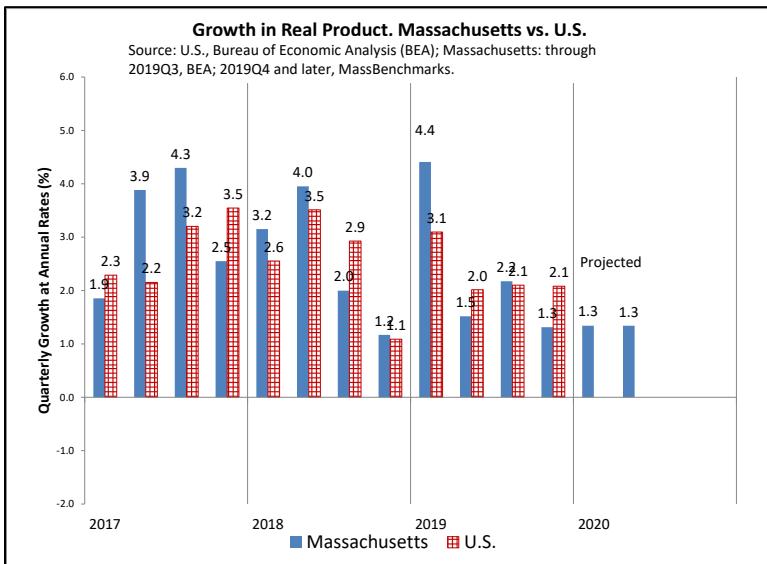


Massachusetts Current and Leading Economic Indices

The Massachusetts Current Economic Index for December was 228.4, up 3.0 percent from November (at annual rates), and up 3.0 percent from December 2018. 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 1978–2018 period. All growth rates below are expressed at seasonally adjusted annual rates.



The Massachusetts Leading Economic Index for December was 1.3 percent, and the three-month average for October through December was 0.9 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 1.3 percent over the next six months (through June 2020) if productivity were at recent average rates.

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

	Payroll Employment		Wage and Salary Income /1	
	MA	US	MA	US
	2019Q4	1.5%	1.5%	13.8%
2019Q3	-0.1%	1.4%	3.1%	3.5%
18Q4 to '19Q4	0.9%	1.4%	5.1%	5.2%

Sources: U.S. Bureau of Labor Statistics; U.S. Bureau of Economic Analysis; Mass. Department of Revenue/MassBenchmarks. Payroll employment includes MassBenchmarks estimates of payroll employment revisions from the BLS QCEW for 2019q2.

1. Massachusetts is derived from state withholding revenues for 2019Q4. U.S. is estimated by MassBenchmarks for 2019Q4.

In the fourth quarter of 2019, Massachusetts real gross domestic product (GDP) grew 1.3 percent according to MassBenchmarks, while U.S. real gross domestic product grew by 2.1 percent according to the U.S. Bureau of Economic Analysis (BEA). In the third quarter, Massachusetts GDP grew 2.2 percent while U.S. GDP grew by 2.1 percent, according to the BEA.

The headline economic indicators for Massachusetts in the fourth quarter versus the third quarter were good. On an annualized basis, payroll employment grew by 1.5 percent, the unemployment rate fell a notch to 2.8 percent, wage and salary income growth as estimated by withholding

taxes grew by 13.8 percent, and spending on items subject to the regular sales and motor vehicle taxes grew by 14.5 percent.

Unemployment Rates, Massachusetts and the U.S.				
	U-3 Rate		U-6 Rate	
	MA	US	MA	US
Dec-19	2.8%	3.5%	5.4%	6.7%
Sep-19	2.9%	3.5%	5.5%	6.9%
Dec-18	3.1%	3.9%	6.4%	7.6%

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

However, the state's economic performance was not as good as these numbers suggest. The tax revenue figures reflect volatility due to the timing of when revenues are received. In the prior (third) quarter, the withholding tax base fell by 4.3 percent while the sales tax base fell by 4.4 percent, so the apparent strength in the fourth quarter likely reflected tax receipts that "spilled over" from the third quarter. The MassBenchmarks estimates for state GDP growth smooth tax revenues and the other economic indicators – payroll employment and the unemployment rate – to account for volatility in the underlying data. This accounts for the slower economic growth estimate in the fourth quarter than the headline economic indicators would otherwise suggest.

There are constraints slowing the underlying rate of the state's employment growth. One factor is the very low unemployment rate, which at 2.8 percent in December is very near the record low of 2.6 percent recorded in 2000. Even the broader U-6 unemployment rate measure, that counts involuntary part-time workers and those marginally attached to the labor force as unemployed, was 5.4 percent in December, well below its pre-recession level of 2007. This severely constrains the ability of employers to add new workers to their payrolls.

Another factor is a sharp reduction in population growth due to a steep drop in immigration. From 2017 to 2019, the Census Bureau estimates that net international migration into Massachusetts fell from nearly 50,000 in 2017 to under 30,000 in 2019. Consequently, overall population growth fell from 0.53 percent in 2017 to 0.14 percent in 2019. This has likely slowed the growth of the labor force and, therefore, the potential for employment growth.

These factors are in addition to the drag on labor force expansion due to an aging population.

The U.S. Bureau of Labor Statistics' (BLS) Quarterly Census of Employment and Wages for the second quarter of 2019, released in early December, suggests that the annual revisions to payroll employment that the BLS will release in early March will show that Massachusetts payroll employment growth in the first half of 2019 was roughly 20,000 less than current estimates. (MassBenchmarks also estimates that payroll employment growth in 2018 will be revised upward by roughly 20,000 jobs.)

The leading index is projecting slow growth to continue into the first half of this year, with Massachusetts GDP rising at a rate of 1.3 percent in the first and second quarters.

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.

Contributions of Indicators to the Leading Index		
	December	October to December
Trend	1.5	1.5
Total Nonagricultural Employment	0.0	-0.3
Withholding Taxes	-0.3	-0.2
Sales Taxes	0.1	0.1
Unemployment rate	0.1	0.0
Consumer Confidence	0.0	0.0
Interest rate spread (10-year less 3-month)	-0.1	-0.2
Bloomberg MA stock index	0.2	0.2
Initial Unemployment Claims	-0.3	-0.1
Construction Employment	0.1	-0.1
Motor Vehicle Sales Taxes	0.1	0.0
Total	1.3	0.9

Note: Numbers may not add exactly due to rounding.

In December, five indicators contributed to a forecast of above-trend growth: sales taxes, the unemployment rate, the Bloomberg stock index for Massachusetts, construction employment, and motor vehicle sales taxes. Two indicators contributed to average-trend growth: total nonagricultural employment, and consumer confidence. 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.

Treasury securities, and initial unemployment claims.

For the three-month period October through December, two indicators contributed to a forecast of above-trend growth: sales taxes, and the Bloomberg stock index for Massachusetts. Three indicators contributed to average-trend growth: the unemployment rate, consumer confidence, and motor vehicle sales taxes. Five indicators contributed to below-trend growth: total nonagricultural employment, withholding taxes, the interest rate spread between 10-year and 3-month U.S. Treasury securities, initial unemployment claims, and construction employment.

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 1978-2018 trend in the growth of the ratio of output to employment. In the fourth quarter of 2019, these adjustments subtracted 1.0 percentage points from growth. In the third quarter of 2019, these adjustments subtracted 0.9 percentage points from growth. In the second quarter of 2019, these adjustments subtracted 0.8 percentage points from growth. In the first quarter, these adjustments subtracted 0.2 percentage points from growth. For the forecast of state domestic product growth in the first and second quarters of this 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 fourth quarter of 2019, these adjustments subtracted 0.9 percentage points from growth. In the third quarter of 2019, these adjustments subtracted 0.7 percentage points from growth. In the second quarter of 2019, these adjustments subtracted 0.9 percentage points from growth. In the first quarter, these adjustments subtracted 0.8 percentage points from growth. For the forecast of state domestic product growth in the first

and second quarters of this year, these adjustments are expected to subtract 0.5 percentage points from growth, the average 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 December 2019, except for interest rates and the Bloomberg stock index for Massachusetts, which are through January 24, 2020. The MassInsight Consumer Confidence Index is usually 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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January 30, 2020