

Worcester Economic Indicators

Third Quarter 2019

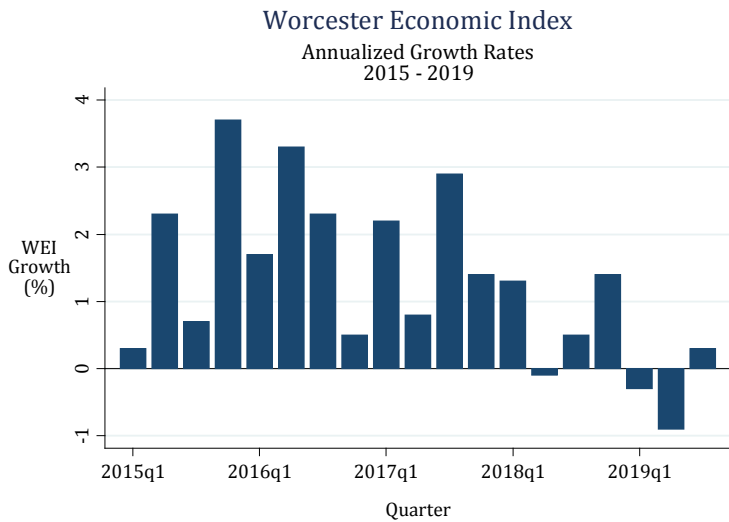
*Slow Growth in Third Quarter
 Worcester Economic Index up 0.3%*

Worcester Economic Index

Following a weak second quarter, the greater Worcester economy grew slightly during the third quarter of 2019. Since June, the Worcester Economic Index (WEI) is up 0.3% on an annualized basis, which follows a 0.9% decline in the index during the second quarter. The Worcester Economic Index is estimated using U.S. Bureau of Labor Statistics (BLS) data on employment and unemployment in the Worcester metropolitan area (NECTA).

According to the Bureau of Labor Statistics survey of households, the local unemployment rate has fallen from 3.4% in September 2018 to 3.2% in September 2019, while household employment has declined by over 1600 people during the same period. The Bureau of Labor Statistics payroll survey also showed a decrease in the number of jobs, falling by about 1200 since last September.ⁱ These weak household and payroll employment estimates are the reason the Worcester Economic Index has been below average in recent quarters. Figure 1 shows the annualized growth rates of the Worcester Economic Index for each quarter going back to 2015.

Table 1 presents the Worcester Economic Index over the past 13 months, its month-to-month change, and annualized growth rate. As the table shows, the local economy has struggled to generate positive growth in 2019, the Worcester Economic Index fell slightly in both the first and second quarters prior to the small increase in the third quarter. In comparison, the state of Massachusetts economy contracted 0.2% in the third quarter according to the latest estimates from MassBenchmarks.ⁱⁱ While U.S. real GDP grew by



1.9%, according to the preliminary estimates released by the U.S. Bureau of Economic Analysis on Oct. 30th.ⁱⁱⁱ

While the Worcester Economic Index is down since the start of the year, the index did show a small increase in the third quarter. The source of the increase can be explained by looking at the employment and unemployment data presented in

Table 1: Worcester Economic Index (WEI)
September 2018 – September 2019

| Month | Worcester Economic Index | Change from previous month | Quarterly Growth Rate, Annualized |
|----------------|--------------------------|----------------------------|-----------------------------------|
| September 2018 | 118.1 | 0.1 | 0.4% |
| October 2018 | 118.2 | 0.1 | |
| November 2018 | 118.3 | 0.1 | |
| December 2018 | 118.5 | 0.2 | 1.3% |
| January 2019 | 118.5 | 0.0 | |
| February 2019 | 118.5 | 0.0 | |
| March 2019 | 118.4 | -0.1 | -0.3% |
| April 2019 | 118.2 | -0.1 | |
| May 2019 | 118.1 | -0.1 | |
| June 2019 | 118.1 | 0.0 | -0.9% |
| July 2019 | 118.1 | 0.0 | |
| August 2019 | 118.2 | 0.1 | |
| September 2019 | 118.2 | 0.0 | 0.3% |

table 2. The seasonally unadjusted data reported by the Bureau of Labor Statistics shows that both payroll and household employment fell between June and September 2019. However, it is not uncommon for employment to decrease at the end of the summer as some seasonal jobs end and many students return to school. After adjusting the data for seasonal variation both payroll and household employment increased during the third quarter, albeit by fairly modest amounts. The Worcester Economic Index is estimated using seasonally-adjusted employment estimates from both the household survey and payroll survey, as well as the seasonally-adjusted unemployment rate. In the third quarter, the increases in household and payroll employment were enough to offset the small uptick in the seasonally-adjusted unemployment rate, which caused the estimates for the Worcester Economic Index to increase slightly.

Table 2: BLS Employment Estimates
Worcester NECTA, June 2019 to September 2019

| | Not Seasonally Adjusted ^{iv} | | | Seasonally Adjusted ^{iv} | | |
|----------------------|---------------------------------------|----------------|--------------------|-----------------------------------|----------------|--------------------|
| | June 2019 | September 2019 | Change Sept - June | June 2019 | September 2019 | Change Sept - June |
| Unemployment Rate | 3.5% | 3.2% | -0.3 | 3.2% | 3.3% | 0.1 |
| Payroll Employment | 287,900 | 285,700 | -2,200 | 284,900 | 285,000 | 100 |
| Household Employment | 349,664 | 346,575 | -3,089 | 327,547 | 349,250 | 1703 |
| Labor Force | 362,402 | 358,103 | -4,299 | 358,814 | 361,720 | 2,906 |

Worcester Economic Outlook

The Worcester Economic Index is based on employment and unemployment data for the local economy. In order to provide some insight into the future direction of the economy each issue of *Worcester Economic Indicators* includes a six-month forecast of the WEI derived from the recent trajectory of the index as well as several leading economic indicators of the national economy. In addition, a discussion of some local leading indicators is provided.

Looking forward, the Worcester Economic Index is expected to grow at a faster pace over the coming six months. As table 3 shows, according to the September forecast the WEI is expected to grow at a 1.5% annualized rate over the next two quarters, while the average of the July, August, and September forecasts is 1.6%.

Table 3 also shows the growth forecast broken down into its six components. The first component is the long-run trend growth of the WEI which is estimated to be about 1.0% on an annualized basis. The values shown for each of the other components listed in table 3 represent the amount that those components contribute to the forecast rising above or falling below the trend.

As has been the case for the past several quarters, credit market conditions as measured by the Leading Credit Index™, continue to make the most positive contribution to the above trend forecast of the Worcester Economic Index. The Leading Credit Index™ (LCI) is compiled by The Conference Board each month and is a composite of six financial sector variables that aims to capture credit market conditions in the United States. Currently, the LCI is indicating that credit conditions are favorable, and therefore is providing a positive 0.6% bump to the June forecast.^v

The University of Michigan Index of Consumer Expectations is the only other component that is currently providing a positive contribution to the growth forecast. The index increased in September from 79.9 to 83.4^v which is relatively high by historical standards, and is therefore providing a positive 0.2 percentage point contribution to the September forecast.

Table 3: Breakdown of Projected Growth of WEI^v
6-month growth forecast, annualized basis

| Component | September 2019 | Third Quarter Average |
|-----------------------|----------------|-----------------------|
| Trend | 1.0% | 1.0% |
| Consumer Expectations | 0.2% | 0.2% |
| S&P 500 | 0.0% | 0.0% |
| Interest Rate Spread | -0.2% | -0.2% |
| Leading Credit Index™ | 0.6% | 0.6% |
| WEI | 0.0% | 0.0% |
| Total | 1.5% | 1.6% |

Components may not add to total due to rounding.

As of October 30th, the S&P 500 Index was up almost 20% since the start of the year, which would normally have a positive impact on the growth forecast. However, since late July the S&P 500 has changed little, and therefore it did not make an impact on either the September forecast or the average of the July, August, and September forecasts.^v

According to the most recent estimates, the interest rate spread is the only component to negatively impact the Worcester Economic Index forecast. The spread, which is the difference between the yield on a 10-year treasury bond and the federal funds rate, is an indicator of monetary policy. Recently, the spread has turned negative which is consistent with an inverted yield curve, an often discussed signal of a coming recession. A negative interest rate spread suggests that investors in long-term bonds are expecting lower interest rates in the future as a weaker economy leads to reductions in the federal funds rate by the Federal Reserve, and also puts downward pressure on inflation. Following rate decreases by the Federal Reserve in both July and September, the Federal Reserve Open Market Committee announced another decrease in its federal funds rate target on Wednesday, October 30th. So while the Federal Reserve is taking steps to ease monetary policy the negative interest rate spread is still pulling the forecast down by 0.2 percentage points.

The remaining component of the Worcester Economic Index forecast is the WEI itself. Past values of the WEI are included in the forecast model because economies tend to exhibit

momentum over the short-run, suggesting recent economic trends can help explain the future direction of the economy. The sluggish performance of the local economy in recent months has led the WEI to be neutral (0.0%) with respect to the September forecast.

Local Leading Indicators

The forecast of the Worcester Economic Index presented above is based on four national leading indicators, recent WEI estimates, as well as the long-run trend. To supplement this forecast each quarterly issue of *Worcester Economic Indicators* includes a discussion of several leading indicators that are more closely tied to the local economy. Local data can be more volatile than national data and therefore quarterly averages are compared on a year-over-year basis to avoid problems arising from month-to-month variation. Recent performance of two local leading indicators, new business incorporations for the Worcester area and initial unemployment claims for Massachusetts, are shown in table 4.

Continuing the trend of the past few years, new business incorporations in the greater Worcester area increased during the third quarter of 2019 by about 7.8% compared to the third quarter of 2018.^{vi} An increase in incorporations is considered a positive signal because new businesses may look to hire workers in the near future.

Table 4: Local Leading Indicators
Percentage Change, Quarter 3 2018 to Quarter 3 2019

| Indicator | Percent Change | Signal |
|---|----------------|----------|
| New Business Incorporations ^{vi} | 7.8% | Positive |
| Massachusetts Initial Claims ^{vii} | -4.8% | Positive |

The number of initial unemployment claims filed during the third quarter in the Commonwealth of Massachusetts decreased 4.8% from the third quarter of 2018.^{vii} This is also considered a positive signal because it suggests that fewer people were laid off from their jobs and forced to apply for unemployment compensation.

To sum up, the Worcester Economic Index (WEI) increased at a 0.3% annualized rate in the third quarter of 2019. The WEI is expected to grow at about 1.5% over the coming six months. Credit market conditions are favorable for growth, however the interest rate spread indicates investors are not optimistic about the direction of the economy. Local leading indicators are still offering positive signals.

The next issue of *Worcester Economic Indicators* be released in early February 2020.

Additional information about this project is available at:

<https://www.assumption.edu/people-and-departments/organization-listing/economics-and-global-studies/worcester-economic-index>

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ⁱ Author's calculations based on data from the U.S. Bureau of Labor Statistics. Household employment and the unemployment rate data obtained from the Local Area Unemployment Database (LAU) of the BLS, <https://www.bls.gov/lau/data.htm>. Payroll employment is obtained from the State and Area Employment Database (SAE) of the BLS, <https://www.bls.gov/sae/data/home.htm>. All employment data is for the Worcester NECTA which consists of the city of Worcester as well as 48 surrounding towns located in south central Massachusetts and northeastern Connecticut.

ⁱⁱ MassBenchmarks, Current and Leading Indexes July 2019. <http://www.donahue.umassp.edu/business-groups/economic-public-policy-research/massbenchmarks/benchmarks-bulletin-october-2019>, accessed 10/30/19.

ⁱⁱⁱ U.S. Department of Commerce, Bureau of Economic Analysis, https://www.bea.gov/system/files/2019-10/gpd3q19_adv.pdf, accessed 7/30/19.

^{iv} Author's calculations based on data from the Bureau of Labor Statistics. The not seasonally adjusted BLS data is adjusted for seasonal variation by the author using the X-12 ARIMA program developed by the U.S. Census Bureau.

^v The leading indicators used to forecast the WEI are:

Consumer expectations: From the University of Michigan Survey of Consumer Sentiments.

S&P 500: Monthly closing value of the index.

Leading Credit Index™: The Conference Board's index of credit market conditions.

Interest rate spread: The yield on a 10-year Treasury bond less the federal funds rate.

The above leading indicators are obtained from The Conference Board's Business Cycles Indicators database.

^{vi} Secretary of the Commonwealth of Massachusetts

^{vii} Massachusetts Department of Employment and Training.