2020)



Source: WISERTrade.org; UMDI analysis

Figure 8. Export Growth for Massachusetts, the United States, and New England

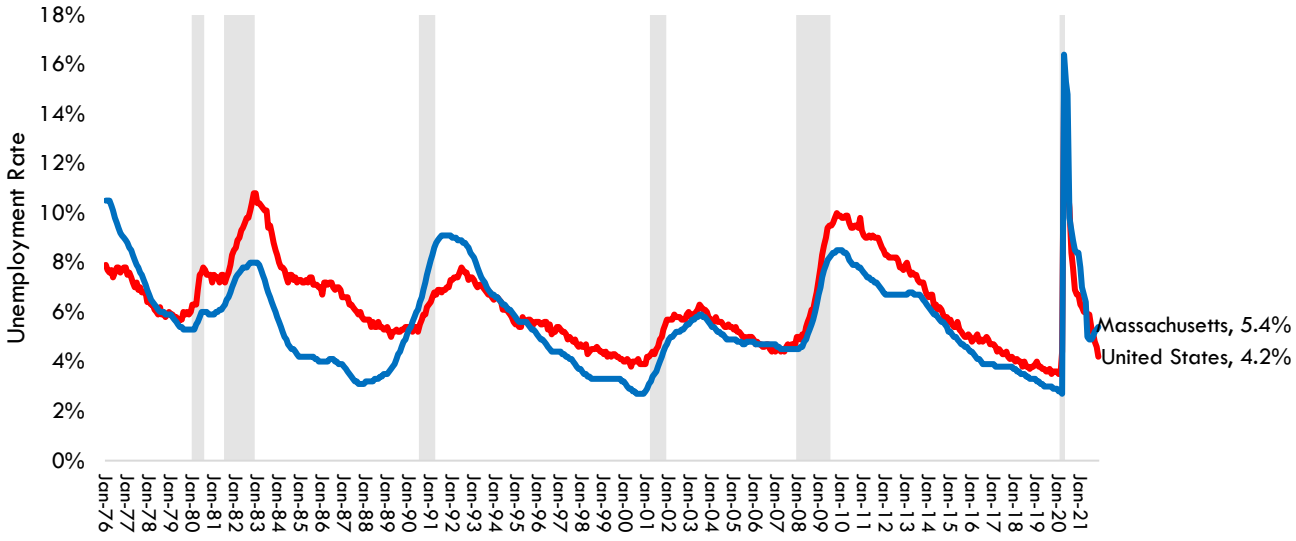


Source: WISERTrade.org; UMDI analysis

Workforce

In recent history, the Massachusetts economy has generally performed better than the U.S., with the state unemployment rate typically below the nation. This was especially the case during and the period following the Great Recession. The Commonwealth's mix of knowledge-based industries and well-educated workforce led to high levels of labor force participation and low levels of unemployment in the state overall. That said, the early outbreak of COVID-19 in the northeastern part of the U.S. coupled with proactive social distancing efforts by the Commonwealth in the spring and summer of 2020 led to significant job losses throughout the state. Massachusetts unemployment peaked at 16.4 percent, while the U.S. peaked at 14.8 percent (Figure 9). As of November 2021 Massachusetts unemployment is at 5.4 percent and the U.S. is at 4.2 percent.

Figure 9: Unemployment Rates in Massachusetts and the United States as of November 2021 (Seasonally adjusted)



Source: Massachusetts Executive Office of Labor and Workforce Development, Local Area Unemployment (LAU) Statistics; UMDI analysis

Both the public health and the economic crises caused by COVID-19 have disproportionately harmed historically marginalized groups. In part this is due to the concentration of marginalized populations in certain sectors of the economy that meant they were more likely to be working in essential services or losing their jobs as shut-down orders shuttered restaurants and retail establishments. For example, the leisure and hospitality sector, which has a younger and less educated workforce, experienced the greatest loss of jobs and has been the slowest to recover. In contrast, highly-educated workers in knowledge-based industries were more likely to be able to work from the home during the COVID-19 pandemic and less likely to lose their jobs. Massachusetts ranked fourth in the U.S. for teleworking during the pandemic. In

Massachusetts, workers with previous well-established capacity to work from home were clustered in the Greater Boston area.

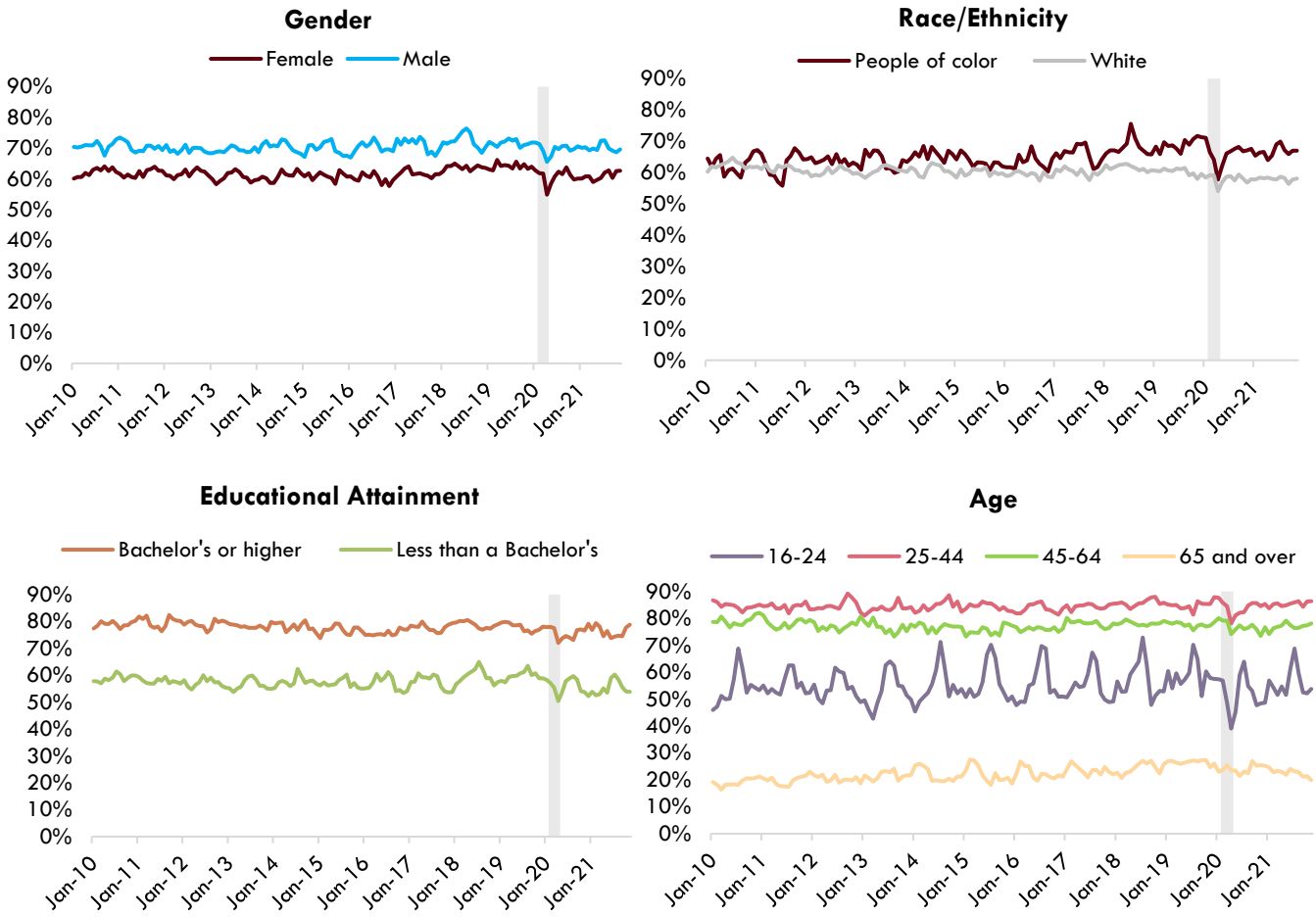
The peak unemployment rate among people of color (POC) exceeded rates among white workers and the recovery has been slower.[1] In addition, while rates of labor force participation have remained higher among people of color, they have been slower to rebound the (Figures 10 and 11).

Women experienced higher rates of unemployment than men through much of the pandemic, as well as greater declines in labor force participation. This is explained by the fact that family caregiving responsibilities (e.g. caring for children or elderly family members) fell disproportionately on women and women are concentrated in industries that experienced significant job losses (e.g. service sector). From January 2020 to April 2020, Women's labor force participation rate fell by 7.9 percentage points from 62.8 percent to 54.9 percent, where men's rate fell by 6.2 percentage points from 71.8 percent to 65.6 percent.

Younger workers and those with lower levels of education were particularly hard hit as well. With regard to age, workers aged 16 to 24 had, and continue to have, the highest rates of unemployment. Workers with less than a bachelor's degree had higher rates of unemployment than those with a bachelor's degree or more. The fact that educational attainment, age, race, and gender are all interconnected with access to job opportunities in the more resilient sectors of the economy has meant that historically marginalized populations have faced greater challenges during the pandemic.

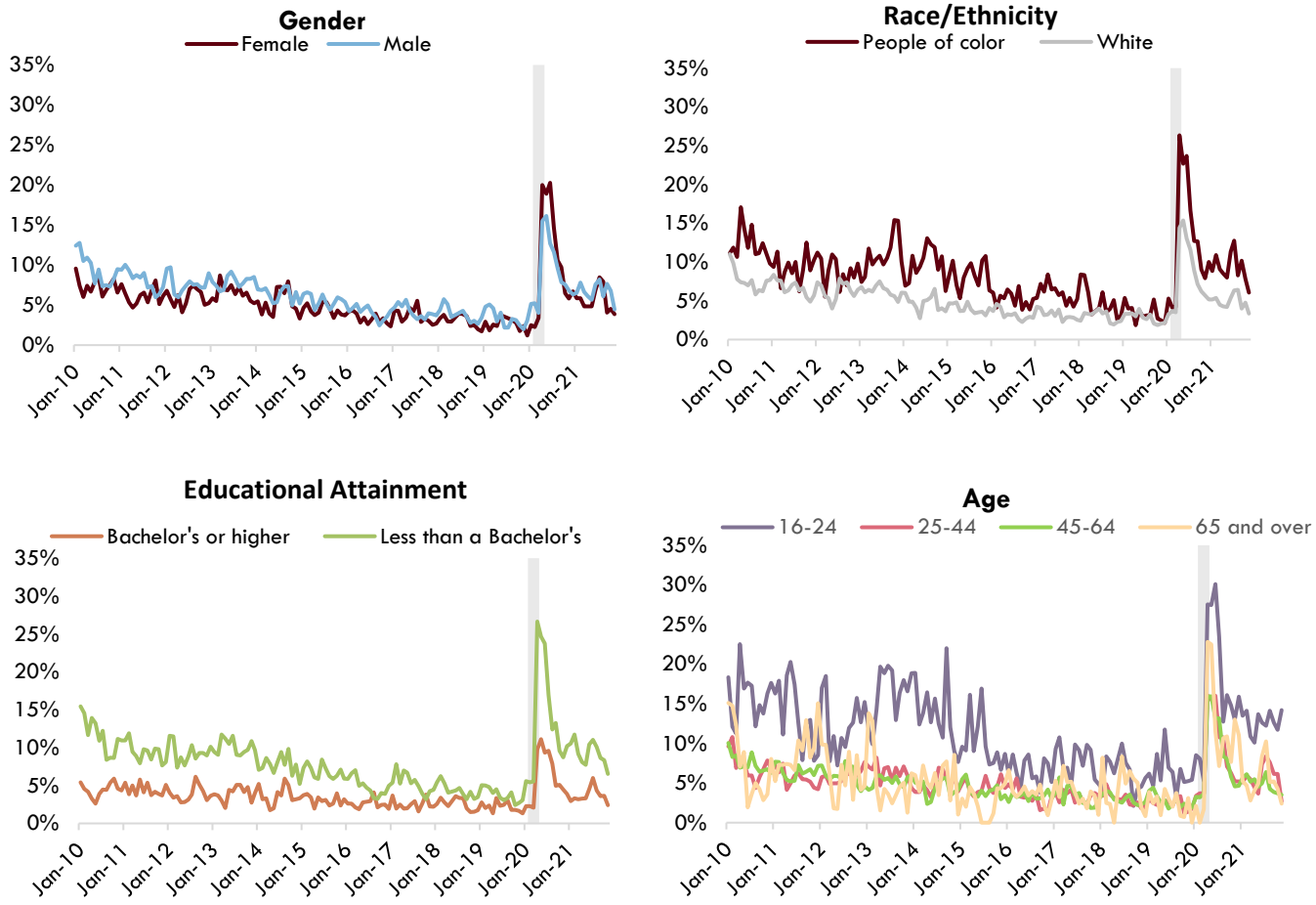
[1] People of color includes all individuals who self-reported a race other than white or reported multiple races, and did not identify as Hispanic. We recognize that there is significant variation among people of color, data limitations do not allow for more granular comparisons.

Figure 10: Labor Force Participation Rates in Massachusetts by Demographics, January 2010-November 2021 (Not seasonally adjusted)



Source: UMDI analysis of Integrated Public Use Microdata Series (IPUMS), Monthly Current Population Survey (CPS)
Note: Data are not seasonally adjusted.

Figure 11: Unemployment Rates in Massachusetts by Demographics, January 2010-November 2021 (Not seasonally adjusted)

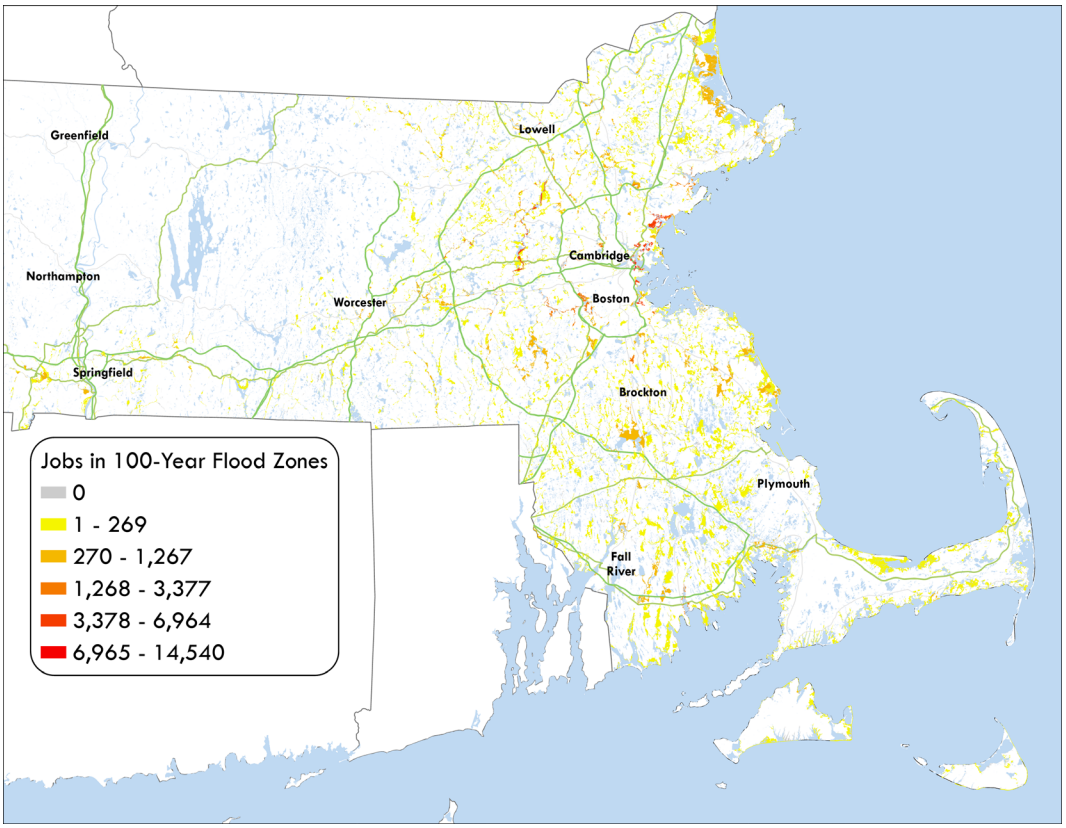


Source: UMDI analysis of Integrated Public Use Microdata Series (IPUMS), Monthly Current Population Survey (CPS)
Note: Data are not seasonally adjusted.

Environment

Massachusetts faces diverse risks related to climate change that will have broad economic impacts, depending on the extent to which adaptive measures are taken, at the state, national, and global levels. The threat posed by sea-level rise is of particular concern in Massachusetts because so much of the state's economic activity is concentrated along the coast, where the effects of climate change are already being felt. For example, in Boston the average number of flood days per a year has increased from 2.8 days during the 1950s and 1960s to 13.8 days from 2010 through 2020. The impact of coastal alteration, larger storm surges, and greater storm damage may be acutely felt where economic activity and residents are clustered. In 2018, approximately 300,000 jobs in Massachusetts were located in 100-year flood plains (Figure 12).

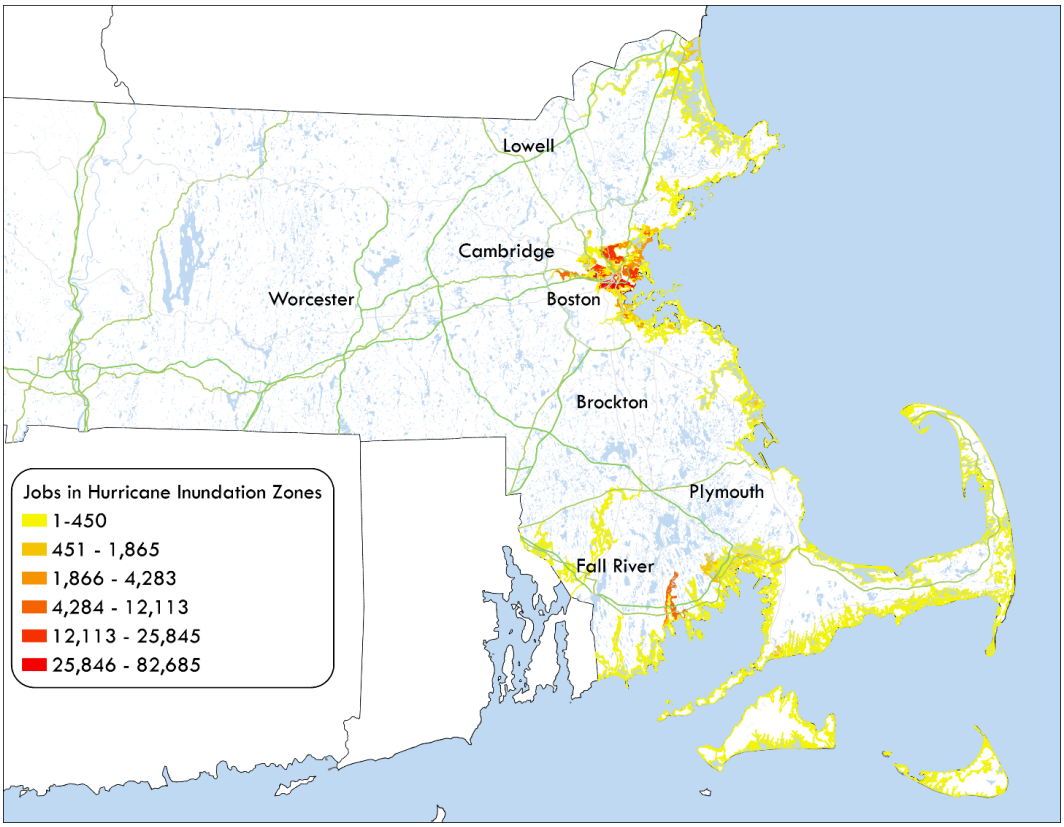
Figure 12: Jobs located in 100-year flood zones



Source: FEMA National Flood Hazard Layer via MA GIS, U.S. Census Bureau 2018 LODES data on Total Jobs, Analysis by the Donahue Institute
Note: Counts of jobs in this table represent jobs in Census Blocks or parts of blocks that intersect or are fully contained within areas designated as 100 Year Flood Zones by FEMA and assumes an even distribution of jobs in those blocks. FEMA's current national flood hazard layer does not contain finalized flood data for Berkshire, Franklin or Hampshire counties so analysis was not done on those areas.

If you examine risk posed by hurricanes the number of jobs potentially effected is even greater, with over 800,000 job in areas designated by the Army Corps of engineers as being in hurricane inundation zones (Figure 13).

Figure 13: Job located in hurricane inundation zones



Source: U.S. Army Corps of Engineers Hurricane Surge Inundation Zones via MA GIS, U.S. Census Bureau 2018 LODES data on Total Jobs, Analysis by the Donahue Institute

There are also risks associated with rising temperatures. According to the 2020 National Climate Report, published by National Oceanic and Atmospheric Administration, 2020 ranked as the second warmest year on record for Massachusetts. Abnormal dryness and drought were experienced throughout the Northeast and Massachusetts, which may have contributed to Massachusetts having more than 1,000 wildfires in 2020.

While the full effects of climate change are hard to predict at this time, it is certain that some industries will bear more of the burden than others. For example, the tourism industry will likely be affected as there are more than a dozen ski areas in the Commonwealth that will face challenges as precipitation is expected to shift from snow to rain with warmer winter temperatures. Agriculture will be impacted by changes to the growing season and increased risk of drought. Fisheries will be impacted as increasing temperatures change the habitats of ocean species. The health of residents may be impacted by climate change. For

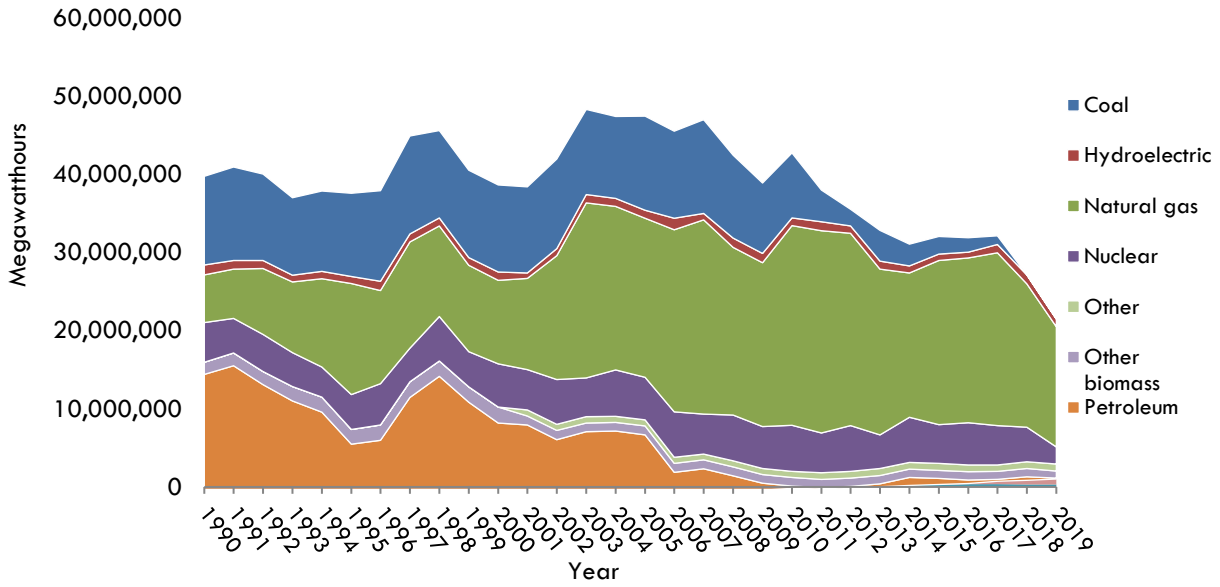
example, changes in temperature will likely increase the risk or incidence of acute respiratory diseases, such as Asthma, and increase the presence of ticks that carry Lyme disease and mosquitoes carrying West Nile Virus. The risks vary across the state, within communities, and from resident to resident. Vulnerability to climate change is a function of exposure, sensitivity, and adaptive capacity. The most vulnerable are often the young, old, and medically vulnerable, those who live in areas with higher risk of extreme events and those without the resources to adapt.

Changes to the environment, such as extreme weather events, do not respect political boundaries, therefore, policy makers have limited ability to mitigate the course of environmental change. However, local officials can prepare for natural disasters and plan for predicted changes in the environment, such as rising temperatures and sea-levels. To this end Massachusetts established the Municipal Vulnerability Preparedness grant program that supports city and towns through grants and technical assistance that fund and support local assessments of vulnerability to climate change and adaptation projects. Over 90 percent of municipalities in the state have enrolled in the program.

Citing the environmental risks of climate change, in March 2021, Governor Baker signed a net-zero emissions law setting the goal of Massachusetts achieving net-zero emissions by 2050. The law sets interim emission targets and sets targets for six sectors: electricity, transportation, commercial and industrial buildings, residential buildings, industrial processes, and natural gas distribution. Currently, Massachusetts consumes more energy than it produces and relies on the regional grid to meet demand. Massachusetts uses less energy to produce a dollar of GDP than all but two other states, New York and California. Furthermore, according to the US Energy Information Administration, Massachusetts used less energy per capita than all but six other states in 2019.

Over the past 20 years, Massachusetts has increasingly been reliant on natural gas for electric power generation, with the share of electric power from natural gas more than doubling from to 2001 to 2019; the Commonwealth's reliance on natural gas is greater than the U.S. as whole, where natural gas makes up only 38 percent of electricity generated in 2019 compared to over 70 percent in Massachusetts (Figure 14). The Commonwealth is generating less energy from coal, petroleum, and nuclear; the last nuclear power plant in the state closed in 2019. While the shift from coal and petroleum to natural gas has the potential to reduce greenhouse gas emissions because natural gas releases less carbon dioxide when burned, natural gas contributes to greenhouse gas emissions when methane leaks from both pipeline leakage and end users, such as furnaces in buildings. Solar energy has grown to be 19 percent of Massachusetts's total in state electricity net generation. Furthermore, Massachusetts ranked ninth in the U.S. in net generation from all solar in 2020. Electricity prices in Massachusetts are higher than in the nation as a whole. In July 2021, Massachusetts consumers faced the third highest electricity prices. Massachusetts consumers pay the 35th highest natural gas prices; during the winter months prices are frequently higher than in the U.S. These higher prices can place burden on lower income residents. After the sharp declines of 2020, it is expected that heating oil prices will increase sharply.

Figure 14: Electric Power Generation by Primary Energy Source, 1990-2019

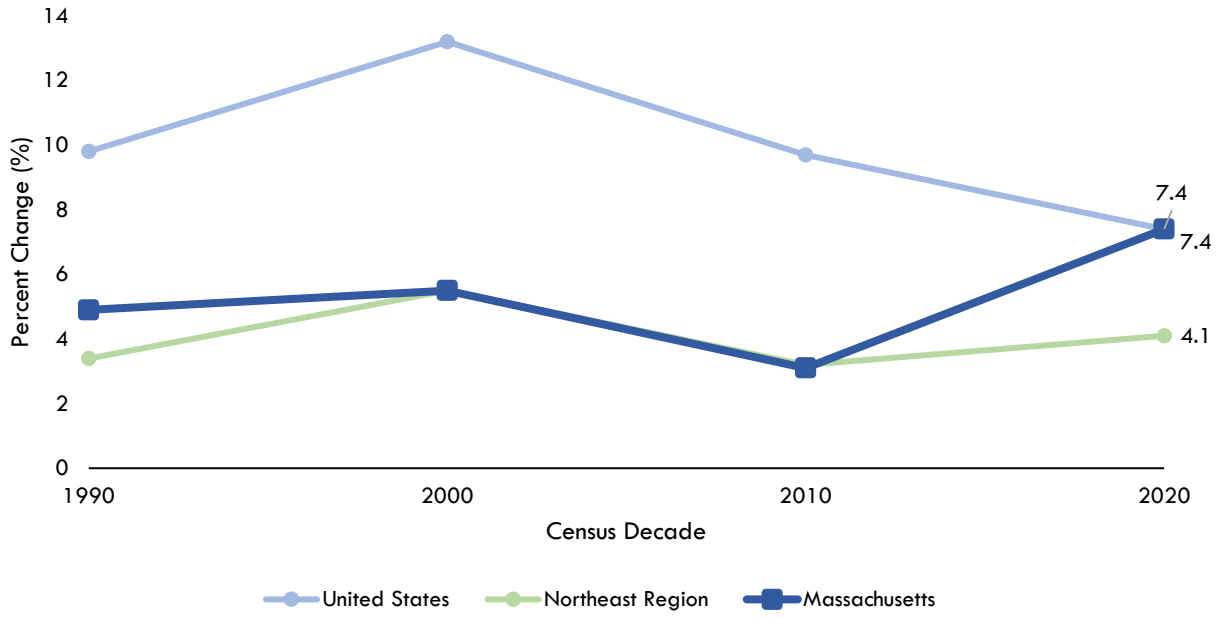


Source: U.S. Dept. of Energy, http://www.eia.doe.gov/; state electricity profiles.
Note: Other includes batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, tire-derived fuels and misc. technologies. Pumped storage is omitted from the graph because it represents the storage of power generated elsewhere rather than newly generated power.

Residents

Just over seven million residents called Massachusetts home in 2020, an increase of 7.4 percent since 2010, making it the fastest-growing state in the Northeast. The 2020 Decennial Census P.L. 94-171 Redistricting dataset, which was released in August 2021, provides a snapshot of Massachusetts' population and how it has changed over the past decade. From 2010-2020 the population increased by 482,288 people, from 6,547,629 to 7,029,917 (7.4%). In contrast the average population growth in the Northeast was 4.1 percent (Figure 15).[2]

Figure 15: Change in Resident Population by Decade



Source: U.S. Census Bureau; UMDI analysis

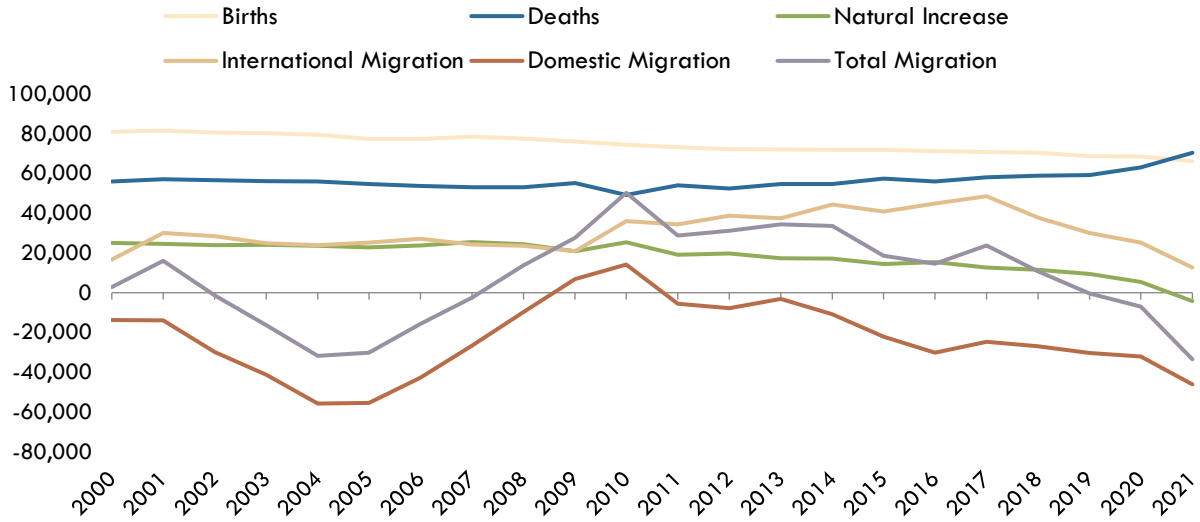
Increasing levels of international migration has driven population growth in Massachusetts over the last couple of decades. Conversely, migration from Massachusetts to other states has increased. Natural increases in the population have slowly declined largely due to an aging population and declining birth rates (Figure 16). Massachusetts' combination of higher education institutions and knowledge-based industries appears to be an important factor in attracting and retaining foreign-born residents. The foreign-born in Massachusetts has a bimodal education distribution with a high concentration with less than a high school education (20% in 2019) and a significant concentration with college degree (18%).

[2] The Northeast includes: Maine, New Hampshire, Vermont, Massachusetts, New York, Connecticut, Rhode Island, Pennsylvania, and New Jersey.

Interestingly, a higher proportion of immigrants in the state hold a graduate degree (22%) than native-born residents (20%).

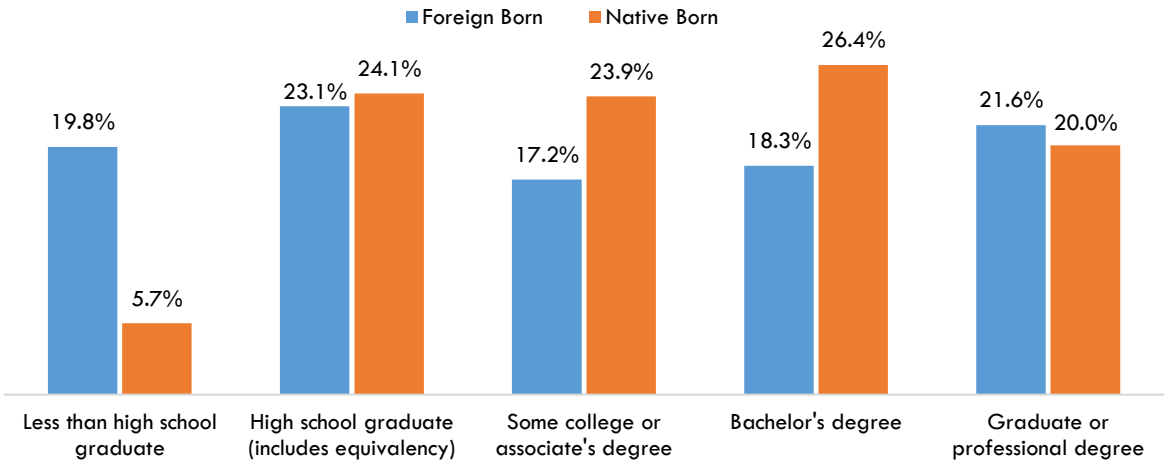
While the population in Massachusetts has grown strongly over the past decade, the latest population estimates showed a 0.6 percent decline in the state's population from April 2020 to July 2021. This cumulative decrease is more substantial than other Northeast states, with the exception of New York, which decreased by 1.8 percent. Massachusetts is not unique in experiencing a pandemic slowdown in population growth. The U.S. grew at the slowest rate since the nation's founding during this past year (0.1%). The pandemic has halted migration to the state, and contributed to higher death rates and lower birth rates. For the first time, deaths exceeded births in the state leading to negative growth attributable to natural increases. Furthermore, domestic migration out of the state increased. Again this trend was not unique to Massachusetts, as the Southern Region of the U.S. was the only region to experience positive net domestic migration. As the pandemic recedes a return to international migration will be essential for resuming growth in the population.

Figure 16: Massachusetts Estimated Components of Change, 2000-2021



UMass Donahue Institute. Source Data: ST-2000-7; CO-EST2010-ALLDATA; and NST-EST2018-ALLDATA, U.S. Census Bureau Population Division.

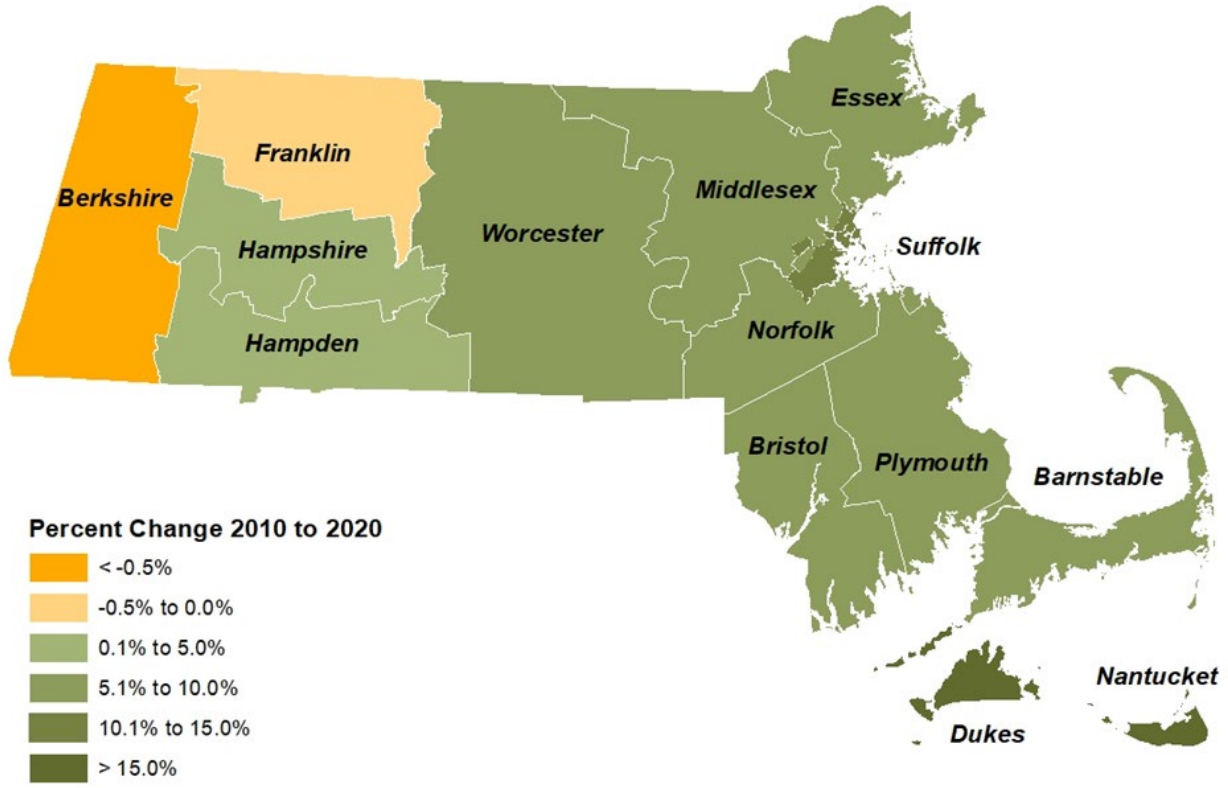
Figure 17. Educational Attainment of the Foreign Born in Massachusetts, 2019



Source: U.S. Census Bureau, 2019 1-Year American Community Survey; UMDI analysis

Overall, population growth in the state between 2010 and 2020 was uneven. Population growth, much like the previous decade, was strongest in the eastern part of the state, particularly in the Greater Boston region. Middlesex County saw the largest growth in absolute terms and grew at a rate of 8.6 percent. It was followed by Essex and Worcester Counties which grew at rates of 9 and 8 percent respectively, all faster than the state as whole. In terms of percentage change, the fastest population growth since Census 2010 was observed in the small island counties of Nantucket and Dukes, at 40.1 percent and 24.6 percent respectively. The two western-most counties, Franklin and Berkshire, saw small population declines over the last decade (Figure 17).

Figure 18: Percent Change in Massachusetts County Population, Census 2010 to Census 2020



Source: UMDI, U.S. Census Bureau

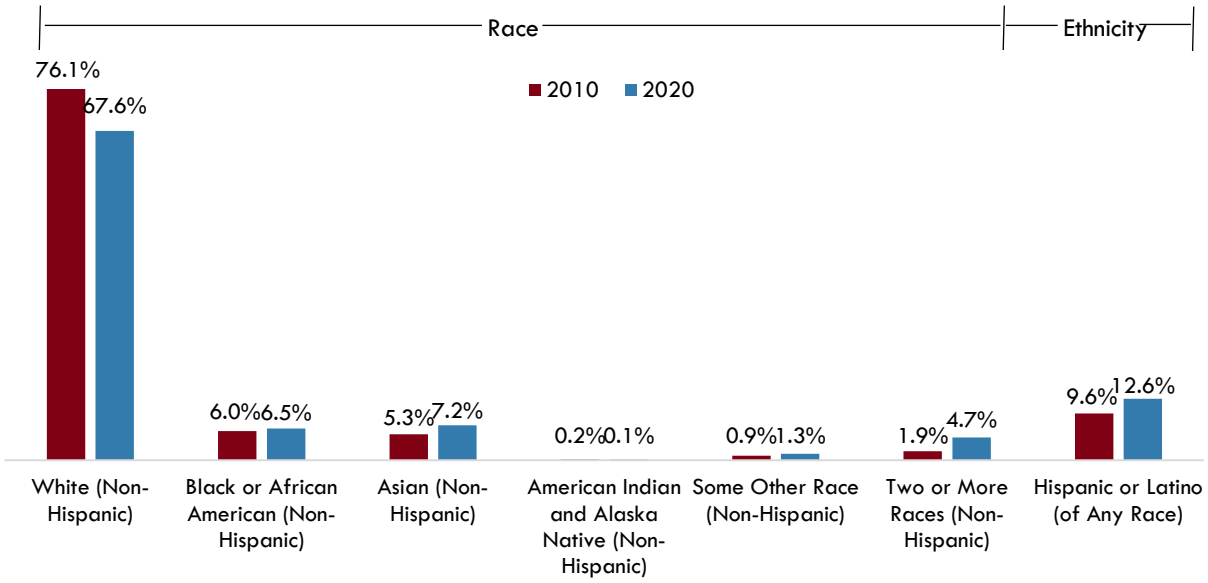
The population growth trends in Massachusetts reflect trends in the U.S. over the past decade. Metropolitan areas and urban and suburban counties grew much more rapidly than small places and rural counties. Similarly, in Massachusetts, population growth has been clustered around the Greater Boston area and Gateway Cities. The cities that grew the most in absolute terms were Boston, Worcester, Cambridge, Lawrence, and Brockton. In addition, all but two of Massachusetts' 26 "Gateway Cities" showed Census 2020 population counts greater than the Vintage 2020 evaluation estimates, which are based on the 2010 Census, suggesting that growth in these cities out-performed the Census Bureau's estimates. The Gateway Cities account for 15 out of the 25 most populous places in Massachusetts, and 25 out of the top 40.

The four slowest growing Gateway Cities were all in Hampden County. Hampden County, along with Berkshire, Franklin, and Hampshire counties is located in the Western Massachusetts region, which had a much slower rate of growth than Massachusetts as a whole, 0.5 percent. Furthermore, the region grew at a slower rate from 2010 to 2020 than it had from 2000 to 2010 (1.1% from 2000 to 2010; 0.5% from 2010 to 2020). Both Berkshire and Franklin counties have been declining in population since 2000, while Hampden and Hampshire counties have seen modest growth. In contrast the Cape and the Islands region

has experienced a dramatic increase in population. The Island of Nantucket was the fastest growing place in Massachusetts followed by Martha's Vineyard. Cape Cod also experienced increased growth compared to the prior decade, growing at a rate of 6.1 percent. The strong growth in these areas that had seen declines from 2000 to 2010 may be attributable to the pandemic, as more individuals could choose where to live untethered from where their employer was located.

As with the nation, Massachusetts is becoming more racially and ethnically diverse. The share of the population that identifies as non-Hispanic, white decreased from 76 percent to 68 percent from 2010 to 2020, while the shares that identify as Black non-Hispanic, Asian non-Hispanic, and Hispanic increased to 6.5 percent, 7.2 percent, and 12.6 percent respectively. The share that identifies as two or more races (non-Hispanic) more than doubled to 4.7 percent (Figure 18). The state's population is older than the nation as a whole, the median ages is 39.7. However, due to the presence of higher education institutions, young adults are somewhat overrepresented in the Commonwealth, 21 percent of residents are between the ages of 20-34 compared to 20 percent in the U.S.

Figure 19. Massachusetts Race and Ethnicity in 2010 and 2020

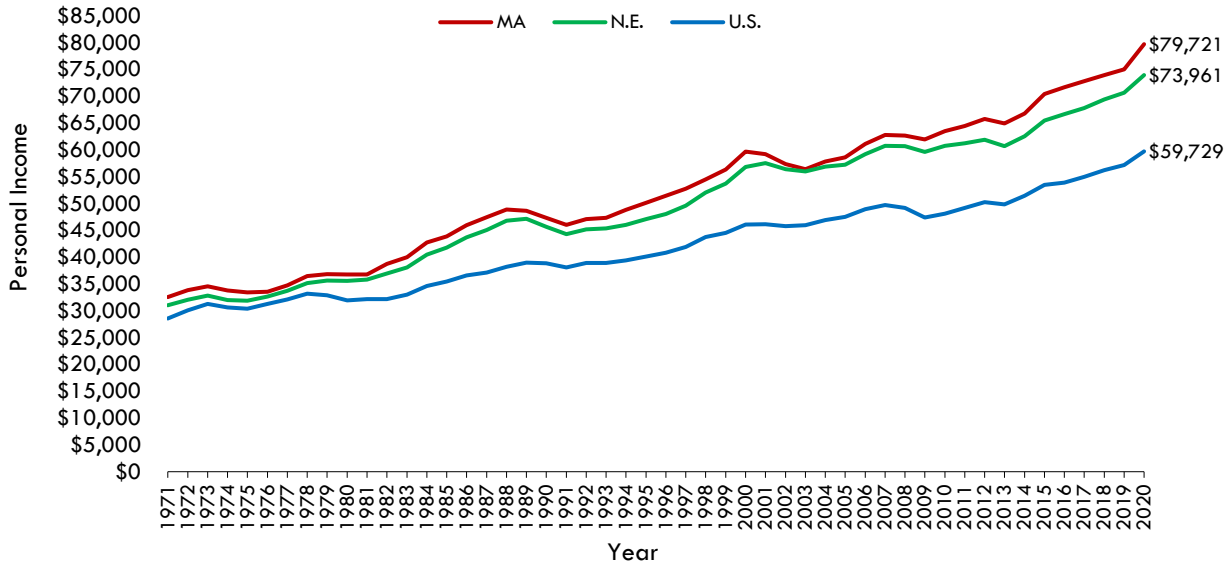


Source: 2010 Source Data: Census 2010 Summary File 1; 2020 Source Data: Census 2020 PL-91-171; UMDI analysis

Massachusetts' residents earn some of the highest incomes in the nation. Real per capita income consistently exceeds incomes in the Northeast and U.S. In 2020, the real per capita personal income in the Commonwealth was nearly $80,000 compared to approximately $74,000 in the Northeast and just under $60,000 in the U.S. (Figure 19). The relatively high-income levels reflect the high level of education and the concentration of high-wage industries such as, health care, professional services, and finance and insurance. The poverty rate is lower in Massachusetts than in the nation as a whole at 9.4 percent compared to 12.3 percent. However, in several cities the poverty rate exceeds the state average,

Holyoke, Springfield, and Worcester all Gateway cities, have poverty rates of 15.2 percent, 10.9 percent and 10.7 percent respectively. Boston is slightly above the state average with a rate of 9.6 percent. Higher rates of poverty in these Gateway Cities and Boston are particularly concerning because Gateway Cities are home to a large share of the state's communities of color and immigrant communities. Forty-one percent of all people of color in Massachusetts live in Gateway Cities 18 percent live in Boston. Furthermore, 36 percent of Massachusetts immigrants live in Gateway Cities and 17 percent live in Boston. The concentration of poverty in these cities raises concerns about equity and quality of life.

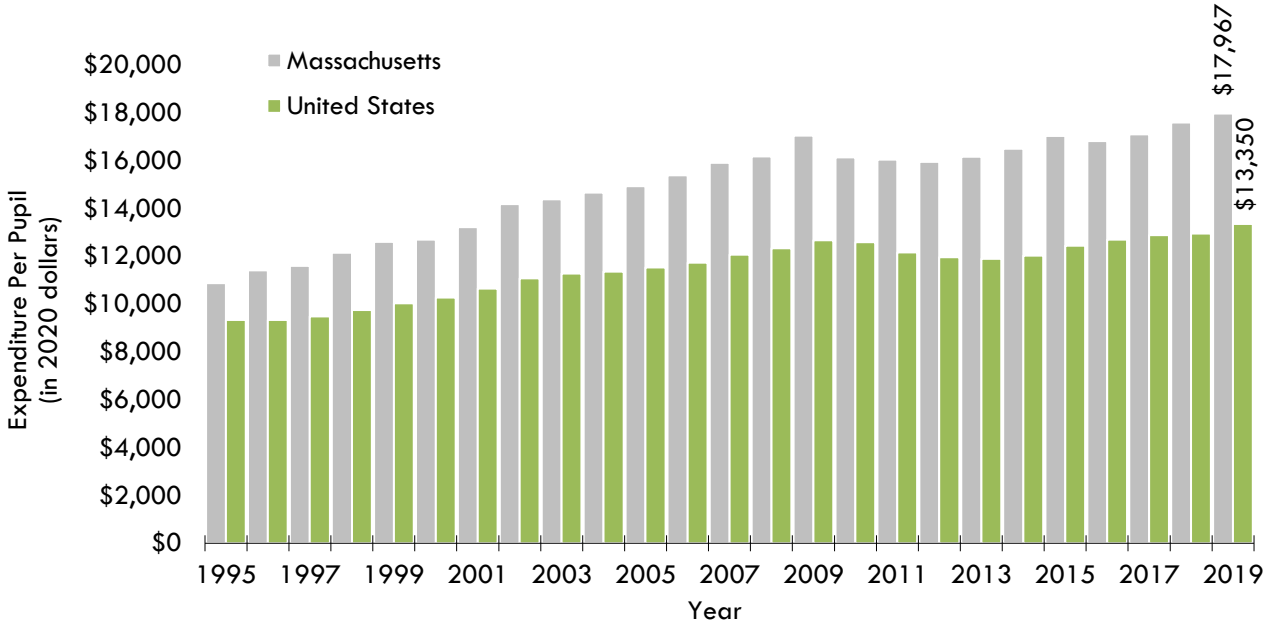
Figure 20: Real Per Capita Personal Income in Massachusetts, the United States, and New England, 1971-2020 (in $2020)



Source: U.S. Department of Commerce, Bureau of Economic Analysis

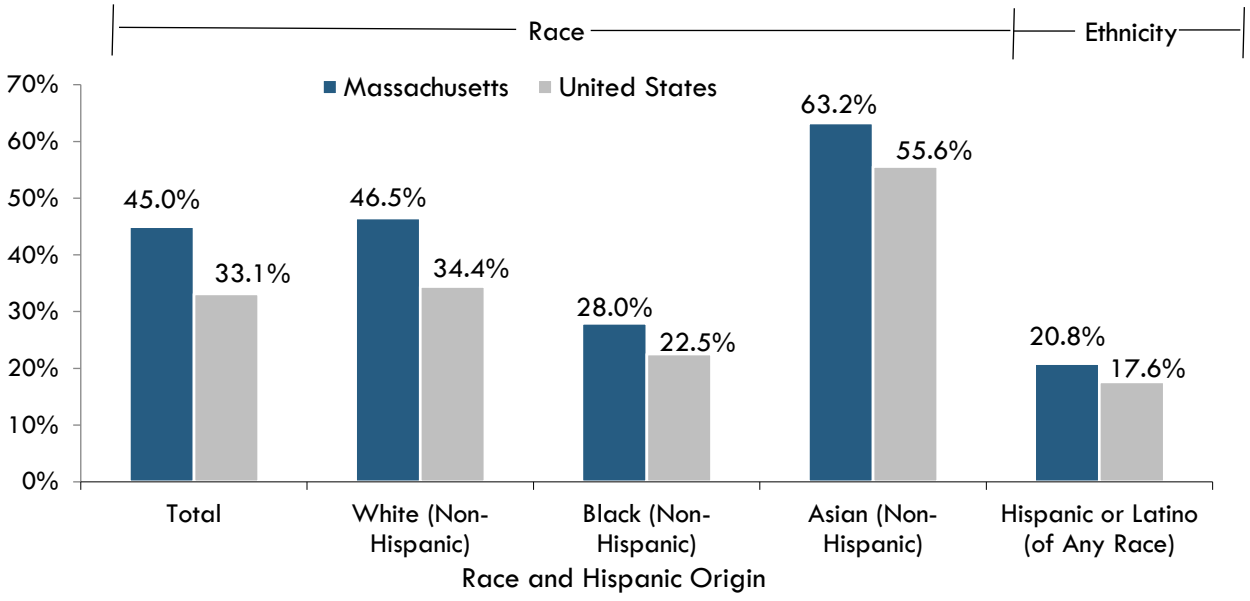
The presence of a skilled and well-educated population is an important resource for the Commonwealth. At the primary and secondary level, the state invests more than the national average in its public schools (Figure 20). Furthermore, students in Massachusetts' K-12 public schools consistently outperform their peers in the U.S. on national assessments. The state has the most well-educated population in the country, with 45 percent of all residents 25 years of age or older earning a bachelor's degree or more. However, educational attainment varies significantly across racial groups: Black and Hispanic residents are less likely to have a bachelor's degree than the state average, at 28 percent and 21 percent respectively. Forty-seven percent of white residents and 63 percent of Asian residents hold a bachelor's degree or higher. That said, across all racial groups, educational attainment rates are higher than the national average (Figure 7). The well-educated population supports and is a product of the concentration of elite public and private colleges and universities in the state. Educational services is the second largest industry in Massachusetts in terms of jobs. Over half a million students are enrolled in higher education in the state, including over 73,000 foreign students in the 2019/2020 academic year.

Figure 21: Per Pupil Expenditure in Public Elementary and Secondary Schools (in 2020 adjusted dollars)



Source: U.S. Census Bureau, Public Elementary–Secondary Education Finance Data.

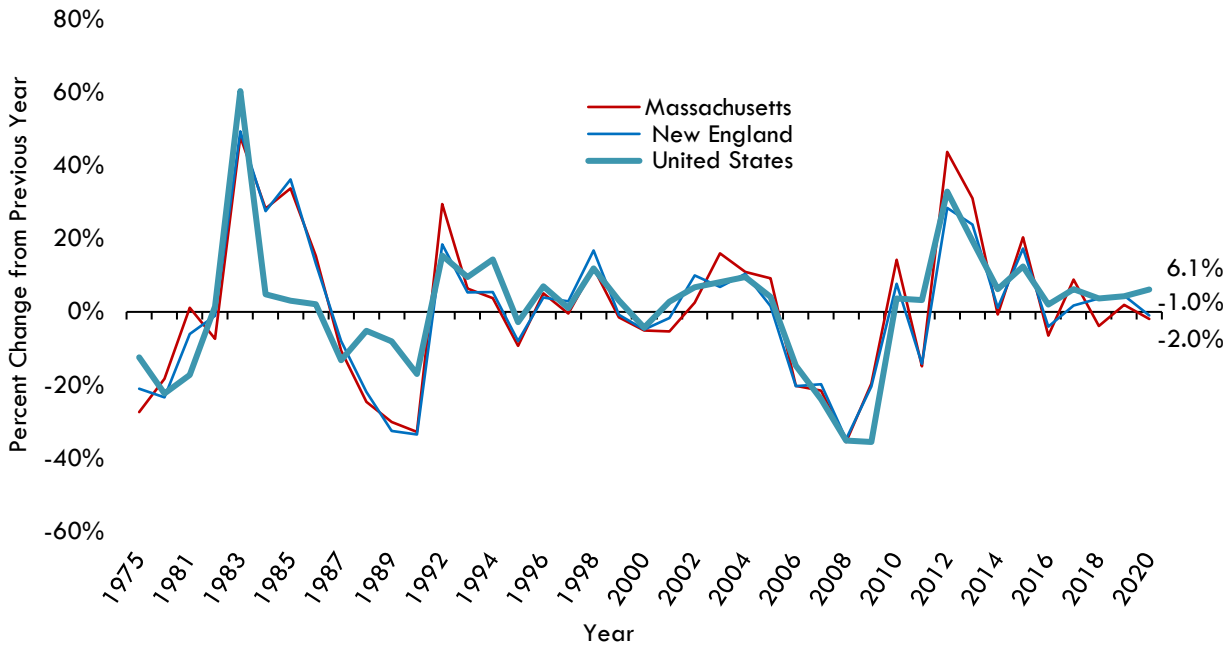
Figure 22: Persons in Massachusetts and the United States 25 Years and Older with a Bachelor's Degree or Higher by Race and Ethnicity in 2019



Source: U.S. Census Bureau, 2019 1-Year Estimates American Community Survey; UMDI analysis

While residents enjoy higher incomes than most other states, the cost of housing in Massachusetts is a burden for many, especially for Black and Hispanic households. Housing costs are rising across the Commonwealth, driven in part by population and economic growth and inadequate housing production over the last couple of decades. The increase in sale prices and the low supply of homes for sale has translated into high rental costs as well. Median sales price of existing homes increased to $460,000 in 2020 from just over $418,000 in 2019, well above the national median of $296,700. Construction is not keeping up with demand. Nationally, the number of building permits increased 6.1 percent from 2019 to 2020, but were actually down two percent in Massachusetts over the same time period (Figure 23). Nearly a quarter (23%) of Massachusetts renters are severely cost burdened, meaning they spend 50 percent or more of their income on housing. The rates of cost burden are highest among low-income residents, as well as Black and Hispanic households.

Figure 23: Housing Units Authorized by Building Permit, Percent Change from Previous Year



Source: U.S. Census Bureau; UMDI analysis
Note: Reported data plus data imputed for non-reporters & partial reporters.