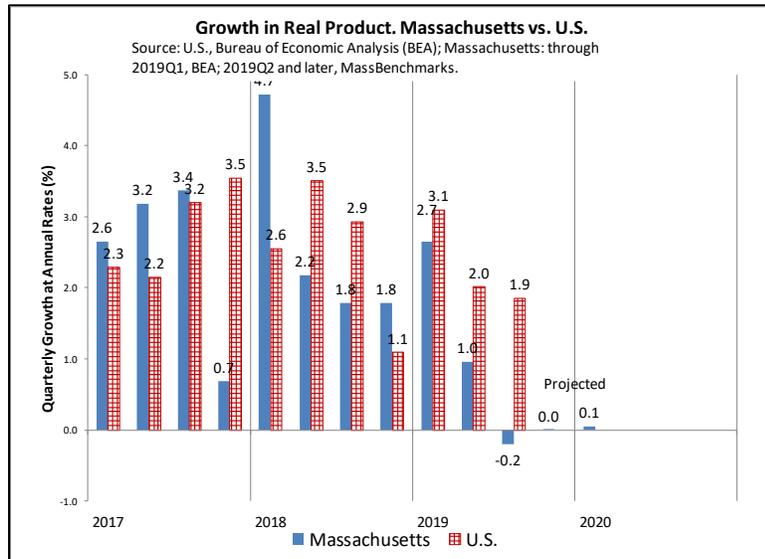


Massachusetts Current and Leading Economic Indices

The Massachusetts Current Economic Index for September was 224.4, up 1.6 percent from August (at annual rates), and up 3.1 percent from September 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 September was 0.1 percent, and the three-month average for July through September was -0.3 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 0.1 percent over the next six months (through March 2020) if productivity were at recent average rates.

In the third quarter of 2019, Massachusetts real gross domestic product declined 0.2 percent according to MassBenchmarks, while U.S. real gross domestic product grew by 1.9 percent according to the U.S. Bureau of Economic Analysis (BEA). In the second quarter, the MassBenchmarks’ revised estimate of state growth was 1.0 percent, while the “final” BEA estimate for the nation was 2.0 percent. In the first quarter of this year, the BEA estimates for growth were 2.7 percent for Massachusetts and 3.1 percent for the U.S. The BEA will release its second quarter estimate for Massachusetts on November 7 and its third quarter estimate for Massachusetts on January 10, 2020.

The decline in the state’s economic growth in the third quarter does not indicate the beginning of a recession, but rather reflects capacity barriers that the state is bumping up against. These are the barriers to labor force growth as baby boomers retire from the workforce in ever greater numbers. The underlying data on which these estimates are based are noisy, so a single quarter’s estimate does not imply a trend. Estimates of the state’s economic growth also dipped into negative territory twice during 2016 – in the first and fourth quarters of that year, yet the economy grew 1.7 percent that year and 2.2 percent the next year.

Economic growth is slowing as the aging of the workforce exerts a drag on growth, and since Massachusetts has an older population than the nation, the drag is greater in the state. Payroll employment growth in Massachusetts decelerated from 1.9 percent in 2016 to 1.3 percent in 2017 and to 0.9 percent in 2018. During this same time period, payroll employment growth in

the U.S. declined from 1.8 percent in 2016 to 1.7 percent in 2018 – and may be headed to 1.4 percent in 2019. While the state’s and nation’s economies as measured by GDP grew at roughly the same rate during this long expansion that began in mid-2009, growth has been slower in the Commonwealth in five of the last six quarters.

| Employment and Earnings Growth at Annual Rates, Massachusetts and the U.S. | | | | |
|---|--------------------|------|---------------------------|------|
| | Payroll Employment | | Wage and Salary Income /1 | |
| | MA | US | MA | US |
| 2019Q3 | 0.6% | 1.2% | -4.3% | 4.4% |
| 2019Q2 | 0.9% | 1.2% | 0.8% | 4.8% |
| 18Q3 to '19Q3 | 1.0% | 1.4% | 4.1% | 5.4% |
| 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 2019Q3. U.S. is estimated by MassBenchmarks for 2019Q3. | | | | |

In the third quarter of this year, payroll employment in Massachusetts grew at a 0.6 percent annual rate versus 1.2 percent for the U.S. Since the third quarter of last year, the number of jobs expanded by 1.0 percent in Massachusetts versus 1.4 percent in the U.S.

Wage and salary income has also been growing more slowly in Massachusetts than in the U.S. In the third quarter, based on state withholding tax revenue, wage and salary income declined at a 4.3 percent annual rate in Massachusetts. In the U.S., MassBenchmarks estimates that U.S. wage and salary income growth was 4.4 percent. (The BEA will release the U.S. figure on

October 31.) In the second quarter, the BEA estimates that wage and salary growth was 0.8 percent in Massachusetts and 4.8 percent in the U.S. Since the third quarter of last year, wage and salary income grew 4.1 percent in Massachusetts versus 5.4 percent in the U.S.

Unemployment rates in both the state and nation continued to nudge down towards historically low levels. The unemployment rate in Massachusetts in September was 2.9 percent, down from 3.0 percent in June and from 3.2 percent in September of last year. In the U.S., the corresponding rates were 3.5 percent in September, 3.5 percent in June, and 3.7 percent in September of last year. The differential between the Massachusetts and U.S. rates is normal, reflecting the higher level of educational attainment in the state. Unemployment rates are typically inversely related to the level of educational attainment.

The broader U-6 unemployment rate, which also counts as unemployed those who are working part-time but want to work full-time, and those who have looked for work in the past year but not the past four weeks, is also at low levels, 6.2 percent in Massachusetts versus 6.9 percent in the U.S. In September last year, these rates were 6.6 percent for Massachusetts and 7.5 percent for the U.S.

The leading index is projecting virtually no growth in the fourth quarter of this year and in the first quarter of next year.

| Unemployment Rates, Massachusetts and the U.S. | | | | |
|--|----------|------|----------|------|
| | U-3 Rate | | U-6 Rate | |
| | MA | US | MA | US |
| Sep-19 | 2.9% | 3.5% | 6.2% | 6.9% |
| Jun-19 | 3.0% | 3.7% | 6.3% | 7.2% |
| Sep-18 | 3.2% | 3.7% | 6.6% | 7.5% |

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

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 1.4

percent. The index value is their sum.

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

| Contributions of Indicators to the Leading Index | | |
|--|-----------|----------------|
| | September | July-September |
| Trend | 1.4 | 1.4 |
| Total Nonagricultural Employment | -0.3 | -0.5 |
| Withholding Taxes | -0.4 | -0.5 |
| Sales Taxes | 0.1 | 0.1 |
| Unemployment rate | -0.2 | -0.4 |
| Consumer Confidence | -0.1 | 0.1 |
| Interest rate spread (10-year less 3-month) | -0.3 | -0.3 |
| Bloomberg MA stock index | -0.1 | -0.1 |
| Initial Unemployment Claims | 0.1 | 0.1 |
| Construction Employment | -0.2 | 0.0 |
| Motor Vehicle Sales Taxes | 0.0 | -0.2 |
| Total | 0.1 | -0.3 |

Note: Numbers may not add exactly due to rounding.

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

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 third quarter of 2019 these adjustments subtracted 1.1 percentage points from growth. In the second quarter of 2019 these adjustments subtracted 1.0 percentage points from growth. In the first quarter these adjustments subtracted 0.4 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 1.3 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 of 2019, these adjustments subtracted 1.1 percentage points from growth. In the second quarter of 2019, these adjustments subtracted 1.1 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 fourth quarter of this year and the first quarter of next year, these adjustments are expected to subtract 0.4 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 September, except for interest rates and the Bloomberg stock index for Massachusetts, which are through October 21, 2019. 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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