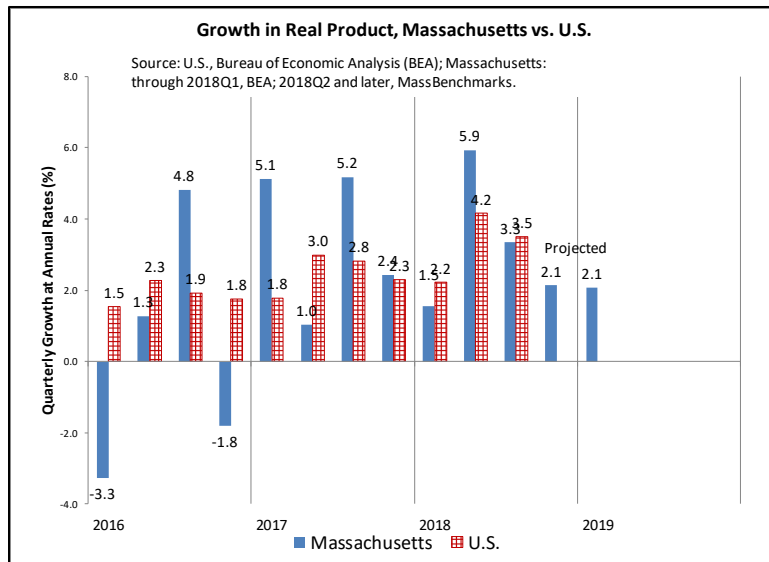


# Massachusetts Current and Leading Economic Indices

The Massachusetts Current Economic Index for September was 214.0, up 3.7 percent from August (at annual rates), and up 4.5 percent from September 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 1978–2017 period. Unless otherwise specified, all growth rates below are expressed at annual rates.



The Massachusetts Leading Economic Index for September was 2.1 percent, and the three-month average for July through September was 1.3 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 2.1 percent over the next six months (through March 2019) if productivity were at recent average rates.

In the third quarter of 2018, Massachusetts real gross domestic product grew 3.3 percent according to MassBenchmarks, while U.S. real gross domestic product grew 3.5 percent according to the U.S. Bureau of Economic Analysis (BEA). For the second quarter of this year MassBenchmarks estimates that Massachusetts real gross domestic product grew 5.9 percent versus BEA’s estimate for the U.S. of 4.2 percent. For the first quarter of this year, the BEA estimates that real GDP grew 1.5 percent for Massachusetts and 2.2 percent for the U.S.

The Massachusetts and U.S. economies grew at about the same rate in the third quarter, at a slower pace than the prior quarter yet faster than the average annual growth of last year. (In 2017, the Massachusetts economy grew 2.6 percent while the U.S. grew 2.2 percent.) Taking the indicators at face value, it appears that the state had very strong job growth and falling wage and salary income, but these should be interpreted in context. Massachusetts payroll jobs grew at a 2.4 percent annual rate in the third quarter, as the quarterly average job count increased by 21,600 jobs between the second and third quarters. However, during the three months of the quarter, between June and September, the job count increased by only 2,100 jobs. The true strength of job growth during the quarter probably lies somewhere in between these numbers. The quarterly average job gain was “baked in” by June’s huge gain in the employer survey, which coincidentally was also 21,600 jobs; while the weak June to September job growth was due to the sudden drop of 9,100 jobs in the leisure and hospitality sector in September – a sector with frequent large survey errors.

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

	Payroll Employment		Wage and Salary Income /1	
	MA	US	MA	US
2018Q3	2.4%	1.7%	-10.6%	4.5%
2018Q2	2.9%	1.7%	1.1%	4.5%
17Q3 to '18Q3	1.8%	1.7%	1.8%	4.7%

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 2018Q3.

While Massachusetts wage and salary income as estimated from withholding taxes fell at a 10.6 percent annualized rate in the third quarter, the same withholding tax measure for the second quarter grew at a 19.1 percent annual rate. That's an average quarterly rate of about 3.2 percent from the first quarter and is probably close to the true strength of wage and salary growth during each of the last two quarters. Although smoothed withholding tax revenues give a reliable signal of wage and salary income, at the monthly and even quarterly frequency they can be noisy. The same can be said about the BEA's estimate of Massachusetts wage in salary income. In the second

quarter, they estimated wage and salary income growth of only 1.1 percent, versus 12.2 percent in the first quarter.

The MassBenchmarks estimates for state gross product growth use statistical techniques to smooth sampling errors and filter out noise from these underlying indicators.

In contrast, indicators at the national level are less prone to sampling fluctuations. U.S. payroll employment grew at a 1.7 percent rate in the third quarter following a 1.7 percent rate in the second quarter and is up 1.7 percent from the third quarter of 2017. Massachusetts payroll employment in the third quarter was up 1.8 percent from the third quarter of 2017. MassBenchmarks estimates that U.S. wage and salary income grew at an annual rate of 4.5 percent in the third quarter and 4.7 percent from the third quarter of 2017. (The BEA will release its estimate on October 29.) In contrast, Massachusetts wage and salary income was up only 1.8 percent from the third quarter of 2017. Again, the apparent slow growth is partly explained by quarterly noise in tax revenues. Withholding tax revenues were very strong in the third quarter of 2017, making the annual contrast appear weaker than the underlying trend.

### Unemployment Rates, Massachusetts and the U.S.

	U-3 Rate		U-6 Rate	
	MA	US	MA	US
Sep-18	3.6	3.7	7.0	7.5
Jun-18	3.5	4.0	7.1	7.8
Sep-17	3.6	4.2	7.2	8.3

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

Unemployment rates for both Massachusetts and the nation remain low historically and well below levels that preceded the great recession. In September, the unemployment rate for Massachusetts was 3.6 percent versus 3.7 percent for the U.S. The Massachusetts rate remained virtually unchanged from September

of last year, while the U.S. rate fell by half a percentage point from 4.2 percent in September 2017.

The state’s unemployment rate has not fallen in step with that nation’s due to strong labor force growth in Massachusetts, according to the Bureau of Labor Statistics’ Current Population Survey and model. According to the BLS, the Massachusetts labor force grew at an annual rate of 8.0 percent in the third quarter and was up 3.9 percent from the third quarter of 2017. Resident employment grew at an annual rate of 7.8 percent in the third quarter and was up 4.0 percent from the third quarter of 2017. The magnitudes of these survey estimates are too large to be credible. However, they may reflect some underlying strength in labor force growth. It is difficult to explain the steady and strong job growth in some knowledge-based sectors such as professional, scientific, and technical services, which grew steadily by 6.5 percent from September of last year, unless Massachusetts is attracting skilled workers from outside the state.

Spending in Massachusetts, as measured by regular sales tax receipts and motor vehicle sales taxes, rose at an 11.0 percent annual rate in the third quarter, after growing at a 4.6 percent rate in the second quarter. This spending is up 7.6 percent over the third quarter of last year.

The state’s economy is projected to grow more slowly over the next six months. The leading index is projecting growth of 2.1 percent in the fourth quarter and 2.1 percent in the first quarter of 2018. The slowdown in the growth forecast reflects the impact on the leading index of the fall in the Bloomberg stock index for Massachusetts, and to a lesser extent the rise in interest rates and slowdown in wage and salary income growth.

Contributions of Indicators to the Leading Index		
	September	July-September
Trend	1.7	1.7
Total Nonagricultural Employment	0.4	-0.1
Withholding Taxes	-0.1	-0.3
Sales Taxes	0.3	0.3
Unemployment rate	0.2	0.3
Consumer Confidence	-0.1	-0.2
Interest rate spread (10-year less 3-month)	-0.1	-0.1
Bloomberg MA stock index	-0.6	-0.2
Initial Unemployment Claims	0.1	0.0
Construction Employment	0.1	0.0
Motor Vehicle Sales Taxes	0.3	-0.1
Total	2.1	1.3

*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 1.7 percent. The index value is their sum.

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

For the three-month period July through September, two indicators contributed to a forecast of above-trend growth: sales taxes, and the unemployment rate. Two indicators contributed to average-trend growth: initial unemployment claims, and construction employment. Six indicators contributed to below-trend growth: total nonagricultural employment, withholding taxes, consumer confidence, 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.

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 1978-2017 trend in the growth of the ratio of output to employment. In the third quarter these adjustments added 0.1 percentage points to growth. In the second quarter, these adjustments added 0.7 percentage points to growth. In the first quarter, these adjustments subtracted 1.2 percentage points from growth. For the forecast of state domestic product growth in the fourth quarter of this year and the first quarter of next year, these adjustments are expected to subtract 1.2 percent points 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 third quarter, these adjustments subtracted 1.1 percentage points from growth. In the second quarter, these adjustments subtracted 0.5 percentage points from growth. In the first quarter, these adjustments added 0.0 percentage points to growth. For the forecast of the fourth quarter of this year and first quarter of next year, these adjustments are expected to subtract 0.2 percentage points 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 September, except for interest rates and the Bloomberg stock index for Massachusetts, which are through October 21, 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

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