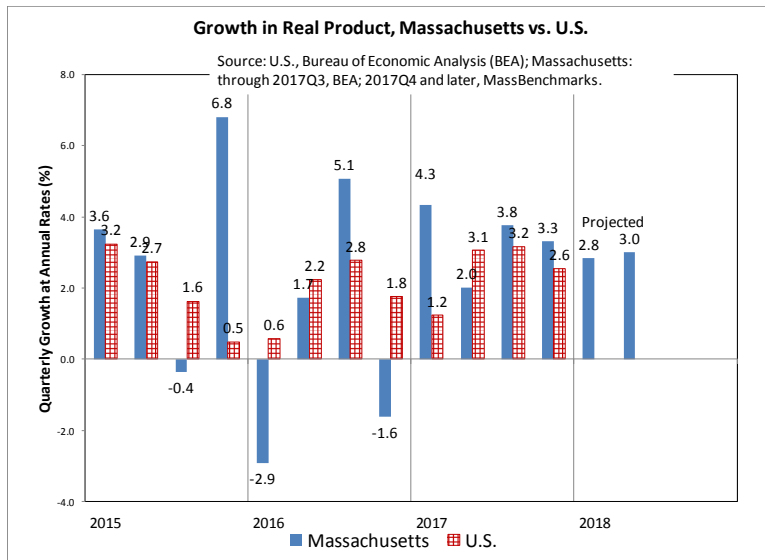


# Massachusetts Current and Leading Economic Indices

The Massachusetts Current Economic Index for December was 2011.6, up 3.8 percent from November (at annual rates), and up 4.5 percent from December 2016. 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 December was 3.0 percent, and the three-month average for October through December 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 3.0 percent over the next six months (through June 2018) if productivity were at recent average rates.

Massachusetts real gross domestic product grew 3.3 percent in the fourth quarter of 2017 according to MassBenchmarks. Nationally, U.S. real gross domestic product grew 2.6 percent, according to the U.S. Bureau of Economic Analysis (BEA). The BEA estimated that the Massachusetts economy grew 4.3

percent in the first quarter and 2.0 percent in the second quarter. Their estimates for U.S. growth in the corresponding quarters were 1.2 percent and 3.1 percent respectively.

	Payroll Employment		Wage and Salary Income /1	
	MA	US	MA	US
2017Q4	2.0%	1.4%	-10.0%	4.0%
2017Q3	2.1%	1.3%	4.1%	3.9%
16Q4 to '17Q4	1.8%	1.4%	5.6%	4.3%

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 2017Q4.

Massachusetts’ employment continued to grow faster than the U.S. in the fourth quarter, at a 2.0 percent rate versus 1.4 percent for the U.S. Third quarter job growth was 2.1 percent in Massachusetts versus 1.3 percent for the U.S. For the year – the fourth quarter of 2016 through the fourth quarter of 2017, employment in the state grew 1.8 percent versus 1.4 percent for the U.S.

The labor market continued to improve in both the state and the nation, with the unemployment rate falling in Massachusetts from 3.9 percent in September to 3.5 percent in December. The U.S. unemployment rate fell from 4.2 percent to 4.1 percent over the same period.

Unemployment Rates, Massachusetts and the U.S.				
	U-3 Rate		U-6 Rate	
	MA	US	MA	US
Dec-17	3.5	4.1	7.0	8.1
Sep-17	3.9	4.2	7.2	8.3
Dec-16	3.1	4.7	7.5	9.2

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, 7.0 percent for Massachusetts and 8.1 percent for the U.S. There is very little slack left in the labor market, and it will be difficult for the state to continue adding jobs this year at the pace experienced in 2017.

Spending in Massachusetts, as measured by regular sales tax receipts and motor vehicle sales taxes bounced back strongly in the fourth quarter, rising by 12.1 percent after falling by 3.8 percent in the third quarter. This measure of spending was up by 4.3 percent over the fourth quarter of 2016.

The only weak indicator for Massachusetts in the fourth quarter was growth in wage and salary income. As measured by withholding tax collections, wage and salary income fell 10.0 percent from the third quarter. This does not indicate weakness, however, but rather timing issues in tax collections. Withholding tax revenues grew at double-digit rates in both the second and third quarters. The year-over year growth of 5.6 percent in this measure of wage and salary income from the fourth quarter of 2016 better reflects current economic conditions. The BEA's estimate of state wage and salary income growth in the fourth quarter will not be available until March 22. The BEA estimates that wage and salary income grew 4.1 percent in the third quarter. MassBenchmarks estimates that U.S. wage and salary growth in the fourth quarter will be 4.0 percent, and growth from the fourth quarter of 2016 will be 4.3 percent.

Contributions of Indicators to the Leading Index		
	December	October-December
Trend	1.4	1.4
Total Nonagricultural Employment	0.6	0.4
Withholding Taxes	-0.1	-0.2
Sales Taxes	0.1	0.0
Unemployment rate	0.1	0.0
Consumer Confidence	0.1	0.2
Interest rate spread (10-year less 3-month)	-0.1	-0.1
Bloomberg MA stock index	0.4	0.2
Initial Unemployment Claims	-0.1	0.0
Construction Employment	0.3	0.1
Motor Vehicle Sales Taxes	0.4	0.1
Total	3.0	2.2

*Note: Numbers may not add exactly due to rounding.*

The state's economy is expected to grow at a moderate pace in first half of this year. The leading index is projecting real state product growth of 2.8 percent in the first quarter and 3.0 percent in the second quarter of this year.

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

following table accounts for the contributions of each towards faster or slower growth than the recent underlying trend of 1.4 percent. The index value is their sum.

In December, seven indicators contributed to a forecast of above-trend growth: total nonagricultural employment, sales taxes, the unemployment rate, consumer confidence, the

Bloomberg stock index for Massachusetts, construction employment, and motor vehicle sales taxes. Three indicators contributed to below-trend growth: withholding taxes, the interest rate spread between 10-year and 3-month U.S. Treasury securities, and initial unemployment claims.

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 fourth quarter of 2017, these adjustments subtracted 0.7 percentage points from growth. In the third quarter, these adjustments subtracted less than 0.1 percentage points from growth. In the second quarter, these adjustments subtracted 0.1 percentage points from growth. In the first quarter of 2017, these adjustments subtracted 2.1 percentage points from growth. For the forecast of state domestic product growth in the first and second quarters of this year, productivity growth is assumed to be at the average of the last five 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 December, except for interest rates and the Bloomberg stock index for Massachusetts, which are through January 23, 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.

Alan Clayton-Matthews  
MassBenchmarks  
Northeastern University, School of Public Policy and Urban Affairs

January 26, 2018