



# Mass Benchmarks

THE JOURNAL OF THE MASSACHUSETTS ECONOMY

Near-Record GDP and Employment Spawn Increasing House Prices, Commuting Times and More

The 2017 Federal Tax Cuts and Jobs Act: Its Impact on Massachusetts and New York

Current Issues in Massachusetts Taxation Policy: A *MassBenchmarks* Interview Yields Opposing Perspectives

Massachusetts' Tightening Labor Market

*A publication of the University of Massachusetts in cooperation with the Federal Reserve Bank of Boston*

# MassBenchmarks

2018 | volume 20 issue 1

*MassBenchmarks*, published by the University of Massachusetts in cooperation with the Federal Reserve Bank of Boston, provides timely information about the Massachusetts economy, including reports, commentary, and key data about the state's regions and industry sectors that comprise them.

The editors invite queries and articles on current topics involving the Massachusetts economy, regional economic development, and key growth industries from researchers, academic or professional economists, and others. A topical outline and brief biography of the author should be sent to [info@donahue.umassp.edu](mailto:info@donahue.umassp.edu).

A complete list of past issues, latest news, updates, and additional research on the Massachusetts economy can be found at [www.massbenchmarks.org](http://www.massbenchmarks.org).



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*Mary Burke and Alicia Sasser Modestino*

Research presentations by Drs. Mary Burke and Alicia Modestino at *MassBenchmarks*' April Editorial Board meeting shed light on Massachusetts' lethargic population growth's impact on the state's labor force. Burke found that stronger than expected labor force participation by prime age and older workers helped moderate declining population growth. Modestino confirmed that tighter labor markets lead to less stringent educational and experience requirements.

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## FROM THE PRESIDENT

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This issue of *MassBenchmarks* focuses on the implications of recent changes in federal tax laws and proposed changes to state tax policies in the context of a tightening labor market and a state and national economic expansion that is in its eighth year.

The issue begins with a review of conditions in the Massachusetts economy by UMass Amherst Professor and *MassBenchmarks* Executive Editor Robert Nakosteen. Professor Nakosteen's analysis highlights the burden that rising income inequality, soaring housing prices, and increasing congestion and commuting times are placing on our businesses and working families, particularly in the Greater Boston region. While most indicators suggest the Commonwealth's economic expansion is likely to continue through 2018, he rightly concludes that relieving these growth pressures will require the sustained attention of our public and private sector leaders.

The two feature articles in this issue of *MassBenchmarks* focus on the implications of recently enacted changes to the federal tax code and potential consequences of two proposed changes to state tax policy that may appear as state ballot questions for consideration next November. Nationally, the new limits of the deductibility of state and local tax payments — the so-called SALT deduction — have major implications for states like ours, where both household incomes and property values are relatively high, and state income and property tax payments can be sizable.

Fiscal and household implications of the changes to the SALT deduction are explored in the first feature article by Hunter College Professor Howard Chernick, a highly regarded national expert on this subject. In his careful and sobering assessment, Professor Chernick highlights the unprecedented nature of recent federal tax changes and the challenge they will present states like Massachusetts that have a strong commitment to the social safety net. Professor Chernick warns that limiting the deductibility of state and local tax payments will disproportionately disadvantage states like ours and make it more difficult for state leaders to adjust tax policies to meet the needs of our people and businesses.

Closer to home, the debate over a number of proposed ballot questions — including whether to raise the income tax on annual income earned above \$1 million and to lower the sales tax from 6.25 percent to 5.0 percent — has begun to heat up and is the focus of the issue's second feature article. In this piece, the UMass Donahue Institute's Branner Stewart interviews two leading participants in this debate: Eileen McAnneny from the Massachusetts Taxpayers Foundation and Noah Berger of the Massachusetts Budget and Policy Center. This insightful conversation provides perspective on a number of ongoing state policy debates that have generated considerable heat but precious little light.

Finally, the issue concludes with a thoughtful *Endnotes* examining conditions in the Commonwealth's white-hot labor market. In their analysis, *MassBenchmarks* Editorial Board members Dr. Mary Burke, Senior Economist at the Federal Reserve Bank of Boston, and Northeastern University Professor Alicia Sasser Modestino summarize presentations delivered at a recent Editorial Board meeting. State policymakers, business and labor leaders, and others who are interested in better understanding our job market are advised to consider their analysis carefully, as it has significant implications for workforce development and educational policymaking.

A handwritten signature in black ink that reads "Martin T. Meehan". The signature is written in a cursive, flowing style.

Martin T. Meehan, President  
University of Massachusetts

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## NOTES FROM THE BOARD

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### *The state's economy faces headwinds but continued expansion is expected.*

The state economy is “at the top of the cycle.” On all fronts things are going well. Unemployment is low and falling including in regions and among demographic groups that have been slow to benefit from an economic expansion that is now in its ninth year. State gross domestic product continues to grow steadily and while slowing, it continues to equal or exceed the national rate of economic growth.

The housing market is strong, as can be seen in healthy increases in home prices. This is, of course, a blessing to home owners but a burden to those looking to buy, many of whom are finding it increasingly difficult to find market rate housing at prices they can afford. This challenge is especially acute in the Greater Boston area. Multifamily home building has been robust, while single-family construction remains restrained, contributing to historically tight inventories in this segment of the market. Building is increasingly concentrated in the metropolitan Boston area, to the detriment of the remainder of the state.

The broadly defined tech sector accounts for the strong growth in employment. Professional, scientific, and technical employment has grown strongly. The foundational sectors of education and health care also continue to grow. State economic performance is linked, through its industry mix, to national and global growth. Massachusetts' continued economic expansion is predicated on the health of the U.S. economy, as well as economies around the world. At the moment, the future looks bright.

Over the long run, demographic projections make it clear that the growth and composition of the Commonwealth's labor force will constrain the pace of future state economic growth. These demographics represent “headwinds” as do structural problems in the match between the needs of growing employers and the skills and experience of the workforce. The slowing of growth in payroll employment in Massachusetts from 1.6 percent in 2016 to 1.2 percent during 2017 is a clear signal that labor supply is beginning to place downward pressure on our growth during a time when the Massachusetts economy is arguably operating at or rapidly approaching full capacity.

Most of our editorial meeting focused on state labor force issues in a discussion led by two Editorial Board members, Dr. Mary Burke from the Federal Reserve Bank of Boston and Dr. Alicia Sasser Modestino from Northeastern University.

Dr. Burke began the discussion by noting recent trends in labor force participation in the state and the nation. She highlighted the fact that Massachusetts has experienced a more moderate decline in its labor force participation rate than the U.S. since 2007, despite experiencing somewhat stronger demographic headwinds than the U.S. Between 2007 and 2017, the net decline in participation was 3.2 percentage points in the United States and just 1.2 percentage points in Massachusetts. Demographic trends contributing to declines in labor force participation included significant declines in the share of the adult population of prime working age (between the ages of 25 to 54) and increases in the share of workers that are 55 years old and older. In Massachusetts, the impact of these demographic trends was offset by two countervailing trends: a significant increase in the labor force participation rate of those over age 65, which grew by a larger margin than did the corresponding rate for the U.S., and flat participation among prime-age individuals compared with declines for the U.S. as a whole. Dr. Burke argued persuasively that these favorable participation trends in Massachusetts were the result of the state's highly educated workforce and its relatively more moderate experience during the Great Recession.

Professor Alicia Sasser Modestino then led a discussion on the role that skills mismatches and the “up-skilling” of job requirements have been playing in the state labor market during the current business cycle. Her research finds that a 1 percentage point reduction in the local unemployment rate is associated with a roughly 0.27 percentage point reduction in the fraction of jobs requiring at least a bachelor’s degree and a roughly 0.23 percentage point reduction in the fraction requiring five or more years of experience. In other words, the tighter the labor market, the more open employers are to reducing the education and experience required of their prospective employees. She also found that widely reported skills mismatches or skills gaps have been greater in magnitude and more persistent over the current business cycle in high-skill and highly specialized occupations.

*Prepared by Executive Editor Robert Nakosteen  
April 13, 2018*

THE STATE OF THE STATE ECONOMY

# ECONOMIC CURRENTS



## Near-Record GDP and Employment Spawn Increasing House Prices, Commuting Times and More

ROBERT NAKOSTEEN

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THE MASSACHUSETTS ECONOMY'S SUSTAINED ECONOMIC GROWTH FOLLOWING THE 2008 RECESSION CONTINUED IN THE LATEST QUARTER WITH VIBRANT GAINS IN GROSS DOMESTIC PRODUCT AND EMPLOYMENT. TWO ENGINES OF THAT PERFORMANCE — PROFESSIONAL BUSINESS SERVICES AND CONSTRUCTION — LED THE STATE IN ABSOLUTE GROWTH IN EMPLOYMENT. AT THE SAME TIME, SOARING HOUSE PRICE INFLATION, TRAFFIC CONGESTION, AND COMMUTING TIMES PLAGUED METRO BOSTON. SO HAS INCOME INEQUALITY, ESPECIALLY IN BOSTON, WHICH HAS THE NATION'S HIGHEST INCOME DISCREPANCY.

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## INTRODUCTION

The economic expansion in the state, which dates to August of 2009, is well into its eighth year. There is no statistical evidence that as an expansion ages, the likelihood of a downturn increases. Still, downturns do happen, and the state economy is certainly closer to a downturn than it is to the last upturn. To paraphrase St. Augustine, we may be due for a downturn, but please not today. Happily, little in the data gives rise for concern. At the national level, the economy is growing above trend, though pro-cyclical tax cuts and increased government expenditures may give rise to higher interest rates and inflation. State gross domestic product is growing strongly, as is employment, and the unemployment rate is near a historic low. Of course, all expansions bring about conditions that can prove problematic. Currently, these include rising house prices and a growing commuter population that is taxing the transportation infrastructure, both developing especially in metropolitan Boston. Perhaps most worrisome, after years of adding employment, the state—especially in metropolitan Boston—may be

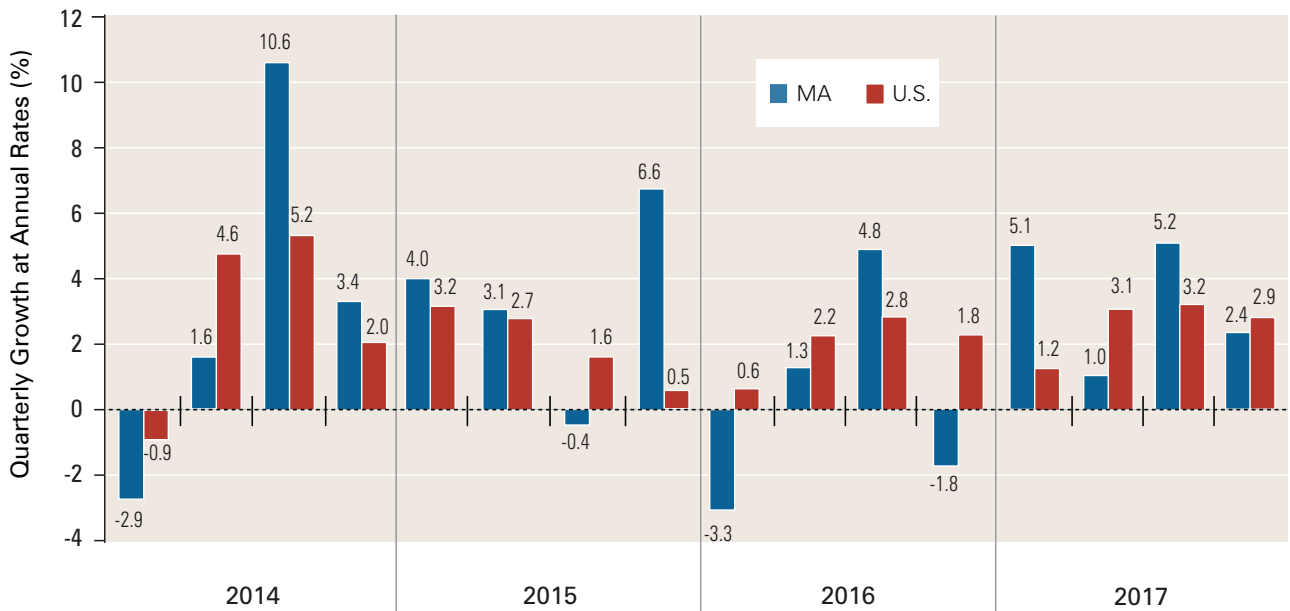
running short of qualified workers. And the aforementioned conditions may constrain the state economy’s ability to import workers to replenish the labor force.

## STATE OF THE STATE ECONOMY

### Output, Employment, and Unemployment

State gross product, employment, and unemployment are all riding the crest of continuing national expansion. The *MassBenchmarks* Current Economic Index tracks state gross product, the most comprehensive measure of the economy. The Index remains tied to national GDP change, though state economic performance has been alternately above and below national performance in seemingly random fashion, as illustrated in the figure below. This pattern probably doesn’t reflect volatility in the state economy, but presents a measurement issue that can affect all state-level data. Interpreting the state index probably calls for analysis that exceeds a single quarter. Since the beginning of 2015, state growth (2 percent annualized) has exceeded national growth (1.8 percent annualized).

**Growth in Real Product, Massachusetts and the United States  
2014 Q1 – 2017 Q4**



Source: U.S. Bureau of Economic Analysis (BEA); Dollars are in chained 2009 dollars. Calculations by the author.

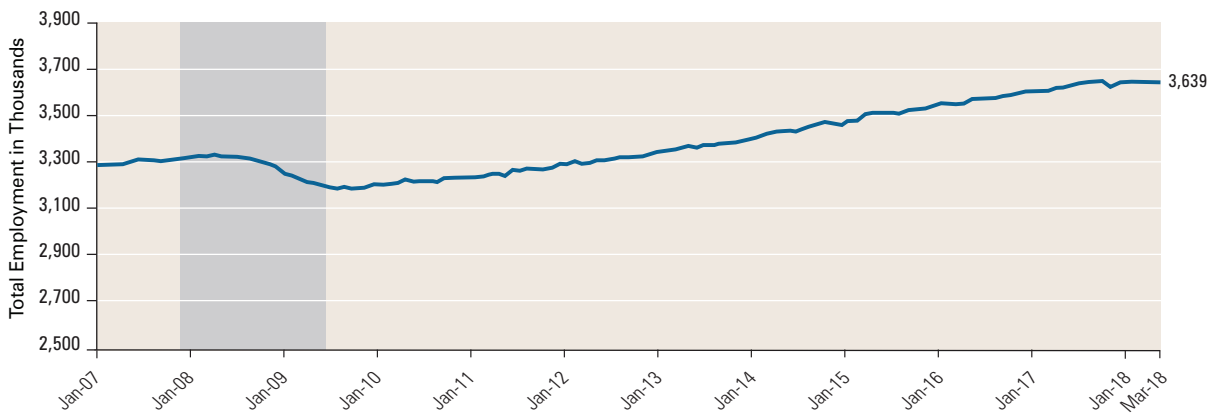


Employment growth has been steady and strong since the end of the recession in 2009, during which the state has added nearly 450,000 jobs. Since January of 2015, through December of last year, 119,000 jobs have been added. This is remarkable job growth in a state burdened with historically slow labor force growth. Unemployment has fallen in parallel with job growth. The headline state unemployment rate now stands at 3.5 percent, below the national rate of 4.1 percent. The U-6 unemployment rate has also fallen steadily since reaching over 15 percent in 2009. The U-6 rate includes not only the unemployed but also those working part time who would work full time if it were available, as well as those

who have dropped out of the labor force but would re-enter if there were a job available. The most recent state data for the U-6 rate puts the figure at 7.1 percent, compared with a national rate of 8.0 percent.

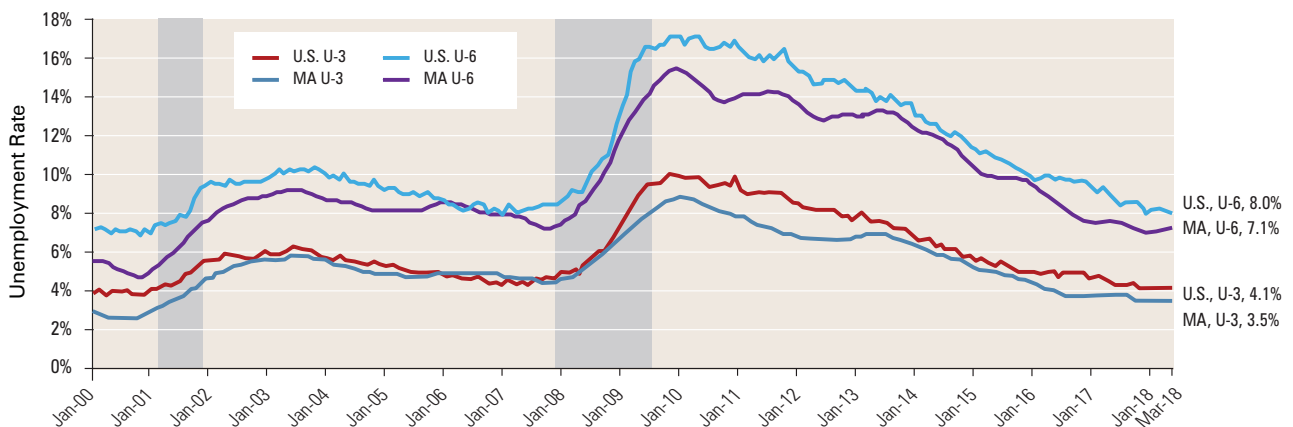
Over the 12 months from March 2017 through March 2018, employment in all industry sectors grew by 41,800, or 1.2 percent. Professional and Business Services (16,400)—a mainstay of the state economy—experienced the largest absolute growth in employment. Construction netted the largest share of employment gain in percentage terms, growing by 7.7 percent. Public administration lost the most jobs, year-over-year, and Information stayed level. Note that the Information sector

### Employment, Total Nonfarm, Massachusetts January 2007 – March 2018 *Seasonally adjusted*



Source: Massachusetts Executive Office of Labor and Workforce Development (EOLWD), Current Employment Statistics (CES-790). Shaded areas indicate periods of recession; recession dates were obtained from the National Bureau of Economic Research (NBER).

### U-3 and U-6 Unemployment Rates, Massachusetts and the United States January 2000 – March 2018



Source: Massachusetts and United States U-3 from the Massachusetts Executive Office of Labor and Workforce Development (EOLWD), Local Area Unemployment (LAU) Statistics; Massachusetts and United States U-6 rates from Dr. Alan Clayton-Matthews. Shaded areas indicate periods of recession; recession dates were obtained from the National Bureau of Economic Research (NBER).

## Job Growth in Massachusetts by Industry since Last Year

*Seasonally adjusted*

Industry Supersectors	Employment in March 2017	Employment in March 2018	Employment Change	Employment Percentage Change
Natural Resources & Mining	1,100	1,100	0	0.0%
Construction	149,200	160,700	11,500	7.7%
Manufacturing	244,100	246,600	2,500	1.0%
Trade, Transportation & Utilities	578,500	580,400	1,900	0.3%
Information	91,500	91,500	0	0.0%
Financial Activities	221,500	221,600	100	0.0%
Professional & Business Services	564,100	580,500	16,400	2.9%
Education & Health Services	793,200	795,000	1,800	0.2%
Leisure & Hospitality	366,400	375,200	8,800	2.4%
Other Services, excluding Public Administration	137,100	138,000	900	0.7%
Public Administration	452,400	450,300	-2,100	-0.5%
<b>Total, All Industries</b>	<b>3,599,100</b>	<b>3,640,900</b>	<b>41,800</b>	<b>1.2%</b>

Source: Massachusetts Executive Office of Workforce and Labor Development (EOWLD), Current Employment Statistics (CES-790); Calculations by the authors.

includes a mix of traditional and new wave subsectors. Some of the traditional group subsectors that have lost jobs in the recent past are newspaper publishers, sound recording studios, and radio and television broadcasters.

### Housing Costs and Commuting

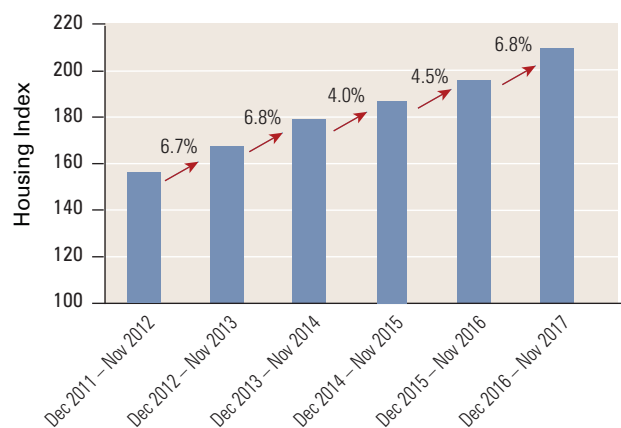
There is always a downside to sustained economic prosperity. Higher housing costs, greater congestion, longer commuting times, and increased economic inequality can plague flourishing regions. In the metropolitan Boston area, the hub of economic dynamism in the state, increasing housing costs and increasing commuting times are twin consequences of prolonged economic growth. High and increasing housing costs near Boston push home buyers further out from the city center, increasing commuting and congestion. The data bear out these conclusions.

The house price data derive from the repeat sales Case-Shiller series which tracks the purchase and subsequent resale of single-family residential property in major metropolitan areas within the United States. The Case-Shiller Index is preferable to alternative measures of housing prices because it is longitudinal. Other indexes, which measure the selling price of houses in a given year, are subject to influence by the mix of houses sold in any one year. If, in a given year, unusually expensive houses are purchased, the average selling price can rise inordinately. If in the prior year the mix of houses sold does not include a heavy dose of expensive houses, the growth in the house price index from one year to the next will be in large part a measure of the mix of houses sold. By

tracking the prices of repeat house sales, the Case-Shiller series is impervious to this mix effect.

House prices in Boston have steadily increased in the years following the Great Recession. In every 12-month period for the past six years, the Case-Shiller has shown a steady increase in housing prices, consistently outpacing the general rate of inflation. The cumulative impact of these year-to-year price increases has been striking, pushing homebuyers further from Boston in search of more reasonable prices. As this search for affordable housing pushes ever outward, the time it takes to commute back into Boston increases *pari passu*. This pattern can be seen

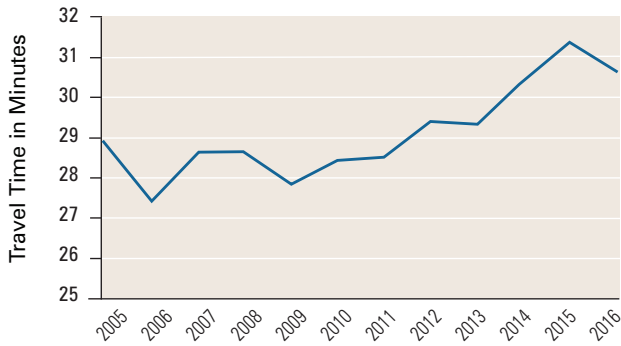
### Housing Prices in the Boston Metro Area 2011 – 2017



Source: CoreLogic, a data and analytics company.

in the average time to work in the Metro Boston area, which has been increasing steadily, if not monotonically, since 2009.

### Average Travel Time to Work in Boston Metro Area 2005 – 2016



Source: U.S. Census Bureau, S0801 (Commuting Characteristics by Sex); The Boston Metro Area is defined as Middlesex and Suffolk counties.

In spite of indications that older workers are working longer (see this issue’s *Endnotes* for a discussion), perhaps the state’s leading challenge is its replenishment of an aging labor force. As retiring workers create employment opportunities, in-migration becomes a potential means to fill jobs. There is a long-standing pattern of workers migrating to regions where employment is growing and job opportunities are plentiful. In-migration can be stymied, however, by the daunting prospect of buying an affordable home at a reasonable commuting distance from work. This has long been a problem in the greater Boston area. Indeed, domestic in-migration from the area and from the state has been persistently negative. These labor-force constraints may soon become binding, hampering continuing economic growth. In other words, the public-policy challenge of promoting affordable housing and improving the transportation infrastructure will be ever more important in the future.

### Income Distribution

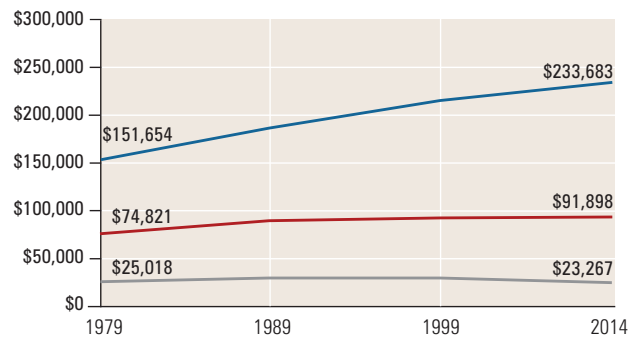
Growing income inequality in Massachusetts has become an urgent social issue. That is especially compelling in Metro Boston, where extreme disparities of income have been implicated in slowed economic growth, financial instability, decreasing social mobility, and political polarization.

To illustrate the increasing disparity of incomes, we have divided median family income into quintiles, each containing 20 percent of the state’s families. The analysis covers 1979 through 2014. The data are all in 2016 dollars. For the state as a whole, the divergence of the

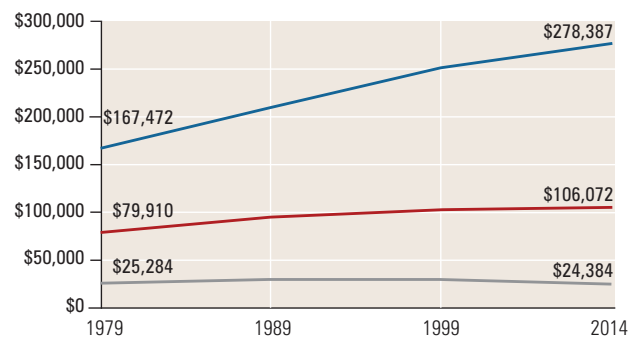
highest and the lowest income quintiles has increased. Family income in the lowest quintile has actually fallen, from just over \$25,000 to just over \$23,000. Over the same period, family income in the highest quintile has increased from over \$151,000 to over \$233,000. In 1979, the gap between the highest and lowest quintile was \$126,636. By 2014, this gap had reached \$210,416.

Family income trends in Metro Boston have been even more pronounced. As with the state, median family income for the lowest quintile families has fallen, from just over \$25,000 to just over \$24,000. For the highest income quintile, median family income has grown from over \$167,000 to over \$278,000. From another perspective, the gap between the lowest and highest median family income levels has grown from \$142,188 to \$254,003. A Brookings Institution study released in 2016 found that Boston topped the list among cities with the greatest disparity in incomes; the Boston metro area ranked sixth on the corresponding list of metro areas. (See References.)

### Massachusetts Family Income Trends



### Greater Boston Family Income Trends




— Lowest 20% — Middle 20% — Highest 20%

Sources: American Community Survey 1-year 2015; Decennial Census 1980, 1990, 2000; UMDI analysis and calculations. Note: Data in real 2016 dollars using the BLS CPI-U Boston (NSA).

Income inequality is an inevitable byproduct of economic dynamism. Technological advancements reward those who generate them, as well as those with the skills to implement them. This is certainly part of the story in our state, especially in Boston. Other factors have also contributed to this narrative. Increased automation, globalization, the decline of labor unions, and tax policy have contributed to the widening gap between the rich and the poor. With that said, a public policy role in addressing the issue is a daunting but critical challenge for the state and the nation.

## CONCLUSION

The Massachusetts economy's sustained growth following the 2008 recession will likely continue in spite of the expansion's longevity. The global economy, in fact, is gathering strength, with many nations experiencing faster economic growth than the United States.

At the same time, the state's prosperity has triggered adverse byproducts. These include house price inflation that exceeds overall inflation, traffic congestion and ever-longer commuting times, and increasing income inequality. All present serious challenges—challenges that underscore the value of strategic partnerships between the private and public sectors. Neither sector can right the ship by itself. 

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*ROBERT NAKOSTEEN is a professor of economics at the Isenberg School of Management at UMass Amherst and Executive Editor of this journal.*

## References

“Overlooked Workers Are Finding it Easier to Land Jobs,” Boston Globe, January 6, 2018, <https://www.bostonglobe.com/business/2018/01/06/tight-labor-market-employers-look-out-overlooked-workers/yoo8LzrL9Bi4AaKMvlvL4K/story.html>

“City and Metropolitan Inequality on the Rise,” the Brookings Institution, 2016, <https://www.brookings.edu/research/city-and-metropolitan-inequality-on-the-rise-driven-by-declining-incomes/>



# The 2017 Federal Tax Cuts and Jobs Act: Its Impact on Massachusetts and New York

HOWARD CHERNICK

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THE TAX CUTS AND JOBS ACT (TCJA), WITH ITS \$10K CAP ON DEDUCTIBILITY, WILL DIMINISH NATIONAL COMPETITIVENESS AND CHALLENGE THE ESTABLISHED TAX STRUCTURES OF MODERATE-TAX STATES LIKE MASSACHUSETTS AND HIGH-TAX STATES LIKE NEW YORK. REDISTRIBUTIONAL EFFORTS WILL PROVE CHALLENGING, ULTIMATELY YIELDING MORE REGRESSIVE TAX SYSTEMS WITH REDUCED SPENDING ON THE NEEDY. ACCORDING TO THE AUTHOR, UNTIL THE TCJA'S REPEAL OR REPLACEMENT, STATES LIKE MASSACHUSETTS AND NEW YORK SHOULD CONSIDER TAX CREDITS FOR CHARITABLE INSTITUTIONS, TARGETING CONTRIBUTIONS TO PUBLIC SERVICES.

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## Introduction

The 2017 Tax Cuts and Jobs Act (TCJA) cuts individual income tax rates (ranging from 0 to 4 percentage points), almost doubles the standard deduction (to \$24,000 for married couples filing jointly), eliminates personal exemptions, and places important limitations on deductions for itemizers. On the business side, the Act cuts federal corporation income tax rates from a nominal 35 percent to 21 percent, provides special benefits to pass-through entities, and changes the treatment of foreign source income earned by multinationals.

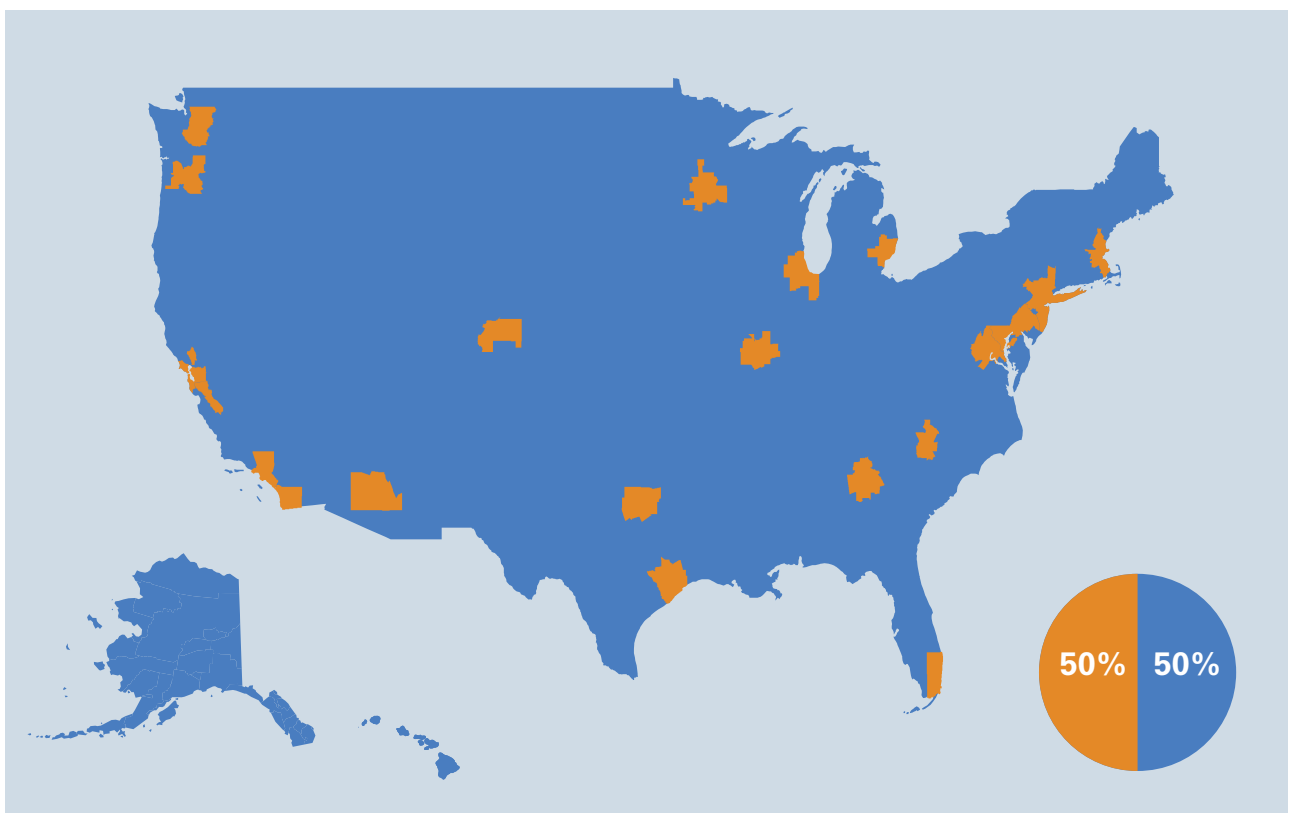
From the point of view of states and cities, the most important change is the limitation in the deductibility of state and local income, sales, and property taxes to \$10,000. A second important change is an increase in the exemption level for the Alternative Minimum Tax (AMT) and a slower rate of phase-out of the AMT. This change in tax law has a significant effect on Massachusetts residents. Nearly 35 percent of Massachusetts tax filers took state and local tax (SALT) deductions in 2015, the most current year with available data.

Before discussing the potential impact of the cap on deductibility, it is useful to review the rationale for allowing the deductibility of state and local taxes under the federal income tax. There is long legal precedent, going all the way back to the introduction of the federal income tax in 1913, which allows taxpayers to deduct some or all of state and local taxes. The legal rationale is that state and local taxes on individuals are involuntary payments that reduce taxpayers' ability to pay federal taxes. Disallowing deductibility is equivalent to imposing a tax on a tax and violates the basic tax principle that equals should be treated equally.

State sovereignty under our federalist system is also important. Under the 10<sup>th</sup> Amendment to the U.S. Constitution, powers not specifically delegated to the federal government are reserved to the states. However, reserving power to the states, in the absence of fiscal autonomy, is meaningless. This sentiment goes all way back to Alexander Hamilton, who worried that federal taxation, by gaining first claim on shared tax fields, could preempt the ability of states to raise revenue.<sup>1</sup> The 2017 Tax Act chips away at the fiscal autonomy of states, by raising the cost to residents of financing state and local government.

The economic rationale for deductibility is twofold. First, the cost of living differs substantially across states and cities. Cities are more expensive than rural areas, and some regions (states) are more expensive than others. For example, family budget estimates from the Economic Policy Institute indicate that the cost of living for a family of four living in Boston or New York City is at least 60 percent higher than in most counties in Missouri or in Houston, Texas.<sup>2</sup> The higher costs reflect primarily the higher cost of housing in the Boston and New York City metro areas and the higher cost of public services. Housing costs are higher than in less dense areas of the country in part because the costs of land are higher.<sup>3</sup> Land is more expensive precisely because there are enormous benefits from locating a wide range of economic activities close together. These benefits—known as economies of agglomeration—result in higher productivity, higher rates of innovation, and faster rates of increase in output per worker. The higher productivity of cities and their metro areas is vividly illustrated by the following map, which shows that half of the output of the U.S. is produced in a small number of cities and their surrounding areas.

### United States Economic Activity, Split in Half



Source: U.S. Bureau of Economic Analysis (BEA), Current-Dollar Gross Domestic Product (GDP) by Metropolitan Area, 2016

The nation benefits directly from this greater productivity in terms of higher levels of tax revenue. In 2015, the average tax liability per return was \$15,200 in Massachusetts and \$14,236 in New York State, 48 percent and 40 percent greater, respectively, than the average for the U.S. Given the progressivity of the federal income tax, the average tax rate in the richer states is as much as double the average rate in the poorer states. Note that these large differentials exist even though SALT deductibility is much more important in both states than in the nation as a whole.

Higher costs of living in large cities are also reflected in the differential costs of public services, particularly in the cost of labor. To purchase the basic services of government—education, police and public safety, clean air and clean water, transportation, sewerage and sanitation—firms and households pay more than in lower-cost areas of the country.

Higher costs of living are not directly reflected in federal tax rates, which are uniform for given amounts of taxable income.<sup>4</sup> Deductibility of state and local taxes is a way of taking account of these regional differences in the cost of public services, while deductibility of home mortgage interest helps to offset housing cost differentials.

A second reason for higher costs of government in relatively high-tax states such as Massachusetts and New York is that state and local governments in these states undertake substantial redistributive spending to provide health care, housing, cash assistance, and other goods and services to low-income families and individuals. Cities are effectively the service providers of last resort for the needy, and nowhere is this more marked than in high-cost areas such as Boston and New York City. For example, the rise in homelessness, propelled by increases in housing costs and coupled with the gradual withdrawal of federal support, has increased the costs borne by cities.<sup>5</sup> In effect, federal deductibility helps to subsidize redistributive activities, many of which are more effectively provided locally than nationally.

On the tax side, deductibility is widely viewed as reducing the progressivity of state and local tax systems (as well as the federal income tax). This is because the probability of itemizing increases with income, as does the marginal tax rate, so that higher-income taxpayers are able to offset their state income and property taxes at a higher rate. However, my own research has found that states with a greater rate of itemization tend to offset the direct regressivity effect of deductibility through greater reliance on income taxation, which tends to be more progressive than taxes on consumption.<sup>6</sup> Based on incidence measures for 1977, 1985, and 1991, I found that a 10 point decrease in percentage itemizing would decrease progressivity (net of the federal offset) by about

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*State economies will suffer as the cap on deductibility raises the relative cost of locating in Massachusetts or New York State, compared with low-tax states such as Florida or Georgia, thus deterring the most mobile households from moving to (or staying in) the now higher-cost states.*

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12 percentage points, from 0.68 to 0.56, or about 18 percent. This result means that the average state tax rate on the top 20 percent of taxpayers, relative to the bottom 20 percent, would go from 0.68 to 0.56. My research thus suggests that a weakened SALT deductibility option will lead to lower state and local tax burdens on high-income taxpayers and to higher burdens on low-income taxpayers.

State economies will suffer as the cap on deductibility raises the relative cost of locating in Massachusetts or New York State, compared with low-tax states such as Florida or Georgia, thus deterring the most mobile households from moving to (or staying in) the now higher-cost states.

Contrary to the usual argument that SALT deductibility is regressive, I would argue that the overall effect is to increase the degree of redistribution in the federal system. Absent this type of subsidy, state and local tax and benefit systems are more vulnerable to a race to the bottom, where the lowest-tax states, and least redistributive fiscal systems come to dominate. At particular risk is school finance equalization—essentially the transferring of fiscal resources from relatively rich metro areas to poorer areas of a state (e.g., from the New York City metro area to Buffalo, or from the Boston area to western Massachusetts)—the major redistributive activity of most state governments.

### **Previous Limitations on Deductibility**

Under the guise of federal tax reform, various attempts have sought to limit the deductibility of state and local taxes. Currently, taxpayers can deduct either the income tax or the sales tax, but not both. The evidence shows that this limitation has not had a significant effect on state and local tax structures or levels of taxation. More significantly, the Alternative Minimum Tax, first introduced in 1969, includes state and local taxes as a preference item. This means that for taxpayers subject to

the AMT, the value of the deduction for state and local taxes is substantially reduced.<sup>7</sup> The impact is greatest in states with high state and local taxes. For the nation, in 2015 4.5 percent of all filers were subject to the AMT, whereas the rate for Massachusetts was 5.1 percent, and 8.5 percent for New York State. In 2015, almost all Massachusetts filers with AGI between \$200,000 and \$500,000 itemized their deductions, but 71 percent of this group were subject to the AMT (84 percent in New York State). This means that for most of the 12 percent of over \$50,000 filers with adjusted gross income between \$200,000 and \$500,000 in Massachusetts, the AMT treatment of state and local taxes as a preference item means that the marginal tax price of an additional dollar of state or local income or property taxes was effectively one. In other words, there was no change in the federal tax bill for a one-dollar increase in state or local taxes. Rough simulations show that state and local taxes would have to be reduced from over \$24,000 (\$32,000 in New York State) to roughly \$10,000 for this income bracket to face substantially reduced exposure to the AMT.

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*The difference between high, moderate, and low-tax states is that in the high-tax states, such as New York, California, and Maryland, the average amount of state and local tax deductions at the high end vastly exceeds the deductions for moderate and low-tax states.*

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Under prior law, deductibility of SALT caused the marginal tax price to be reduced the most for taxpayers with incomes greater than \$1 million. High-income taxpayers face the highest federal marginal tax rates, are almost all itemizers—and in contrast to the 200–500 class—only a small percentage are subject to the AMT. In 2015, for every additional dollar of state or local taxes paid by taxpayers with AGI greater than \$1 million, regardless of what state they reside in, the marginal tax price was roughly 0.77 cents.

The difference between high, moderate, and low-tax states is that in the high tax states, such as New York, California, and Maryland, the average amount of state and local tax deductions at the high end vastly exceeds the deductions for moderate and low-tax states. In 2015,

Massachusetts had average SALT deductions for the over-\$1 million AGI class of about \$250,000. The Massachusetts amount *is very close to the national average*, but is about twice as high as the average SALT in New Hampshire, and only half the amount in New York State and California.

Some 37 percent of filing units in Massachusetts itemized deductions in 2015 (44 percent in New York State). If we take account of the role of the AMT in attenuating the effect of deductibility, rough calculations suggest that for taxpayers with AGI greater than \$50,000, allowing deductibility of state and local taxes reduced the marginal tax price for an additional dollar of state taxes in Massachusetts and New York State by about 13 cents in 2015 (i.e., from one dollar 87 cents). If one weights marginal tax prices, not by the percentage of returns in each AGI class, but by the percentage of AGI in each class, (which gives greater weight to filers with AGI greater than \$500,000), the average marginal tax price drops to 0.83 in Massachusetts, and to 0.85 in New York State). If we weight by the share of total SALT deductions paid by each AGI class, the tax price stays about the same in Massachusetts, but falls by several points in New York State (and in California). The difference between Massachusetts and New York State/California reflects the fact that New York and California's tax systems have substantially higher income tax rates at the top of the income distribution than does Massachusetts. Compared with the Commonwealth, their tax systems are significantly more progressive.

Thus, even with the growing importance of the AMT, deductibility provides a powerful incentive for all states, including high tax states such as New York, and moderate tax states such as Massachusetts, to have more progressive tax systems, a higher level of taxes, and a more redistributive public sector. Given the increasing concentration of income at the top of the income distribution, the importance of deductibility in influencing the tax behavior of the rich has potentially increased over time. The likely effect on state tax choices depends on who counts more in the political economy of state and local tax choices. The greater the extent to which higher-income taxpayers dominate the political process, the greater will be the negative effects of the cap on deductibility on states' ability to raise revenue through progressive tax instruments.

The AMT is substantially revised under the TCJA, by raising the exemption level and reducing the phase-out rate for the exemption. The result is that many fewer taxpayers in New York State and Massachusetts will be subject to the AMT.<sup>8</sup>

The cap of \$10,000 on the amount of SALT deductions means that the AGI-weighted marginal tax price in



Massachusetts will rise from about 0.84 to one for itemizers whose SALT deductions exceed \$10,000.<sup>9</sup> This represents a non-trivial increase in the price of public services for Massachusetts and New York taxpayers.

### Does the price effect matter?

There is considerable research evidence that the tax price has an effect on state and local tax decisions, with greater reliance on deductible taxes in states where the marginal tax price is relatively low.<sup>10</sup> An opposing view is that taxpayers either ignore or are unaware of the marginal tax price, and instead care only about the total amount of taxes they have to pay.<sup>11</sup> Under this view, the immediate effect of the reduction in personal taxes under the TCJA for those taxpayers no longer subject to the AMT and for those who will benefit from a reduction in personal and corporate income tax rates (what economists call the income effect) will be to allow states such as New York and Massachusetts to maintain or even increase their levels of taxation.

My own research on tax progressivity, as cited above, suggests that over time, itemization and the price effect have a substantial effect. This may not play out immediately, but when the next recession comes, as it inevitably will, New York and other income-tax reliant states will find it much harder to increase top income tax rates, as many did in 2008 and 2009. If they do increase rates, the burden will fall completely on high-income taxpayers in the affected states, as opposed to sharing the cost with the federal government when SALT deductibility was allowed. In the same way, cities heavily reliant on the property tax such as Boston will find it much harder to raise property taxes to offset revenue losses from other sources such as state aid. In short, income effects are likely to matter more in the short run, while price effects matter more in the long run.

The TCJA partially offsets the loss of deductibility by lowering marginal tax rates. For the top income bracket, rates go down from 39.5 percent to 37 percent. In addition, cuts to the corporate tax rate and favorable treatment of pass-through entities will ultimately lower tax burdens on the highest income taxpayers. In principle, these reductions, by lowering the federal tax bill for at least some high-income taxpayers, could free up taxable income. This effect potentially works in the opposite direction to the deductibility cap, by offsetting the increased resistance to state and local taxes induced by the cap on deductibility.

The Institute for Taxation and Economic Policy estimates that the average reduction in taxes for the top 1 percent of taxpayers in Massachusetts is \$84,720. In New York State, the reduction equals \$30,000.<sup>12</sup> Almost all of the top 1 percent of taxpayers would get a

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*The increases on individual families, according to ITEP estimates, are more than offset by the reduction in the rates on pass-through entities and corporations.*

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reduction, while in New York State 56 percent of the top 1 percent group would face a tax cut, while 43 percent would have a tax increase. However, when ITEP breaks out the components of the tax change, the average *individual* tax bill for the top 1 percent of families would increase by \$5,640 in Massachusetts, and \$62,050 in New York. The increases on individual families, according to ITEP estimates, are more than offset by the reduction in the rates on pass-through entities and corporations. The increase on the personal side reflects primarily the cap on deductibility. Since the personal income tax changes are more readily visible and more specific than the business tax reductions, I expect top income taxpayers to respond more immediately to the personal tax increase than to the delayed and indirect increase in income from tax cuts to business, particularly the cuts in the corporation income tax rate. Thus, I would argue that the income effect in high-tax states would also push in the direction of lower state and local taxes.

### **If overall federal tax burdens on high-income taxpayers, including the corporate rate cuts, go down, even temporarily, can or will Massachusetts (or New York) take advantage of the freeing up of the potential tax base to maintain (or even increase) top tax rates under the income tax?**

The literature on so-called vertical tax competition is ambiguous on this front. Some researchers<sup>13</sup> find a positive relationship between federal taxes and state taxes, implying that the reduction in federal rates would lead to a *reduction* in state rates. By contrast, others<sup>14</sup> introduce tax burdens by income class into this question. They find that a reduction in federal tax rates at the top is offset in part by an increase in state rates. However, these studies examined federal-state fiscal relationships in periods where tax rates were changing, but the deductibility rules remained intact.

At this point, it is unknown whether Massachusetts, New York, or other relatively high-tax states will find the political will to maintain their progressive tax

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*California, which is flourishing economically despite a top rate of 13 percent, demonstrates the extent to which large states with vibrant economies can support relatively high tax rates on the top of the income distribution.*

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systems after TCJA, or avoid the reduction in top rates encouraged by the capping of deductibility. Part of the answer depends on how incomes evolve in the next few years. If economic forces cause the before-tax income of top AGI taxpayers in both states to continue to increase more rapidly than average incomes, then the states and their cities could maintain public services and keep their commitments to the needy by maintaining or even raising income tax rates on the top group, without causing undue harm to the local and state economies. California, which is flourishing economically despite a top rate of 13 percent, demonstrates the extent to which large states with vibrant economies can support relatively high tax rates on the top of the income distribution.

#### **How should high tax states respond to the TCJA?**

As a short-term response to the TCJA, a number of states have explored the idea of providing tax credits for charitable contributions and using the increased contributions to fund some public services. Bankman et al. review the long history of allowing what they call full deduction of charitable contributions earmarked for specific types of public services, and find considerable support for such actions.<sup>15</sup> Legislators in Illinois recently introduced a bill that would provide scholarship funds to low-income school children (defined as 400 percent or less of the Federal Poverty Line) to be paid for by charitable contributions. These enhanced contributions would be eligible for a full offset credit on the Illinois state income tax. This option is made more attractive since the tax act repealed the cap on charitable contributions. *Until the TCJA can be repealed or replaced and balance restored to our system of fiscal federalism, this option should be vigorously pursued by policy makers in Massachusetts and New York.*

#### **Conclusion**

The \$10,000 cap on deductibility under the new tax bill will make it more difficult for high-tax states such as New York and moderate-tax states such as Massachusetts to maintain their prior tax structures. State and local governments will face pressure to lower taxes, or forgo tax increases, even in periods of recession. Massachusetts will face greater tax competition from lower-tax neighboring states, particularly New Hampshire. New York will become less competitive compared to all other states in the U.S. The most productive areas of the country, dense urban agglomerations such as New York City and Boston, with higher costs of living, are particularly hard hit. The result will be a decline in national competitiveness. The redistributive efforts of states will become more difficult to support. Over time, state tax systems will become more regressive, and spending on the needy will be curtailed. A number of states, including New York, have proposed potential work-arounds to reduce the impact of the deductibility cap. With that said, the only real hope, in my view, is that a change in the distribution of national political power from red to blue states will lead to a moderation or outright repeal of the unprecedented assault on the basic principles of fiscal federalism which are part and parcel of the 2017 Federal Tax Cuts and Jobs Act. ◀

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#### **Endnotes**

- 1.) Alexander Hamilton, Federalist No. 31, in *The Federalist Papers*, ed. Clinton Rossiter (New York: New American Library, 1961), 189-192.
- 2.) <https://www.epi.org/resources/budget/budget-map/>
- 3.) Albouy and Ehrlich estimate that on average land costs comprise about one third of the cost of housing in metropolitan areas. The range is from 15 percent in the lowest cost share to 50 percent in the highest cost share metro areas. New York ranks first, and Boston 11th in differential land prices. Albouy, David, and Gabriel Ehrlich, 2015. "Metropolitan Land Values and Housing Productivity" August 31, 2015. Available at <http://davidalbouy.net/landvalues.pdf>
- 4.) There is no feasible way to make precise and politically acceptable adjustments for cost of living differentials under the federal income tax.

- 5.) The NYC Independent Budget Office reports that NYC spent almost a billion dollars out of its own funds for shelter services for the homeless in 2017.
- 6.) Howard Chernick, 2005. "On the Determinants of Sub-National Tax Progressivity in the U.S." *National Tax Journal*, March 2005. Gilbert Metcalf, *Journal of Public Policy and Management*, Vol. 12, Number 1: Winter 1993, finds that state income taxation is particularly responsive to the preferences of the highest income taxpayers.
- 7.) Deductibility is further curtailed by the Pease Amendment, which reduces the total amount of itemized deductions by 3 percent of every AGI dollar that exceeds \$313,800 (for joint filers).
- 8.) <https://www.kitces.com/blog/final-gop-tax-plan-summary-tcja-2017-individual-tax-brackets-pass-through-strategies/>
- 9.) In 2015, the average SALT deduction exceeded \$10,000 for Massachusetts taxpayers with AGI greater than \$100,000. In New York, the average deduction for the 75,000-100,000 AGI class was very close to \$10,000.
- 10.) See Gilbert Metcalf, "Assessing the Federal Deduction for State and Local Tax Payments." *National Tax Journal*, June 2011, 64 (2, Part 2), 565-590.
- 11.) Sammartino (2017) argues that the price effects of SALT deductibility are not very strong. "Repeal of the State and Local Tax Deduction." Tax Policy Center, Brookings Institution Urban Institute. Available at <http://www.taxpolicycenter.org/publications/repeal-state-and-local-tax-deduction/full>
- 12.) Institute for Taxation and Economic Policy. "The Final Trump-GOP Tax Plan: National and 50-state estimates for 2019 and 2027." Available at <https://itep.org/finalgop-trumpbill/>.
- 13.) Alex Esteller-Moré, Albert Solé-Ollé, "Vertical income tax externalities and fiscal interdependence: evidence from the U.S.." *Regional Science and Urban Economics* (2001) 31 (April): 247-272.
- 14.) Chernick and Tennant, "Federal-State Tax Interactions in the U.S. and Canada." *Publius: The Journal of Federalism*, Vol. 40, No. 3, Summer 2010, pp. 508-533.
- 15.) Bankman et al, "Federal Income Tax Treatment of Charitable Contributions Entitling Donor to a State Tax Credit," UCLA School of Law, Law-Econ Research Paper No. 18-02.



# Current Issues in Massachusetts Taxation Policy: An Interview with Noah Berger of the Massachusetts Budget and Policy Center and Eileen McAnneny of the Massachusetts Taxpayers Association

BRANNER STEWART

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A WIDE-RANGING DISCUSSION OF CURRENT TAX POLICY ISSUES EXPOSES AN OFTEN INEFFICIENT SYSTEM IN NEED OF GREATER TRANSPARENCY THROUGH THE EVALUATION OF SPENDING PRIORITIES AND TRADE-OFFS. DISCUSSANTS ADDRESS THE CONTENTIOUS PROPOSAL OF INCREASING REVENUES THROUGH A PROPOSED “MILLIONAIRE’S INCOME TAX.” THEY ALSO DISCUSS BUSINESS COMPETITIVENESS, OUTMIGRATION, SOCIOECONOMIC EQUITY, AND DISTRIBUTIONAL ACCOUNTABILITY.

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**Is Massachusetts running a structural deficit? What are the latest trends in revenue flows and do we have enough money to meet our needs?**

*Massachusetts Taxpayers Foundation (MTF):* There is a structural deficit in Massachusetts—we are spending more than we are taking in. The good news is that the gap between revenues and spending is narrowing. The Massachusetts Taxpayers Foundation estimates a \$400 million gap for FY 2019 compared with a \$3 billion gap in FY 2010. While the gap between revenues

and spending has been closing during recent years, overall state revenues have not been growing at the same degree as in previous expansions. Massachusetts revenue growth has not been as robust in the present recovery and that’s true of most states. There are several reasons for this. One reason is that this economic recovery differs substantially from its predecessors. In effect, we have traded stronger tax revenue growth over a shorter time period for longer sustained growth. We are now almost into the ninth year of economic recovery. A more typical economic cycle would have brought us back into

recession after about seven years. While we have had very slow revenue growth in recent years, it is better than the alternative, which would have us facing the more severe budget challenges that come with a recession. In many ways, this prolonged growth is good news. On the other hand, Massachusetts has not adapted its spending practices to reflect this more modest tax revenue growth. For example, tax revenues have been coming in at less than 2.0 percent growth annually in the past two years. The state is hoping for revenue growth of 3.5 percent in the coming fiscal year. The slow growth in tax revenues in conjunction with higher spending in non-discretionary spending areas like healthcare, pension obligations, and debt service (see Figure 1), have led to the structural imbalance in Massachusetts between revenues and spending.

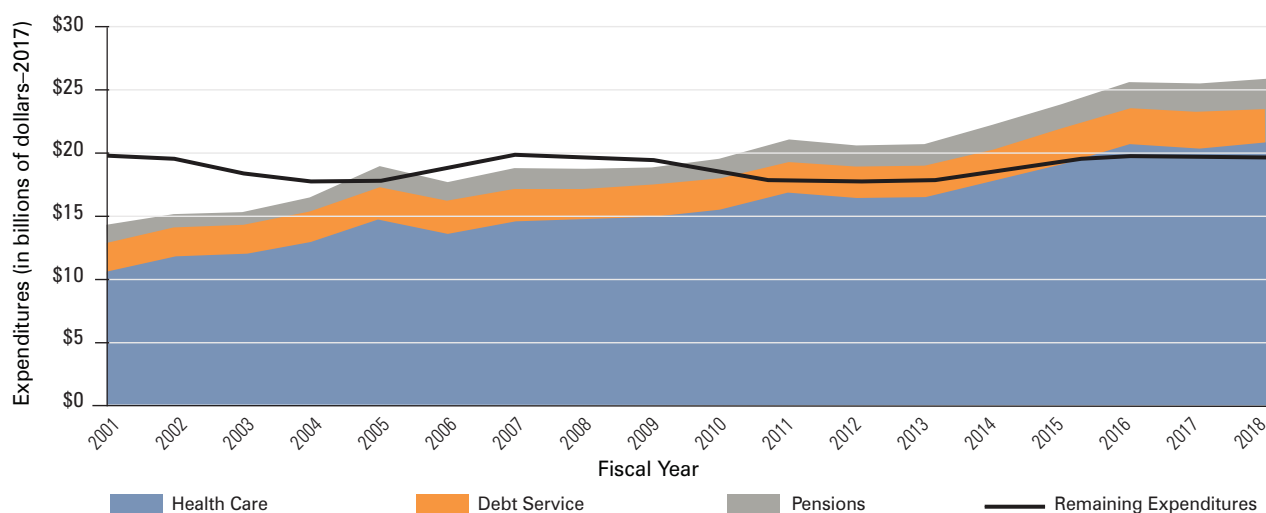
Your question of whether we have enough money to run the government is more philosophical. First, you have to ask what you expect from state government—and this differs among groups. The Commonwealth would have a difficult time funding all of the policies and programs important to all the various constituencies around the state. Without sufficient funds to cover everything, we must identify priorities and consider various trade-offs among these decisions.

**Massachusetts Budget and Policy Center (MassBudget):** In prior recoveries, Massachusetts sometimes saw unsustainable revenue growth due to very rapid growth in capital gains taxes. During these periods, it felt like the state had plenty of money and, in the largest such bubble in the 1990s, it cut taxes deeply, leading to big budget cuts

as recessions hit. Requirements to set aside in the rainy day fund capital gains tax revenues that exceed long-term average levels have helped reduce volatility. In the long-term, tax revenue growth is not going to grow faster than the economy. If the Commonwealth wants to make new investments, it needs to find places to make cuts or make reforms in the tax system that are likely to generate additional money. The state needs to be responsible about predicting and understanding what level of growth we are likely to have and thinking long-term about how to build a stronger economy.

**MTF:** An important aspect of securing stronger and more reliable revenue streams in the future includes looking at and updating our tax code. The tax code has served us well overall, considering that it was put together over decades, if not centuries. The real question now is “How will it serve us as we go forward?” We need to consider how our economy has changed and how we may need to rethink some of the pillars of our tax code. The Massachusetts Taxpayers Foundation supports a new tax commission to examine the interplay between the state’s economy, its revenues, and its budget. For example, our economy is increasingly moving towards the consumption of services rather than goods. The commission could review potential changes needed in our sales tax to reflect this change. While the Commonwealth looked previously at taxing services, MTF thinks it may be time to rethink or revisit that and the trade-offs between these choices. Given the rapid changes in our economy, the state should conduct more frequent periodic reviews of possible changes to our tax system to keep pace.

**Figure 1. Health Care, Pensions, Debt Service and Remaining Expenditures in Massachusetts, FY2001 – FY2018**



Source: Massachusetts Budget and Policy Center, Budget Browser

**MassBudget:** A good starting point could be to implement policies consistent with the recommendations of the 2014 Tax Fairness Commission. The commission found “that the overall tax system in Massachusetts is regressive, meaning middle- and low-income taxpayers pay a larger share of their income in taxes than high-income taxpayers.” Fixing that basic flaw could generate significant new revenue for investments that would strengthen our economy and improve the quality of life in Massachusetts.

### **Is healthcare, pension, and debt service spending crowding out other key Commonwealth priorities?**

**MTF:** Spending on healthcare, pensions, and debt service is eclipsing other areas, including public education and infrastructure. The Commonwealth’s biggest short-term challenge on the spending side of the budget is the growth of the Massachusetts Medicaid (MassHealth) program. As it grows and revenue growth fails to keep pace, MassHealth consumes more and more of the budget, leaving little money for other spending. To a lesser extent, the same is true of pension liabilities, although there is little we can do given our contractual commitment to pay these obligations. Most new state employees already fund the costs of their pensions from paycheck deductions. The Commonwealth’s costs are primarily to pay for pensions earned decades ago for which the state had never set aside funding.

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*Almost every stakeholder in the healthcare sector agrees that we have to make changes. There are opportunities here for effecting meaningful cost savings.*

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In contrast, there are many opportunities to reduce healthcare costs. No one is truly happy with our current system. Almost every stakeholder in the healthcare sector agrees that we have to make changes. There are opportunities here for effecting meaningful cost savings. This would free up revenues for some of the other priorities we have discussed in addition to promoting healthier communities and personal well-being. Today, neither Massachusetts nor the nation has a system of prevention or comprehensive care.

As an initial step, we need better data on what is causing the growth in MassHealth and focused solutions for addressing it. The Governor has asserted that a long-term cost driver for the state MassHealth program has been the shifting of costs from private employers to the state due to a drop in employer coverage; however, the Foundation’s research indicates it is more complicated than that. The new health care or EMAC assessment imposed on employers to address this cost shift is scheduled to end next year. If no changes are made to the MassHealth program before EMAC expires, there will be significant additional pressures on the state budget.

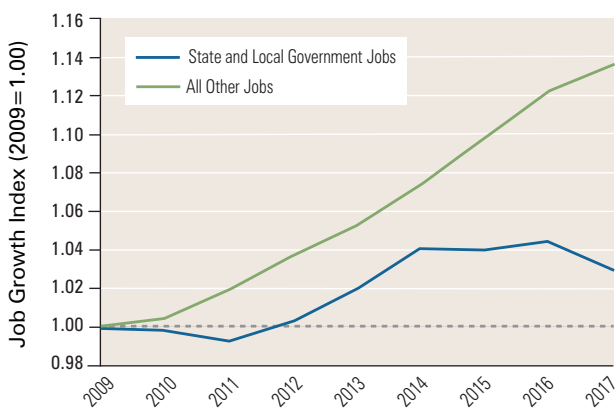
**MassBudget:** Right now, major reforms in our state’s Medicaid program are moving us towards accountable care organizations that emphasize high-quality and coordinated care for patients. At the same time, providers have greater flexibility to treat residents while holding down longer-term healthcare needs. This is a step in the right direction. The state should think more about the long-term social determinants of health. People will be healthier in the long term if they have access to decent housing, public education, and income. There is evidence, for example, that raising the earned income tax credit yields positive long-term health outcomes for children. There is no silver bullet in the healthcare challenge, but it is important to think about all that we can do to make lives—especially children’s lives—better.

The squeeze that tax cuts and rising healthcare costs place on other programs is clear. Looking back to 2001, the Commonwealth has cut funding for public higher education by 14 percent. This has occurred during increasing enrollments. If you look at funding per pupil over this time, it is down over 30 percent since 2001. This has led to significant increases in tuition and fees at our public colleges and universities which, in turn, have turned into growing debt for students in Massachusetts. This is a serious long-term problem for our economy—if we are not able to keep higher education affordable, there is a danger that hard-working kids who want to go to college won’t be able to or they will enroll and be unable to graduate. The funding challenges facing public higher education are emblematic of what is taking place throughout state government. Massachusetts has cut funding for early education by 22 percent since 2001, even alongside growing recognition of its critical importance for young people to succeed in school. If we don’t have the resources to provide quality early education, K-12, and affordable higher education, it could be harmful in the long term for the Commonwealth. Right now, we do not have the resources.

Similarly, there is broad agreement that we have underinvested in our basic transportation infrastructure—in roads and bridges; busses and subways. There are real gaps and a consensus that, if unaddressed, inadequate investment in infrastructure can do real harm to the economy and quality of life in Massachusetts.

**UMass Donahue Institute (UMDI):** High healthcare, pension, and debt-service spending is also putting a pinch on hiring by the state and local governments as money for new and replacement positions has become more scarce. Since the depths of the recession, Massachusetts has been part of a nationwide trend seeing little or no growth in state and local government employees while jobs in other sectors have experienced much more robust gains (see Figure 2).

**Figure 2. Job Growth in State and Local Government and All Other Jobs**



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

### Would a millionaire's tax solve revenue problems and allow investments to strengthen the state's economy or would it kill the golden goose?

**UMDI:** There is a range of options for raising revenue, and the proposed “millionaire’s tax” (a constitutional amendment that would impose a surtax of 4 percent on any portion of an individual’s annual income that exceeds \$1 million) has received significant attention and will likely be put before state voters on the November 2018 ballot. The surtax is expected to raise \$2 billion annually for education and transportation. Both the Massachusetts Budget and Policy Center and the Massachusetts Taxpayers Foundation have analyzed the millionaire’s tax, and have reached different conclusions about its fairness and efficacy.

**MassBudget:** Basically, an additional tax of four percent on income in excess of a million dollars a year provides a means to pay for more of the critical investments that would improve lives and strengthen our economy. If you look at the Massachusetts tax code now, the highest income earners in the state pay a smaller share of their income in state and local taxes than everybody else. That means that the state has less money to invest in things like education and transportation, and raises a significant issue of fairness.

**MTF:** Right now, the top quintile of taxpayers pays over 70 percent of the income tax in the Commonwealth, so to characterize them as not paying their fair share is not really true. And to say that they pay a smaller share of their income in taxes than lower-income citizens is absolutely true—but that’s true for a gallon of gas or a carton of milk, or really for anything, because by definition the top quintile has more. The concern here is, where do we draw the line on this? Do we price commodities and goods based on ability to pay? Where would this end?

The Foundation’s opposition to the income surtax stems from concern with how we enact this tax policy as well as what that tax policy entails. While we can agree that more revenue is needed for transportation investment, we disagree on the proposed model to raise that revenue.

**MassBudget:** On the question about the percentage of income that people pay in taxes, one way to think about it is that the highest income one percent of the population has 24 percent of the income in Massachusetts, roughly, and pays about 18 percent of the taxes. So, yes, they pay more than one percent of the taxes but that is because they have 24 percent of the income. Most think that taxes should be somewhat proportional to income—as your income goes up, you should at least pay the same share of it in taxes as lower income payers. In fact, the federal tax code is still mildly progressive—that is, higher income earners still pay a bit more of their income in taxes than lower- or middle-income earners. But that’s not how state and local taxes work. And those with the highest incomes, who pay the smallest share of income in state and local taxes, also happen to be the biggest winners in our economy. Incomes of the top one percent of earners are growing much faster than incomes for everyone else. We should be thinking about ways to increase income growth for everyone. Tax reforms that raise revenue while improving fairness can fund the kinds of investments that increase productivity and wages.

Massachusetts has the best-educated workforce as well as the highest wage levels in the country and this

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*Incomes of the top one percent of earners are growing much faster than incomes for everyone else. We should be thinking about ways to increase income growth for everyone. Tax reforms that raise revenue while improving fairness can fund the kinds of investments that increase productivity and wages.*

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coincides with a very strong and vibrant economy that is attractive for locating and growing a business here. There is absolutely no evidence that states with higher or lower taxes have stronger or weaker economies. In fact, California, which has the highest income taxes in the country, particularly on high-income earners, has a very strong, vibrant economy by just about any measure.

People will always retire from Northeastern states to Florida—they have been doing that for years and they do it from both lower- and higher-tax Northeastern states. The question with the millionaire's tax is whether its effects on outmigration would be very small or very, very small. There is no evidence that suggests that it is a major factor that would affect the Massachusetts economy. The MTF report cites a study indicating that New Jersey might have lost one percent of its millionaires as a result of its millionaire's tax. Other studies have shown much lower numbers. And when people move, it doesn't always mean they stop paying taxes in Massachusetts. Those who move to New Hampshire but still work in Massachusetts still pay Massachusetts income taxes. More importantly, even if the very small amounts of outmigration that some studies suggest does occur, those effects are dramatically outweighed by the effects of investments that can make higher education more affordable, improve our public schools, and fix our transportation system. If you think about what it takes to create good jobs, new income, and wealth, it is having a well-educated workforce and infrastructure that works.

**MTF:** Both organizations make valid points about migration and the millionaire's tax. We're both right. MassBudget looked at the issue much more narrowly while the Taxpayers Foundation took a broader approach, focusing on AGI (adjusted gross income\*) rather than the number of taxpayers. Our point, which is consistent with MassBudget's, is that it may be a small number of taxpayers who leave but because the tax burden is so concentrated, it just takes a small number of *wealthy* taxpayers to move to influence the state's tax revenues. In addition, we looked at the "tax atmosphere" rather than studying the impact of one policy change. An important factor in migration is the extent to which people see an unsteady or uncertain tax climate and perceive the potential for more changes. Today, Massachusetts has an atmosphere that is conducive to investment and jobs growth. If the surtax on high-income earners passes, that atmosphere could change, especially when considered in combination with other recent changes. Taxpayers subject to the income surtax are the same people being affected by the loss of unlimited tax deductions for state and local income taxes (SALT) recently imposed by new federal tax policies. With respect to the estate tax, Massachusetts is already an outlier—one of only 14 states that actually have an estate tax and a low-exemption threshold. That has been made worse by the recent federal changes. This combination is cause for concern.

Massachusetts has built an economy based on innovation of which we are all proud—but many who will be impacted by this income surtax are the risk takers, investors, and entrepreneurs. We may not see an exodus from the state immediately, but over time we may lose them because Massachusetts will be less attractive to the next generation of entrepreneurs. These people do have choices for where to locate. Massachusetts is already expensive, doesn't have great weather, and we already have an existing domestic outmigration problem.

Other states have supported an income surtax on high-income earners and are now rethinking this in light of the federal tax reform changes, particularly the state and local tax deduction limitation. New Jersey is rethinking its tax on high-income earners as are several other states. That should give Massachusetts pause.

\* Adjusted gross income (AGI) is a measure of income calculated from your gross income and used to determine how much of your income is taxable. It is the starting point for calculating your tax bill, and among other things, is the basis for many deductions and credits. <https://www.investopedia.com/terms/a/agi.asp>



*MassBudget:* There is absolutely no evidence that substantial outmigration would occur in Massachusetts. Look at California. It already has a 13 percent top tax rate. And even when California had the SALT offset, the net top income tax rate was above the nine percent we are talking about in Massachusetts and there was no evidence of significant millionaire tax flight as a result of that. We are not in uncharted territory on this—studies looking at migration among states have shown that tax-induced migration is “at the margins of statistical and socioeconomic significance.” It happens at a level that is not particularly meaningful for policy analysis. The MTF report points to a combined \$17 billion outflow in AGI from California, New York, New Jersey, and Connecticut, which sounds like a lot of money until you realize that the total AGI for those four states was \$2.7 trillion in 2016. So they’re talking about 0.6 percent of AGI in those states. And many of those people are likely migrating for reasons that have nothing to do with taxes. The loss of AGI in these four states due to high-income earner taxation is much less than the growth in AGI that the states are seeing due to economic improvements. And AGI migration doesn’t necessarily mean that income is lost to the state when a tax filer has left. If a doctor retires to Florida, for instance, other Massachusetts doctors treat her patients and may receive just as much of the “lost” income.

*MTF:* We looked at the actual experiences of some states that enacted a tax on high earners and it had a real impact on their state budgets. In fact, governors are indicating in hindsight that they probably should not have put all of their eggs in that basket. Massachusetts is unlike California in that we do not have a vast geography. People working in California’s big coastal cities lack the option of living in and commuting from other states but here, people can move to neighboring New Hampshire and still work in Boston. If we do see outmigration of wealthy taxpayers, Massachusetts will be unable to easily change this law because it is embedded in our constitution. This is a real concern as it would take a minimum of four years to amend it. No other state has embedded the tax rate into its constitution. For Massachusetts, that constitutes a material difference with other states.

**A more thorough evaluation of spending priorities and weighing potential trade-offs is needed in Massachusetts.**

*MTF:* A clear evaluation of spending priorities and potential trade-offs would help introduce efficiencies in state government and may even help raise revenues if the public has a better understanding of what it gets in return

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*We need to look more comprehensively when setting priorities. Then we can address how we are going to pay for them.*

*In sharp contrast, the ballot initiatives (i.e., the millionaire’s tax and lowering the sales tax rate) are one-off proposals introduced by particular constituencies.*

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for the taxes it pays. We talk a lot about the benefits of specific programs and initiatives, but we don’t spend enough time discussing what we are going to prioritize, how we will pay for it, and what will be the trade-offs. For example, education is an important spending priority, but so too is building a seawall to address climate change. How do we decide which proposal gets funded? In terms of prioritization, we are more successful on the capital side, but we do not apply the same amount of discipline across all state spending.

*MassBudget:* MassBudget has looked at the evidence of effectiveness of different strategies for improving the quality of education, whether it is smaller class size or an extended school day. The state does have an important role in getting better at providing evidence on things that are effective. There are a lot of unmet needs—a lot of investments would make a big difference for our economy and it is really important to make sure we are spending our dollars in the most effective and efficient way possible. For over a decade there have been in-depth studies of transportation and education (most importantly the Foundation Budget Review Commission’s look into school funding) that have found very specific and substantial needs that have gone unmet for years, threatening our economy. The missing piece has been adequate funding.

*MTF:* We need to look more comprehensively when setting priorities. Then we can address how we are going to pay for them. In sharp contrast, the ballot initiatives (i.e., the millionaire’s tax and lowering the sales tax rate) are one-off proposals introduced by particular constituencies. To illustrate, the sales tax ballot initiative would reduce the current 6.25 percent rate to 5.0 percent to help Main Street retailers competing against online sellers. While they have a valid concern, their solution is

the wrong one because it creates other fiscal challenges. The better solution would be more uniform federal policies that would make *all* retail sales subject to tax. This would allow Massachusetts to collect more sales tax revenue more fairly. That said, if lowering the sales tax rate reaches the ballot, it will probably pass. Voters will go into the ballot box and vote to reduce their own costs of goods purchased because they are often making the decision in a contextual vacuum. The outcome might change if the ballot question asked, “Would you be willing to vote for the sales tax rate decrease recognizing that it would reduce funding to improve the MBTA, fight opioid addiction, and support public education?” This is why the MTF does not support using ballot initiatives to make tax policy, even if our Constitution allows it.

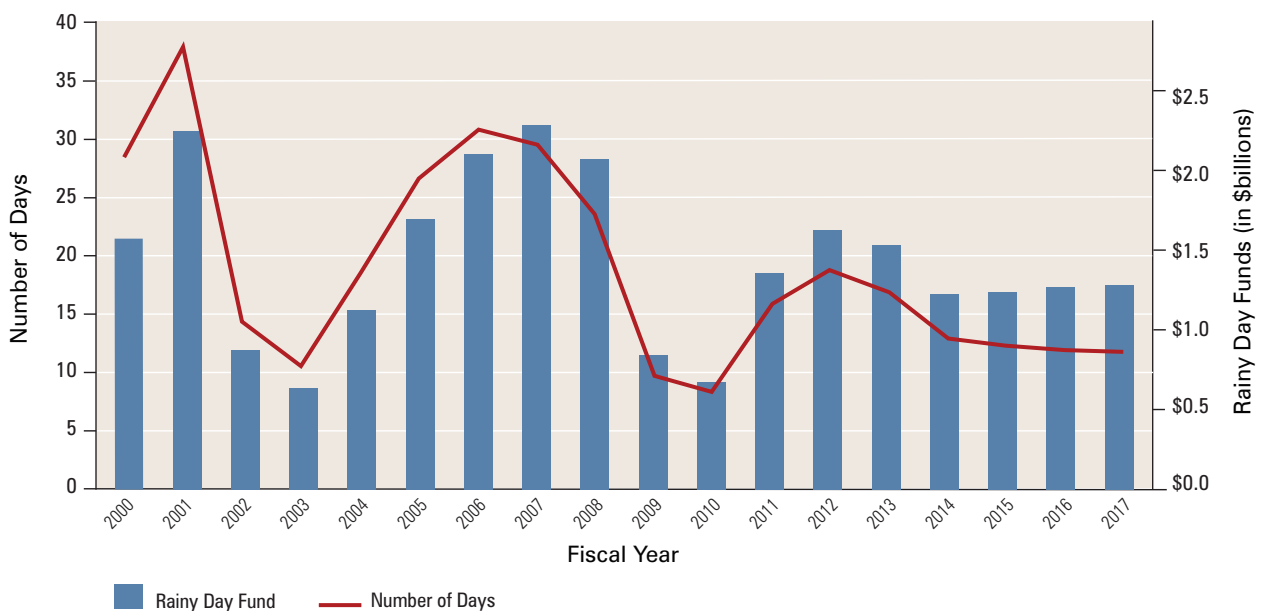
**MassBudget:** It is possible that the U.S. Supreme Court will resolve the unfairness in sales taxes later this spring. That would be an important step in fairness for local retailers and would generate revenue. The proponents of the sales tax ballot initiative have the responsibility to lay out where Massachusetts would get the money that would be lost. They should continually be asked how they would do that. Even if the 6.25 percent sales tax is retained, sales tax revenues do not grow at the same pace as income. There is volatility in income tax revenues but ultimately it is more aligned with the Commonwealth’s

economic growth. The volatility would be reduced if more money were deposited in the Commonwealth Stabilization Fund (rainy day fund) during good times so it would be available in bad times. A higher income tax rate on high earners would allow Massachusetts to build its reserves. The ratings agencies have identified the underfunded rainy day reserves as a challenge facing the state. Figure 3 demonstrates that the Massachusetts rainy day fund has only sufficient reserves to keep the state running for 12 days.

**MTF:** We also need to manage expectations about what government can and cannot do, and what it can and cannot deliver. Using transportation as an example, anyone who rides the MBTA or drives down our roads understands that there is a need for investment. Despite this understanding, when given the choice in 2014, voters repealed indexing the state’s gas tax. There is a disconnect between what people want others to pay for and what they are willing to pay for themselves. Part of this disconnect is that we need to have a more robust conversation about priorities. We need to make the case and then approach it with greater discipline so that the monies will actually go to where they are intended.

Part of the MTF’s concern with the income surtax is that while it is intended for education and transportation, there is uncertainty whether it will actually go

**Figure 3. Days' Worth of General Fund Expenditures in Rainy Day Fund, Massachusetts FY 2000 – FY 2017**



Source: The Pew Charitable Trusts, Fiscal 50: State Trends and Analysis, <http://www.pewtrusts.org/en/multimedia/data-visualizations/2014/fiscal-50#ind5>

there. Money is fungible and even if the income surtax were required to go to education and transportation, the legislature could zero-out current funding so there would not be any *net new* spending. The MTF prefers more dedicated sources of revenue for transportation, including user fees (e.g., tolling, a tax on vehicle miles traveled). Resources need to be considered in the longer-term as transportation is going through transformational change—it's becoming more of a service. Right now, we are thinking about the transportation system that we want but we also have to think about future funding streams. Currently, we devote a portion of the sales tax, the motor vehicle excise and gas taxes to transportation, but given what is happening in that realm (transportation network companies like Uber and Lyft, autonomous vehicles, etc.), the predictability of these revenues may diminish over time. So we need to have fiscal conversations where we are thinking longer-term and with greater discipline, and not just about the annual budget cycle. The MTF proposes, at least as an initial step, to have a tax commission that devotes careful thought to these policy issues.

**MassBudget:** In 2014, Massachusetts did have a tax commission that looked at related issues. A majority identified unfairness as a fundamental problem with the tax system: higher-income earners paid a smaller share of their incomes in taxes than everyone else. This contributes to insufficient revenues for widely agreed-upon investments. Part of this issue is that low- and middle-income earners know that they are paying more of their income in taxes than the highest income earners and think it unfair when new taxes disproportionately affect low- and middle-income citizens. Granted there is a year-to-year struggle just to balance the budget and we never get around to the conversation about how we could actually make those long-term investments that would make higher education more affordable, improve our schools, and fix our transportation system. This is why the millionaire's tax will be on the ballot—people outside the legislature say that we *need* to have this conversation about solving our big problems by investing to strengthen the Commonwealth and its economy. The most effective way to do that is to go directly to the voters and ask, “Is it worth it?”

**MTF:** The tax system is an ecosystem and there's no single lever that we can pull to make it fairer, but we are willing to have that conversation. We do not believe that the income tax surcharge is the way to accomplish this because it creates other challenges. We oppose using the ballot initiative and embedding the tax rate in the Constitution. A graduated income tax has been proposed in

this Commonwealth several times, and overwhelmingly rejected by voters. We need to figure out a way for taxpayers to have greater confidence that tax revenues raised will go to their spending priorities. ◀

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*NOAH BERGER is President of the Massachusetts Budget and Policy Center, an independent research organization that produces nonpartisan policy research, analysis, and data-driven recommendations focused on improving the lives of low- and middle-income children and adults, strengthening our state's economy, and enhancing the quality of life in Massachusetts.*

*EILEEN MCANNENY is President of the Massachusetts Taxpayers Foundation. Founded in 1932, the Taxpayers Foundation is widely recognized as the state's premier public policy organization dealing with state spending, tax and economic policies. The Foundation's record of high quality research and nonpartisan analysis has earned the organization broad credibility on Beacon Hill and across the state.*

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## ENDNOTES

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# Massachusetts' Tightening Labor Market: An Aging Workforce, Upscaled Job Requirements, and Other Significant Trends

MARY BURKE AND ALICIA SASSER MODESTINO

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RESEARCH PRESENTATIONS BY DRS. MARY BURKE AND ALICIA MODESTINO AT MASSBENCHMARKS' APRIL EDITORIAL BOARD MEETING EXPLORED LABOR FORCE IMPLICATIONS OF THE STATE'S SLOW POPULATION GROWTH. ACCORDING TO BURKE, UNEXPECTED LABOR FORCE GROWTH FAR EXCEEDED DEMOGRAPHIC PREDICTIONS. THAT IS IN PART ATTRIBUTABLE TO INCREASES IN THE PARTICIPATION RATE AMONG WORKERS 65 AND OVER. MODESTINO'S RESEARCH ON JOB MISMATCHES AND THE UPSCALING OF JOB REQUIREMENTS FINDS THAT TIGHTER LABOR MARKETS LEAD TO LESS STRINGENT EDUCATIONAL AND EXPERIENCE REQUIREMENTS.

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Massachusetts has an emerging labor force problem. At current and projected rates of change, the availability of qualified workers will increasingly constrain economic expansion. The state's population growth has always been relatively slow, and is projected to grow even more slowly over the next 30 years. Consistent with that, the state's labor force growth will slow even faster, and for some future years is projected not to grow at all. Domestic migration could conceivably counter that slow-growth scenario, but the state's record in that domain has been less than encouraging. Reaching back many years, net migration for Massachusetts has been negative, with more people leaving the state than arriving from other states. During times of economic prosperity in Massachusetts, net domestic migration has become less negative, but has rarely broken into positive territory. Although international immigration has consistently added to the state's work force numbers, the projection of labor force growth still seems dire.

At the April *MassBenchmarks* Editorial Board meeting, Drs. Mary Burke and Alicia Modestino each presented their research on labor force issues. Here is a summary of those presentations.

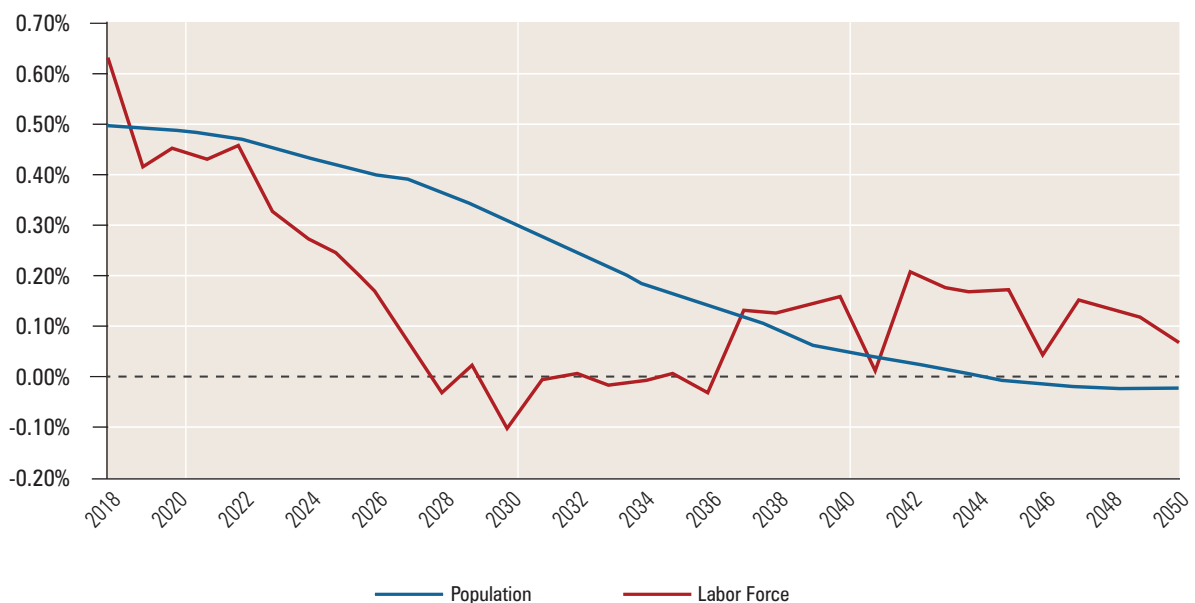
In her discussion of recent trends in labor force participation in the state and the nation, Burke noted that recent Massachusetts labor force growth has exceeded what the demographics would have indicated. How much longer and to what extent, she asked, will the state continue to outperform what its labor supply constraints

appear to dictate? That, she affirmed, is a critical question going forward.

Since 2007, Massachusetts, she continued, has experienced a more moderate decline in its labor force participation rate than the U.S., despite the Bay State's somewhat stronger demographic headwinds. Considering average participation rates in 2007 and 2017, the net decline in participation was 3.2 percentage points in the United States but just 1.2 percentage points in Massachusetts. Demographic trends contributing to declines in labor force participation—which have affected both the U.S. and Massachusetts since 2007—have included significant declines in the share of the adult population between the ages of 25 to 54 and increases in the share among those 55 and over. The increase in the 55-and-over share was roughly equal between Massachusetts and the U.S., while the decline in the prime-age share was more pronounced in Massachusetts. Based on these demographic trends, and holding age-specific participation rates at their 2007 levels, participation should have declined by a larger margin in Massachusetts than the U.S. since 2007.

In Massachusetts, the impact of these demographic trends was offset by two countervailing trends. In the first, the participation rate among those 65 and over increased significantly during the period and by a larger margin than did the corresponding rate for the U.S. In the second, participation among prime-age individuals was roughly flat in Massachusetts, while it declined in

**Population and Labor Force Growth Projections, Massachusetts  
2018 – 2050**



Source: NEEP model: Constant Fertility Rates, Mortality Rates, and Migration; BLS-based Labor Force Participation Rate Projections Through 2026.

the U.S. Factors underlying the more favorable participation trends in Massachusetts include the state's highly educated populace and its relatively moderate recession.

Among both prime-age and older workers with at least some college education, participation trends were particularly advantageous in Massachusetts compared with the U.S. Among prime-age workers, college-educated women in Massachusetts showed especially favorable participation trends compared with college-educated women in the U.S. For the 65 and older demographic in Massachusetts, some of the larger increase in participation is attributable to the group's sharper decline in average age relative to the U.S. since 2007.

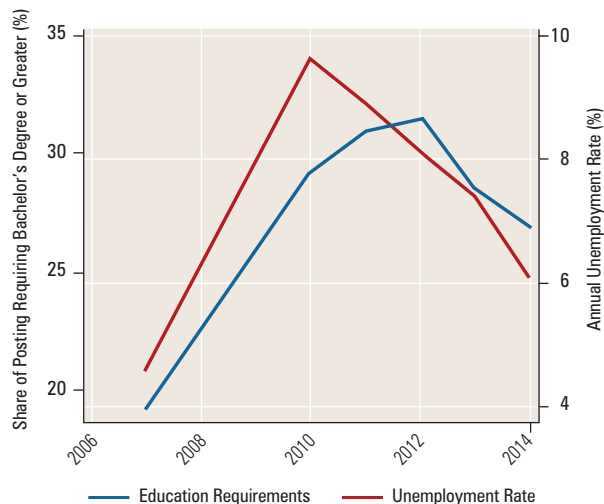
As of the third quarter in 2017, the very low unemployment rate in Massachusetts was estimated to contribute a 0.2 percentage-point boost to labor force participation relative to what the rate would have been at a slightly higher unemployment rate. At the same time, U.S. current and lagged cyclical factors were estimated to exert a drag on participation of about 0.3 percentage points. Relative to the United States since 1998, Massachusetts experienced a larger increase in the share of foreign-born workers in its labor force—an especially steep gain since 2010. Since 2008, in Massachusetts the share of the prime-age population not in the labor force for reasons related to a disability declined by roughly two percentage points. For the U.S., the corresponding share increased modestly over the same period. The decline in Massachusetts in this measure has been especially steep since 2015, suggesting that the state's strong labor market is increasingly attracting formerly marginal workers back into the labor force.

Dr. Alicia Modestino discussed job mismatches and the upskilling of job requirements over the business cycle. Her research indicates that during the Great Recession a 1 percentage-point increase in the local unemployment rate raised the share of jobs requiring a BA degree by 0.62 percentage points and the share requiring 2+ years experience by 1.4 percentage points. During the recovery, as the unemployment rate fell, the reverse happened as employers reduced both education (-0.27 percentage points) and experience (-0.23 percentage points) requirements for every 1 percentage point decrease in the local unemployment rate. In other words, the tighter the labor market, the less stringent the educational and experience requirements and vice versa as employers adjusted their skill requirements in response to the supply of available workers.

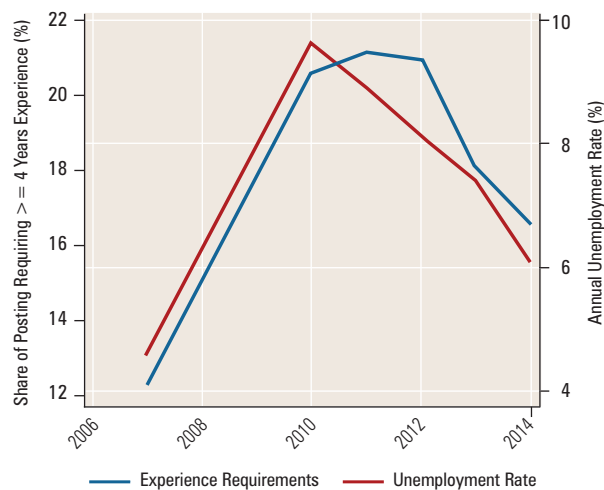
This pattern emerged using multiple measures of labor availability, and was bolstered by similar trends along previously unmeasured dimensions of skill such as leadership, technical knowledge, and software skills. The pattern, in fact, even occurred within firm-job title pairs

## Upskilling and Downskilling in Employer Requirements over the Business Cycle

### *Requested Educational Qualifications*




### *Requested Experience Qualifications*



Source: Author's analysis of data from Burning Glass Technologies; state unemployment rates collected from the Bureau of Labor Statistics.

meaning that the same job at the same firm experienced both upskilling during the recession and downskilling during the recovery. She further confirmed the causal effect of labor market tightening on skill requirements using a natural experiment based on the U.S. fracking boom as an exogenous shock to the local labor supply of tradable, non-fracking industries. These industries were not plausibly affected by local demand shocks or natural gas extraction technologies, but still reduced skill requirements in response to tighter labor markets. Her

results imply that this labor market-induced down-skilling reversed much of the cyclical increase in education and experience requirements launched during the Great Recession. Data on wages and vacancies confirm that imbalances within narrowly defined occupations and/or regional labor market areas appear to be temporary and driven by supply-side conditions.

However, not all occupations have experienced downskilling during the recovery period. In addressing the mismatch between workers and jobs, Dr. Modestino's research showed that upskilling during the recession was greater and more persistent over the business cycle for high-skill occupations. Economists estimate that between one-third and one-half of the increase in unemployment during the Great Recession can be attributed to structural factors related to labor market mismatches such as changes in technology and globalization. These structural factors are more persistent—they likely can account for the sustained increase in education requirements requiring a bachelor's degree among high-skill occupations such as managerial, financial, computer, engineering, and healthcare. 

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