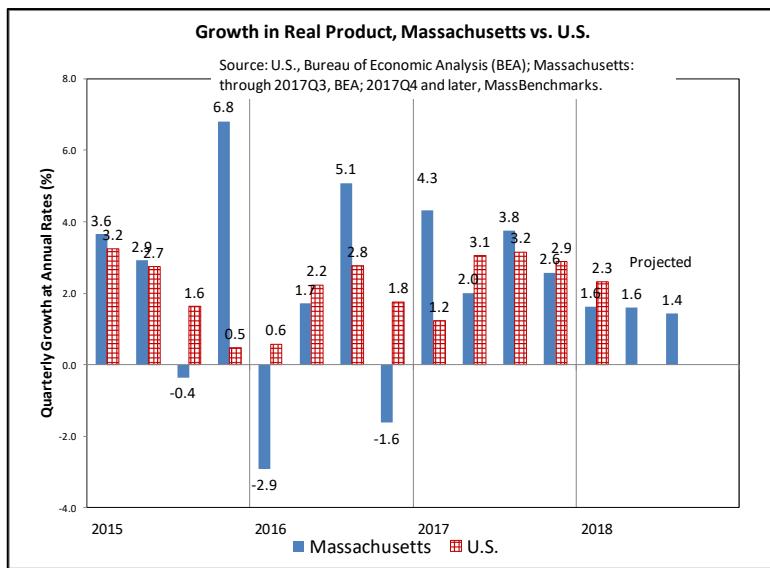


Massachusetts Current and Leading Economic Indices

The Massachusetts Current Economic Index for March was 211.1, up 3.5 percent from February (at annual rates), and up 3.4 percent from March 2017. The current index is normalized to 100 in July 1987 and is calibrated to grow at the same rate as Massachusetts real gross domestic product over the 1978–2016 period. Unless otherwise specified, all growth rates below are expressed at annual rates.



The Massachusetts Leading Economic Index for March was 1.4 percent, and the three-month average for January through March was 2.2 percent. The leading index is a forecast of the growth in the current index over the next six months, expressed at an annual rate. Thus, it indicates that the economy is expected to grow at an annualized rate of 1.4 percent over the next six months (through September 2018) if productivity were at recent average rates.

Massachusetts real gross domestic product grew 1.6 percent according to *MassBenchmarks*, while U.S. real gross domestic product grew 2.3 percent according to the U.S. Bureau of

Economic Analysis (BEA). For the fourth quarter of last year, *MassBenchmarks* estimates that the Massachusetts economy grew 2.6 percent, and the BEA estimates that the U.S. economy grew 2.9 percent.

Employment and Earnings Growth at Annual Rates, Massachusetts and the U.S.

	Payroll Employment		Wage and Salary Income /1	
	MA	US	MA	US
2018Q1	1.0%	1.7%	2.1%	6.1%
2017Q4	1.1%	1.5%	4.6%	4.5%
17Q1 to '18Q1	1.0%	1.5%	4.9%	4.6%

Sources: U.S. Bureau of Labor Statistics; U.S. Bureau of Economic Analysis; Mass. Department of Revenue/*MassBenchmarks*.

1. Massachusetts is derived from state withholding revenues for 2018Q1.

The Massachusetts economy is running at virtually full capacity, but its growth is slowing due to demographic constraints on labor force expansion. This demographic-induced slowdown had been on the horizon for years, and it now appears to be impinging on job and output growth. Since the expansion began in mid-2009, the state and the nation have expanded in tandem, but with an older workforce than the nation, Massachusetts may now be entering a phase of slower growth than the U.S.

Payroll employment in Massachusetts in the first quarter expanded at a 1.0 percent pace, versus 1.7 percent for the U.S. In the fourth quarter of last year, employment grew 1.1 percent in Massachusetts versus 1.5 percent for the U.S. Relative to the first quarter of last year, the number of jobs in Massachusetts grew 1.0 percent versus 1.5 percent in the U.S. In March the Bureau of Labor Statistics released its annual re-benchmarked estimates for the prior year. The new figures show slower job growth in 2017 than had originally been estimated.

Low unemployment rates suggest that the pace of job growth is being held down by a shortage of available workers rather than by a decrease in demand by employers. The unemployment rate of Massachusetts residents remained at a near historical low of 3.5 percent in March, with no change from December. In March of last year, the unemployment rate was 3.9 percent. For the U.S., the unemployment rate was 4.1 percent in March of this year, 4.1 percent in December, and 4.5 percent in March of last year. The state's lower unemployment rate reflects its higher level of educational attainment. These unemployment rates are well below pre-recession levels.

Unemployment Rates, Massachusetts and the U.S.				
	U-3 Rate		U-6 Rate	
	MA	US	MA	US
Mar-18	3.5	4.1	7.1	8.0
Dec-17	3.5	4.1	7.0	8.1
Mar-17	3.9	4.5	7.6	8.8

Sources: U.S. Bureau of Labor Statistics/ MassBenchmarks.

The broader U-6 measure of unemployment is back to pre-recession levels in both the state and the nation, 7.1 percent for Massachusetts and 8.0 percent for the U.S. in March. Although unemployment is low, there still are pockets of underemployment that may be related to changes in the labor market towards more part-time schedules in some sectors. The U-6 measure includes a count

of the number of persons who are part time for "economic reasons", meaning that they would like full-time work. This count is currently approximately 100,000 workers, or still about one-third above pre-recession levels.

Income and spending as measured by tax collections remain at healthy levels with moderate growth in the fourth quarter. Wage and salary income in Massachusetts, as estimated from withholding tax collections, grew 2.1 percent in the first quarter, while U.S. wage and salary income growth for the first quarter is expected to be 6.1 percent according to *MassBenchmarks*. (The BEA's estimate will be released April 30.) In the fourth quarter of last year, BEA estimated that wage and salary income grew 4.6 percent in Massachusetts and 4.5 percent in the U.S. From the first quarter of last year, wage and salary income is up 4.9 percent in Massachusetts and 4.6 percent in the U.S.

Spending in Massachusetts, as measured by regular sales tax receipts and motor vehicle sales taxes, rose 4.9 percent in the first quarter, following a sharp rise of 12.5 percent in the fourth quarter of last year. Relative to the first quarter of last year, this spending measure is up 3.5 percent.

The state's economy is expected to grow at a subdued pace over the current and next quarter. The leading index is projecting real state product growth of 1.6 percent in the second quarter and 1.4 percent in the third quarter of this year.

Retiring baby boomers will pull down labor force growth this year and through the next decade unless the state is able to draw young workers from across the country and the world. There is some evidence that this is possible. Although total Massachusetts job growth in the last 12 months (from March 2017 to March 2018) slowed to 1.2 percent, employers in technology and knowledge-based sectors were still able to expand their payrolls. During this same time, for example, employment in the professional, scientific, and technical services sector – which includes scientific research and development, engineering, computer systems, and consulting – grew 4.2 percent; and in software, it grew 4.3 percent. Construction also continued to boom, adding 7.7 percent to its job count. It is likely that many of these new jobs were filled by people who either migrated to the state or stayed in the state after moving here to go to college. The incomes in these well-paid jobs will generate demand for jobs in all sectors, many of them in moderately-paid or lower-paid service jobs. The challenge is to ensure that the housing, transportation, and other amenities will be here to attract these workers too.

Contributions of Indicators to the Leading Index		
	March	January-March
Trend	1.5	1.5
Total Nonagricultural Employment	0.4	0.7
Withholding Taxes	-0.2	-0.2
Sales Taxes	0.1	0.1
Unemployment rate	-0.2	-0.2
Consumer Confidence	0.0	0.1
Interest rate spread (10-year less 3-month)	-0.1	-0.1
Bloomberg MA stock index	-0.1	-0.1
Initial Unemployment Claims	0.1	0.0
Construction Employment	0.2	0.2
Motor Vehicle Sales Taxes	-0.2	0.1
Total	1.4	2.2

Note: Numbers may not add exactly due to rounding.

The 10 indicators that comprise the leading index usually do not all move in tandem. Typically, some may indicate an expectation of faster than average growth, while at the same time others may indicate an expectation of slower than average growth. The accompanying table accounts for the contributions of each towards faster or slower growth than the recent underlying trend of 1.5 percent. The index value is their sum.

In March, four indicators contributed to a forecast of above-trend growth: total nonagricultural employment, sales taxes, initial unemployment claims, and construction employment. Five indicators contributed to below-trend growth: withholding taxes, the unemployment rate, the interest rate spread between 10-year and 3-month U.S. Treasury securities, the Bloomberg stock index for Massachusetts, and motor vehicle sales taxes. One indicator, consumer confidence, contributed to average-trend growth.

For the three-month period January through March, five indicators contributed to a forecast of above-trend growth: total nonagricultural employment, sales taxes, consumer confidence, construction employment, and motor vehicle sales taxes. Four indicators contributed to below-trend growth: withholding taxes, the unemployment rate, the interest rate spread between 10-year

and 3-month U.S. Treasury securities, and the Bloomberg stock index for Massachusetts. One indicator, initial unemployment claims, contributed to average-trend growth.

The current and historical quarterly estimates for state domestic product growth include adjustments for changes in productivity growth. These adjustments are estimates of the quarterly deviations from the 1978-2016 trend in the growth of the ratio of output to employment. In the first quarter, these adjustments subtracted 1.2 percentage points from growth. In the fourth quarter of 2017, these adjustments subtracted 0.5 percentage points from growth. For the forecast of state domestic product growth in the second and third quarters of this year, these adjustments are expected to subtract 1.5 percent from growth, the average of the last five years.

The current and historical quarterly estimates also include “cyclical” adjustments, as the relationship between the growth in the current indicators and that of gross domestic product changes over the course of the business cycle. In the first quarter, these adjustments subtracted 0.4 percentage points from growth. In the fourth quarter of 2017, these adjustments added 0.2 percentage points to growth. For the forecast of second and third quarters of this year, these adjustments are expected to subtract 0.1 percent from growth, the average amount of the last two years.

Several recent months of the indices are revised each release. These revisions are a result of the statistical method used to create the index, as well as revisions in the underlying indicators.

All the indicators except interest rates refer to Massachusetts. The current index is composed of four indicators: nonagricultural employment, withholding taxes, sales taxes, and the unemployment rate. The leading index includes these four current indicators plus the other six (leading) indicators in the contributions table. All the indicators are as of March, except for interest rates and the Bloomberg stock index for Massachusetts, which are through April 20, 2018. The MassInsight Consumer Confidence Index is released every third month. Intervening months are interpolated, and changes in the Conference Board’s Consumer Confidence Index for the U.S. are used to extrapolate to the current month of the index, as needed. Series measured in current dollars or values, i.e., withholding taxes, sales taxes, the Bloomberg stock index, and motor vehicle sales taxes, are deflated by the U.S. consumer price index for all urban consumers, excluding food and energy.

For a description of the methodology used to construct these indices, see: Alan Clayton-Matthews and James H. Stock, “An application of the Stock/Watson index methodology to the Massachusetts economy”, *Journal of Economic and Social Measurement*, vol. 25 (1998/1999), pp. 183-233.

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