

Worcester Economic Indicators

Third Quarter 2015

This report can be accessed online at:

<http://www1.assumption.edu/worcester-economic-indicators-project/>

WEI increases 1.7% in Third Quarter

Moderate growth expected to continue over coming months

Worcester Economic Index

During the third quarter of 2015, the Worcester Economic Index (WEI) increased at a 1.7% annualized rate. While still solid, this represents a slowdown from the first half of the year when the WEI increased at approximately 3.6%. The Worcester Economic Index is computed using Bureau of Labor Statistics (BLS) data on employment and unemployment for the Worcester metropolitan area (NECTA). Local employment growth, which had been strong over much of the past year, appears to have slowed in recent months. According to the BLS Current Population Survey employment in the Worcester area increased by 1.2% over the 12-month period ending in September 2015, while the BLS payroll survey showed an increase in employment of 2.1% for the same period. In addition, the Worcester unemployment rate has fallen substantially in the past year, from 6.0% in September 2014 to only 4.8% in September of 2015.ⁱ

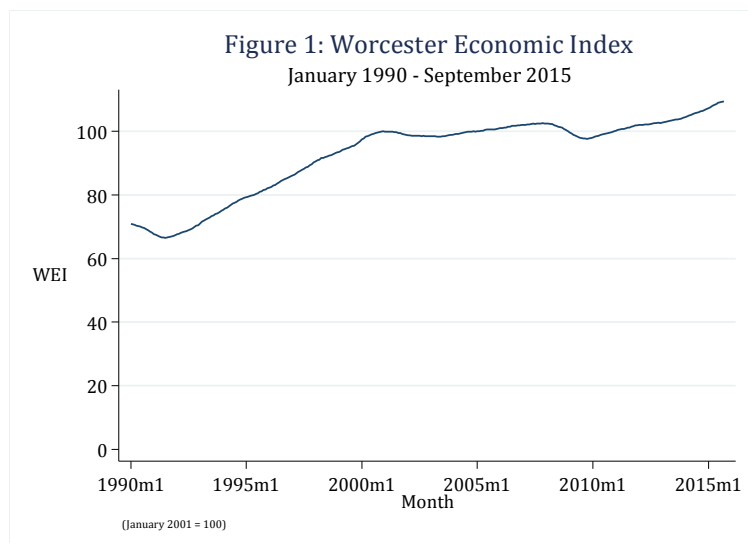


Table 1 shows the Worcester Economic Index over the past 13 months, its month-to-month change, and quarterly growth rate. While the WEI is calculated on a monthly basis it is best not to read too much into changes in any single month, but rather examine how the index has changed over the past 3-6 months. As the table shows, the WEI showed the economy was growing well above 3% during the first two quarters of 2015. The 1.7% growth in the third quarter represents a substantial slowdown. These figures are similar to the national GDP estimates released on Thursday October 29th which showed GDP increased 1.5% in the third quarter following a second quarter during which it grew at a 3.9% annual rate.ⁱⁱ

Both BLS surveys indicate that since June 2015 employment in the Worcester area has actually fallen. Table 2 shows how employment in the Worcester area changed during the third quarter. Since the reported BLS data is not seasonally adjusted and therefore monthly values are not directly

Table 1
Worcester Economic Index (WEI)
September 2014 - September 2015

Month	Worcester Economic Index	Change from previous month	Quarterly Growth Rate, Annualized
September 2014	106.3	0.2	2.2%
October 2014	106.5	0.2	
November 2014	106.8	0.3	
December 2014	107.0	0.2	2.8%
January 2015	107.3	0.3	
February 2015	107.7	0.4	
March 2015	108.0	0.3	3.7%
April 2015	108.4	0.4	
May 2015	108.7	0.3	
June 2015	109.0	0.3	3.6%
July 2015	109.2	0.2	
August 2015	109.3	0.1	
September 2015	109.4	0.1	1.7%

comparable, the payroll employment and household employment variables were adjusted for seasonal variation,ⁱⁱⁱ and even after this adjustment both employment variables show a decrease since June. In addition, the number of people in the local labor force has fallen over the same period. Decreases in the labor force can come about from a variety of factors such as changes in population, retirements, and other economic or noneconomic reasons. The drop in the labor force explains how the unemployment rate can continue to fall even as local employment decreased. The Worcester Economic Index is based on the seasonally adjusted employment and unemployment data but the model takes into account current as well as past monthly data to estimate an index which is relatively smooth, which is more likely to be consistent with the underlying economy.

Table 2
BLS Employment Estimates
Worcester NECTA, June-September 2015

	Not Seasonally Adjusted			Seasonally Adjusted		
	June 2015	September 2015	Change Sept-June	June 2015	September 2015	Change Sept-June
Payroll Employment	284,000	281,400	-2,600	281,771	280,648	-1,123
Household Employment	338,271	327,755	-10,516	336,070	329,664	-6,406
Labor Force	356,868	344,222	-12,646	353,107	346,112	-6,996

Worcester Economic Outlook

The recent slowdown in growth of the Worcester Economic Index is expected to continue over the next two quarters. The WEI is forecast to grow at slightly over 1.0% based on a model which uses recent changes in the WEI as well as four leading indicators of the national economy. Table 3 shows the September six-month forecast to be 1.0%, while the average of the July, August, and September forecasts is 1.2%.

Table 3 shows the growth forecasts broken down into its 6 components. The forecast builds on the long-run trend growth of the WEI which is estimated to be 1.3% on an annual basis. Each of the other components in the forecast are expressed in terms of the amount that they push WEI above or below its long-run trend.

Currently the four national leading indicators are split, two are providing positive signals and two negative. The University of Michigan Survey of Consumers shows a weakening of consumer attitudes toward future economic performance, falling from 87.8 in June to 78.2 in September^v, which brought down the WEI forecast by a tenth of a percent. In addition, the S&P 500 which as of September 30 was down 6.7% from the start of the year also contributed to reducing the WEI forecast. The rebound in the stock market in October is why the S&P 500 made a smaller negative contribution in September 2015 than the average of the July, August, and September forecasts.

Table 3
Breakdown of Projected Growth of WEI^{iv}
6-month growth forecast, annualized basis

Component	September 2015	Quarter 3 Average
Trend	1.3%	1.3%
Consumer Expectations	-0.1%	-0.1%
S&P 500	-0.1%	-0.2%
Interest Rate Spread	0.1%	0.1%
Leading Credit Index TM	0.2%	0.2%
WEI	-0.4%	0.0%
Total	1.0%	1.2%

Components may not add to total due to rounding.

Financial market conditions continue to provide positive, albeit modest contributions to the WEI forecast. The Leading Credit IndexTM compiled by The Conference Board each month is a composite of six financial sector variables that are measures of credit market conditions in the United States. Currently, the Leading Credit Index is adding 0.2% to the WEI forecast.

The interest rate spread, which is the difference between the yield on a 10-year Treasury bond and the federal funds rate, is included as a measure of monetary policy. Currently, this indicator is adding +0.1% to the WEI forecast. The much anticipated increase in the Federal Reserve’s federal funds rate target which is expected to occur in December 2015 or March 2016 will reduce the interest rate spread and therefore decrease the forecasts for WEI growth. However, until that happens the interest rate spread will likely continue to make a positive contribution to the WEI forecast.

Local Leading Indicators

The above forecast for the Worcester Economic Index is based on national leading indicators of economic activity. As a supplement to this forecast it is helpful to look at several data series that are more locally-based. The three indicators which are followed for this project are: online help-wanted advertisements for the Worcester NECTA, new business incorporations also for the Worcester NECTA, and statewide initial unemployment claims. Currently, all three of these indicators are providing positive signals for future economic performance.

The number of online help-wanted advertisements is a measure of the demand for labor by employers. It is considered a leading indicator of employment because advertisements usually precede hiring and therefore an increase in help-wanted ads may signal additional employment down the road. The Conference Board’s Help Wanted Online Data

Series® totals the number of unique advertised job openings from thousands of online job-boards. The data shows that in recent months there has been

Table 4
Local Leading Indicators
Percentage Change from 3rd Quarter 2014

Indicator	Percent Change	Signal
Online Help Wanted Ads ^{vi}	9.5%	Positive
New Business Incorporations ^{vii}	3.0%	Positive
Massachusetts Initial Claims ^{viii}	-17.5%	Positive

an increase in the number of online advertisements for Worcester area employment. As table 4 shows, on a seasonally-adjusted basis the number of online job openings is up about 9.5% in the third quarter of 2015 compared to the third quarter of 2014.^{vi} More job openings suggests additional hiring and is therefore a positive signal for the local economy.

New business incorporations is the second indicator providing a positive signal at this time. Compared to the third quarter of 2014, the number of incorporations is up about 3%.^{vii} An increase in incorporations is considered a positive signal because new businesses may need to hire workers down the road. This series can be very volatile but at this time it is modestly positive.

The final indicator is the number of initial unemployment claims in the Commonwealth of Massachusetts. Since the third quarter of 2014 initial claims are down over 17% statewide. This is a positive signal because it implies fewer people are being laid-off and forced to apply for unemployment compensation. The number of initial claims in September was only 17,951 (not seasonally adjusted), which is lower than at any time during the past 25 years. As a result, it is unlikely to fall much lower and therefore this indicator will probably not provide a positive signal much longer, even if the economy is strong.^{viii}

To sum up, the Worcester Economic Index (WEI) grew at an annual rate of 1.7% in the third quarter of 2015. The six-month forecast for the WEI indicates slower growth of about 1.0% over the next six months. However, all three local leading indicators are currently providing positive signals about the future direction of the economy.

The next Worcester Economic Indicators report will be issued in early February 2016. Additional information about this project is available at:
<http://www1.assumption.edu/worcester-economic-indicators-project/>.

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ⁱ Author’s calculations based on data from the Bureau of Labor Statistics. Payroll employment is obtained from the State and Area Employment Database (SAE) of the BLS. Household employment and the unemployment rate is obtained from the Local Area Unemployment Database (LAU) of the BLS. 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 U.S. Department of Commerce, Bureau of Economic Analysis,

<http://www.bea.gov/newsreleases/national/gdp/gdpnewsrelease.htm>.

ⁱⁱⁱ The BLS data is seasonally adjusted by the author using the X-12 ARIMA program developed by the U.S. Census Bureau.

^{iv} 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.

^v University of Michigan, Survey of Consumers, <http://www.sca.isr.umich.edu/>

^{vi} The Conference Board Help Wanted Online® (HWOL).

^{vii} Secretary of the Commonwealth of Massachusetts

^{viii} Massachusetts Department of Employment and Training. Initial claims for the Worcester area were originally part of the index, but that data has not been available since June 2013. Since it is desirable to utilize information that is as local as possible, if initial claims for Worcester becomes available in the future the index will be revised to include that data.