

ECONOMIC UPDATE

Issue 40

Fall 2019

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Home Ownership and Affordability on the Rise in South Shore

By: Evan Robertson

The cost of housing units in South Shore (SS) moved in a more affordable direction for residents of the region between 2010 and 2017. While vacancy rates fluctuated, housing costs South in Shore held consistently higher than those in Massachu-



setts. Overall, trends in the region south of Boston helped households spend less of their income on housing costs.

The South Shore region is composed of eleven Massachusetts communities: Abington, Braintree, Cohasset, Hanover, Hingham, Milton, Norwell, Quincy, Randolph, Rockland, and Weymouth. Median incomes were re-calculated using the American Census Survey (ACS) 5-year estimates from 2010 through 2017 and methodology outlined by the California State Data Center Demographic Research Unit Department of Finance.

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School Spending and Municipal Revenue on the Rise in 495/MW Region

By: Mary Elizabeth Gallagher

The 495/MetroWest (495/MW) Region is comprised of 35 communities with a total population of about 615,000: Acton, Ashland, Bellingham, Berlin, Bolton, Boxborough, Foxborough, Framingham, Franklin, Grafton, Harvard, Holliston, Hopedale, Hopkinton, Hudson, Littleton, Marlborough, Maynard, Medfield, Medway, Milford, Millis, Natick, Norfolk, Northborough, Sherborn, Shrewsbury, Southborough, Stow, Sudbury, Upton, Wayland, Westborough, Westford and Wrentham. The MetroWest Economic Research Center (MERC) gathers information each year from the Massachusetts Department of Elementary and Secondary Education (DESE) and from the Massachusetts Department of Revenue, Division of Local Services municipal reports, both of which are used to create the fol-

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Valeria Arauz Intern II Focus Unemployment <u>Major</u> International Business YOG 2020

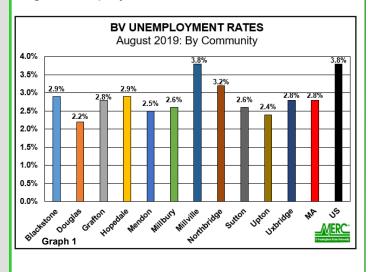
Blackstone Valley's Recovery in the Last Decade

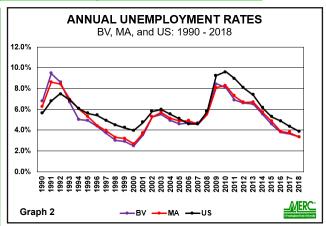
By: Valeria Arauz

Vallev Blackstone (BV) is composed of eleven communities: Blackstone. Douglas. Grafton. Hopedale, Mendon, Millbury, Millville, Northbridge, Sutton, Upton, and Uxbridge. Depicted in Graph 1 below are the August 2019 unemployment rates for the communities of Blackstone Valley, and the United States. Upon analyzing the graph, we see that the communities with the lowest unemployment rates were Douglas at 2.2%, Upton at 2.4%, and Mendon at 2.5%. All

these communities had lower rates than the state at 2.8%. The four communities with the highest unemployment rates were Millville at 3.8% followed by Northbridge at 3.2%, and finally Blackstone and Hopedale both at 2.9%. All of these communities surpassed the state's rate of 2.8% and only Millville matched the nation's rate of 3.8%. With the exception of Northbridge and Millville, all communities of BV had relatively low unemployment rates, all being below 3.0%.

Graph 2 above shows the annual average unemployment rates from 1990 to 2018





for BV, MA, and the U.S. In this 29-year span, the peak rates for BV. MA, and the U.S. are seen after recessionary periods which would be 1991-1992, 2003, and 2009-2010. BV maintained unemployment rates below that of the nation with the exception of 1990 through 1992. The region had its record-high annual unemployment rate of 9.5% in 1991 surpassing the nation's rate of just 6.8%. In 2007, right before the Great Recession, BV, MA, and the U.S. recorded almost the same rates: BV was at 4.7% and the state and nation were both at 4.6%. Later in 2009, BV recorded an 8.5% unemployment rate, surpassing the state's rate of 8.3%, but still being below the nation's rate of 9.3%. BV had an all-time low unemployment rate of 2.5% in 2000, below that of the state and the nation. The second lowest rate was recorded in 2018 with BV matching the state's rate of 3.3%, 0.6 percentage points under the U.S. rate of 3.9%. Overall, in terms of annual unemployment rates, BV had maintained the same pace as that of the state and has done better than the nation in the last decade.

Graph 3 on page 8 shows the comparison of the labor force in August 2009 and August 2019 in the communities of BV. The four communities with the largest labor force in August 2019 were Grafton, Northbridge, Millbury and Uxbridge. All these communities surpassed 8,000 individuals in the labor force. The communities

Comparing Employment in Greater Marlborough and MetroWest



Abraham Gomez Intern II Focus Employment Major Economics YOG 2020

The MetroWest Economic Research Center (MERC) at Framingham State University collects and analyzes employment data from the Massachusetts Executive Office of Labor and Workforce Development. Employment data refers to jobs at business establishments located within a region. It is not to be confused with unemployment data that is based on where an individual worker re-

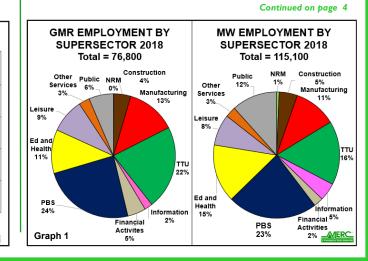
sides. This article will compare employment in two substate regions: Greater Marlborough Region (GMR), and the MetroWest region (MW). It will also highlight the similarities and differences in their 2018 performance, business cycles and growth, as well as the 2018 industrial structure, and 2017-2018 absolute change in employment by supersector.

The Greater Marlborough Region includes four communities, Hudson, Marlborough, Northborough, and Westborough. The MetroWest region includes nine communities, Ashland, Framingham, Holliston, Hopkinton, Natick, Sherborn, Southborough,

Sudbury, and Wayland. In 2018, GMR climbed to historical highs in every category, with employment at 76,800 jobs, payroll at \$6.1 billion, average annual wage at \$78,800, and 4,130 establishments. See Table 1 below. Each category increased between 0.7% and 2.5% from 2017 and GMR continues to expand. In MetroWest. employment decreased by .04%, after hitting historical highs for employment in 2016 at 115,360 jobs, while payroll, average annual wage, and the number of establishments all increased between 1.2% and 1.6% from 2017. However, payroll and average annual wage remained below their 2016 historical high, while establishments set a new historical high at 7,430.

From 1980 to 2018, both substate regions experienced four business cycles, with peaks and troughs occurring at slightly different times. Over the four-decade period, GMR employment rose by 128%, while MW employment grew by 46%. GMR's total percentage growth was almost three times larger than MW over the four-decade period. Not only was the percentage increase larger than MW's, GMR employment had a larger absolute gain, adding 43,200 jobs, as opposed to MetroWest's 36,300 jobs.

In terms of industrial structure, both regions had the same dominant supersectors. Professional and Business Services



GMR MW 2018 PERFORMANCE GMR Total % Change **MW Total** % Change 2018 from 2017 2018 From 2017 Total 76,800* 0.7% 115,100 -0.04% Employment Payroll \$6.1B* 2.5% \$8.9B 1.60% Average Wage \$78,800* 1.8% \$77,600 1.60% Establishments 4.130* 0.7% 7,430* 1.20% *Historical High

Table 1

Continued from page 3

(PBS) and Trade Transportation and Utilities (TTU). For GMR, PBS and TTU generated 46% of its total employment, while in MW, PBS and TTU generated 39% of its total employment, as seen in Graph 1 on page 3.

However, for both regions, the midsized third through fifth supersectors differed in ranking and share of employment. For GMR, Manufacturing ranked third, followed by Education and Health Services at fourth, and Leisure and Hospitality at fifth. Combined, the third through fifth supersectors for GMR generated 33% of its employment in 2018. In contrast, for MW, Education & Health Services ranked third, followed by Public at fourth, and Manufacturing at fifth. Combined, the third through fifth ranking supersectors in MW generated 37% of its employment in 2018. Manufacturing played a larger role in GMR than did Education & Health, and Leisure & Hospitality. In MW employment in Education & Health, and Public now exceed Manufacturing employment which previously had been ranked third. In both regions the remaining six supersectors generated less than 25% of their regional employment.

Between 2017 and 2018 there have been significant shifts in employment by supersectors. Graph 2 on page 7 shows the net change of employment for all the supersectors, with GMR in orange, and MW in green. In the leading supersector for both regions, PBS, both regions gained jobs, with GMR gaining 70 jobs, while MW gained 870 jobs. For the second leading supersector for both regions, TTU, both regions lost employment, with GMR losing 290 jobs, while MW lost 380 jobs. Public and other services were the only other two supersectors where employment moved in the same direction. In the Public supersector, both regions combined gained about 330 jobs. For the Other

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A Look at MERC Faculty Members!



This semester, the MetroWest Economic Research Center welcomes Dr. Rongbing Liu. Dr. Liu earned her Ph.D. in Business Administration from University of Massachusetts Boston. Her research interests include corporate social responsibility and sustainability, financial accounting, and corporate capital structure. Dr. Liu is currently an assistant professor, teaching Managerial Finance at the undergraduate level. ■

Professor Beverly Soriano retired this past year after 35 years of dedicated teaching at Framingham State University. From 2015 to 2019, Prof. Soriano held the position of co-director of MERC. Currently, she oversees K-12 data enrollment for the South Shore, Greater Franklin, Greater Marlborough, Greater MetroWest and the 495 region, focusing on the cost of education. Prof. Soriano continues to enjoy working with the MERC interns and feels happy she plays a small part of who they will become. ■

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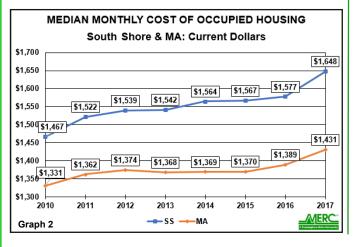


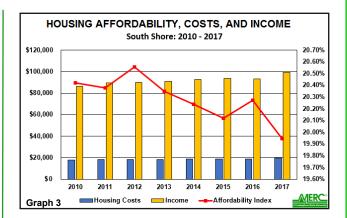
Evan Robertson Intern II Focus Housing <u>Major</u> Economics YOG 2019

In 2017, there were 138.951 estimated housing units in South Shore. Of these units, 131,819 were occupied while 7.132 units were unoccupied (vacant). In order to better understand the persistence of vacant units in South Shore, a vacancy ratio for the region was created by dividing the number of unoccupied units by the total number of housing units. Graph 1 on page 1 shows the vacancy ratio of housing units across South Shore. The rates from 2010 through 2013 demon-

strate a steady decrease of unoccupied units with respect to total housing units in the area. Over eight years, the vacancy rate reached its lowest point in 2013, at 4.64%. From 2013 onward, the ratio increased at a pace of approximately 0.12 percentage points each year until it reached 5.13% in 2017.

The cost of housing is a value derived from the Census Bureau using a weighted combination of selected costs associated with housing, including mortgage payments, utilities, real estate taxes, fuels, and association fees. Following occupied units' cost of housing over the same eight-year period,





Graph 2 below shows the movement of median monthly costs of occupied housing in South Shore compared to those in Massachusetts.

As shown in Graph 2 below, South Shore costs for occupied housing began at \$1,467 in 2010 and rose by roughly 12% to \$1,648 in 2017. Comparatively, the median housing cost for all occupied units in Massachusetts in 2017 was \$1,431. This is a difference of approximately \$217 and is the largest gap between the two regions over the eight-year span. With respect to Massachusetts, median costs for occupied housing were consistently higher in South Shore by an average of \$189.

Since the affordability of housing relies on a combination of events, Graph 3 above shows the relationship between housing costs, income (left vertical axis), and an affordability index (right vertical axis) for South Shore. The affordability index is represented by showing median annual occupied housing costs as a percentage of median annual household income between 2010 and 2017. On average, housing in South Shore became more affordable, meaning occupied housing costs as a percentage of household income declined over the eight years. This is largely due to household income rising at a faster rate than housing costs throughout the region. In 2017, the affordability index in South Shore reached its lowest point, with costs making up just 19.95% of household income.

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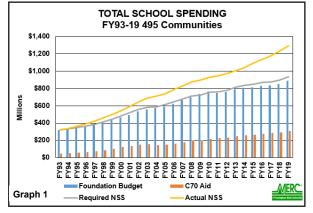
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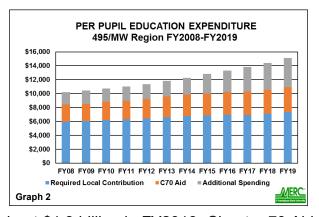


Mary Elizabeth Gallagher Intern II Focus Municipal Revenue Major Finance YOG 2020 lowing charts and graphs for the 495/MW Region. The graphs and charts display the Total School Spending, the Per Pupil Educational Expenditure, Total Municipal Revenue, and the Municipal Revenue per Capita in the 495/ MW Region.

Total School Spending rose over a 26-year period from fiscal year 1993 to fiscal year 2019 in the 35 communities of the 495/ MW Region. The region had about 86,000 students in 2019 excluding regional and vocational schools, as reported by DESE. Graph 1 below shows four components which include: The Foun-

dation Budget bar in blue, Chapter 70 State Aid (C70 Aid) bar in orange, the Required Net School Spending line in grey, and the Actual Net School Spending (NSS) line in yellow. In the 10-year span between FY2009 to FY2019, the foundation budget, which is the amount needed to provide the students in the community with an adequate education, increased from about \$737.8 million to \$891.1 million, a 20.8% increase. In the last year, from FY2018 to FY2019, the foundation budget increased slightly from about \$852.9 million to about \$891.1 million, a \$38.2 million or 4.5% increase. The Actual NSS was about \$899.5 million in FY2009 and increased 43.8% to





about \$1.3 billion in FY2019. Chapter 70 Aid, given to each community, is based on the property value of each respective community as well as the income of the residents of the community as reported to the MA Department of Revenue (DOR). C70 Aid totaled about \$307.5 million in FY2019, a 4.5% increase from FY2018. C70 Aid was about \$45.7 million in FY1993. The Actual NSS increase from \$1.2 billion in FY2018 to \$1.3 billion in FY2019, represents an increase of 8.3%. Regional and vocational schools are not included in these totals.

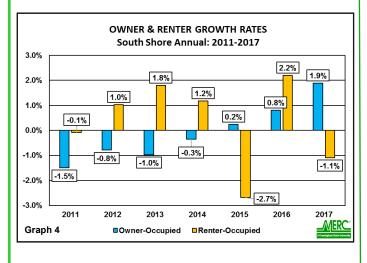
Per Pupil Education Expenditure for the 35 communities of the 495/MW Region from fiscal year 2008 to fiscal year 2019 includes the following components: Required Local Contribution, Chapter 70 State Aid (C70 Aid), and Additional Spending. Graph 2 above displays the total per pupil education expenditure, which is the sum of the Required Local Contribution, C70 Aid and Additional Spending, which represents the amount the communities chose to spend over the Foundation Budget mandated by law. For FY2019 the total per pupil spending was \$15,134 representing a 4.9% increase from FY2018 which was \$14,427 per pupil. In an 11-year span from FY2008 to FY2019, C70 increased from \$2,446 to \$3,587, a 46.6% increase. During the same time period, Additional Spending increased from \$1,786 to \$4,215, a 136.0% increase.

Total Municipal Revenue reported by the Massachusetts Department of Revenue, Division of Local Services over time from fiscal year 2010 through fiscal year 2019, includes revenue from the Total Tax Levy, State Aid,

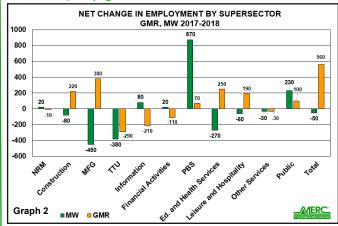
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Occupied housing is broken down into three components: owner-occupied, renteroccupied, and occupied without rent. During the eight-year period, owner-occupied and renter-occupied units, respectively, made up roughly 67% and 33% of total occupied housing in South Shore. Annual growth rates for renter-occupied and owner-occupied units are shown in Graph 4 below. These rates signify a component's percentage-change compared to the previous year. For instance, the number of SS renter-occupied units in 2011 decreased by 0.1% from 2010, while the number of owner-occupied units decreased by 1.5% over the same year. The graph also shows the number of owner-occupied households in SS trending upward steadily from 2015 to 2017. Overall, South Shore witnessed an increase of 1,991 occupied housing units from 2010 to 2017.

In summary, South Shore housing first experienced a reduction of vacancies starting in 2010, reaching its lowest point in 2013, then rising steadily each year until 2017. During this same eight-year period, income rose at a faster pace than housing costs, leading to better affordability in South Shore in 2017 compared to any of the previous seven years. Lastly, in terms of housing demographics, South Shore witnessed a significant increase in the number of owner-occupied units across all eight years, while rental trends remained less predictable.



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Services supersector both regions combined lost around 60 jobs. The remaining seven supersectors had changes to employment that went in opposite directions. Of the remaining seven supersectors, the largest changes were in the Manufacturing supersector, with GMR gaining 380 jobs, and MW losing 450 jobs. Education and Health Services also had significant changes with GMR gaining 250 jobs, and MW losing 270 jobs. In 2018, GMR gained 560 jobs, while MW lost 50 jobs, with PBS gaining the most jobs, and TTU being the supersector hit the worst for both regions.

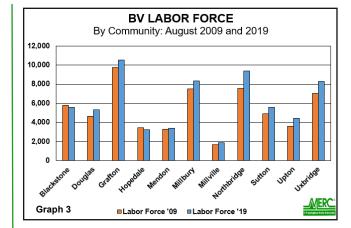
In conclusion, GMR is still expanding, with historical highs in all categories: Total Employment, Payroll, Average Annual Wage, and Establishments. MW dipped slightly in employment for the second year, after a historical high in 2016. Over a four-decade period, GMR had a larger percentage, and absolute total growth for employment than did MW. In terms of industrial structure in 2018, PBS and TTU led both regions. The third through fifth leading supersectors for GMR and MW varied for the regions. Between 2017 and 2018, GMR gained 560 jobs, and MW lost 50, with the PBS supersector gaining the most jobs, and TTU losing the most for both regions. Although the two substate regions are adjacent, they vary in their 2018 overall performance, business cycles and employment growth, industrial structure, and 2018 business performance by supersector. 🔳

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with the smallest labor force in August 2019 were Millville, Hopedale, and Mendon. Hopedale and Mendon had below 4,000 individuals in the labor force while Millville was the only community in the region with under 2,000 individuals in the labor force. In terms of growth of the labor force from 2009 to 2019, the two communities with the largest growth were Northbridge with 24.6% and Upton with 23.0%. The communities with the smallest labor force growth were Mendon and Grafton with just 2.9% and 7.7%, respectively. There were two communities that actually experienced a decrease in the labor force. These communities were Blackstone with a decrease of -3.4% and Hopedale with the largest decrease in the labor force of -6.4%.

In conclusion, Blackstone Valley stabilized since the Great Recession in 2008 and 2009 and is approaching record low rates. Unemployment rates in the communities in the region as of August 2019 were consistently low with all rates below 3.0% with the exception of Millville and North-



bridge. Most communities in BV had an increase of individuals in the labor force in the past decade except Blackstone and Hopedale. Finally, unemployment rates have continually decreased since 2008 and 2009 so much that current unemployment rates were close to reaching the record-low rates of 2000. All this demonstrates how Blackstone Valley has gradually recovered from the high unemployment rates during the Great Recession. ■

Former Interns: Where are They Now?

"I currently work as a Big Data Analyst at Bose Corporation creating dashboards, aggregates and generating in-depth analysis and insights from our data. A valuable experience I found at my time at MERC was the exposure and opportunity to network with professionals from the community at the conferences and several events we attended. I would confidently say that MERC piqued my interest in the world of data and provided me with the



Priscilla Alves YOG 2016

foundational knowledge necessary to undertake my first job out of college."

"My career after the MERC Internship Program took me to Philadelphia, PA, where I am currently an Elite Client Manager for SEI Private Trust Company. SEI provides investment solutions to financial advisors and their end-clients. I use the skills MERC has taught me every day.

I enjoyed everything about the internship program, but if I had to pick what I liked most, it was the networking opportunities available. I strongly recommend



Zacharey Leach YOG 2016

all current and future interns take advantage of these."

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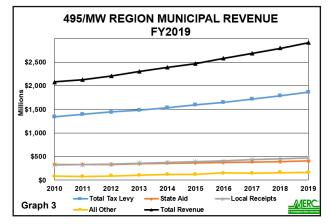
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Graph 3 below, from FY2010 to FY2019, the Total Municipal Revenue increased 40.0% from about \$2.1 billion to about \$2.9 billion. Total Tax Levy rose 39.0% to about \$1.9 million in FY2019, comprising 64.2% of Total Revenue. In FY2019, State Aid Revenue was about \$408.9 million, which made up about 14.0% of the Total Revenue for the year. Local Receipts Revenue was similar at \$469.1 million or 16.1% of the Total Revenue. In FY2010, All Other revenue was \$81.8 million, increasing over time to \$164.5 million in FY2019. All Other revenue makes up 5.6% of the Total Revenue in FY2019.

The three highest and three lowest communities in regards to FY2019 Municipal Revenue per capita among the 495/MW Region's



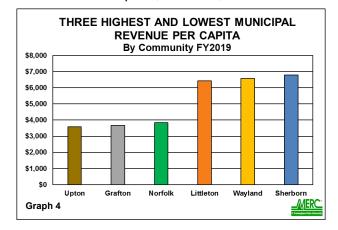
show a great contrast. These communities are Littleton, Wayland, Sherborn, and Upton, Grafton, Norfolk, respectively, Municipal Revenue per capita can be viewed as spending per capita as municipalities work with balanced budg-

Cost of Living Survey



Local Receipts and All Other. As seen in ets. As shown in Graph 4 below, Upton had the lowest Municipal Revenue per capita at \$3,589, followed by Grafton at \$3,660, then Norfolk at the third lowest at \$3,831. The largest Municipal Revenue per capita was in Sherborn at \$6,786, followed by Wayland at \$6,575 and Littleton, the third highest, at \$6,423. The Municipal Revenue per capita in Sherborn, the highest, was about double that of the Municipal Revenue per capita in Upton, the lowest.

> To summarize, the Total School Spending and Municipal Revenue continues to be on the rise in the 495/MW Region. Actual Net School Spending has increased 43.8% since 2009. Total per pupil expenditure has increased 4.9% from \$14,427 in FY2018 to \$15,134 in FY2019. Total Municipal Revenue, which is made up of the Total Tax Levy, State Aid, Local Receipts and All Other, increased 40.0% from FY2010 to FY2019. The Municipal Revenue per capita in the communities of Littleton, Wayland and Sherborn was about double that of the Municipal Revenue per capita in the communities of Upton, Grafton, and Norfolk.

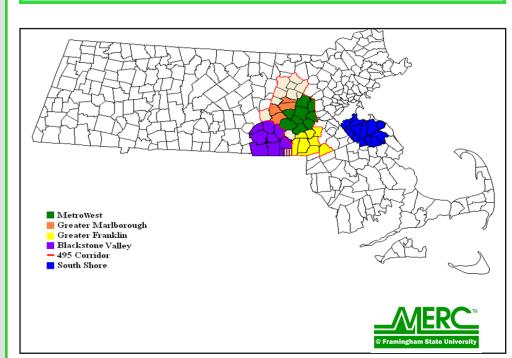


In October MERC interns participated in the MERC Cost of Living Survey. The Council for Community and Economic Research (C2ER) manages the national survey and subsequently publishes an annual report. The survey is conducted by collecting price data on goods and services from many local establishments in the Metro-West region. MERC interns gathered prices of normal everyday goods such as gasoline, ibuprofen, groceries and professional services such as eye exams and physical exams. The information obtained is used to help compare and contrast MetroWest to other regions across the country.

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MERC SUBSTATE REGIONS MAP

MERC provides economic data and analysis for the six sub-state regions shown on the map below: MetroWest CCSA[™], Greater Marlborough Region, Greater Franklin Region, Blackstone Valley, 495/MetroWest Corridor, and the South Shore CCSA[™].



There are several categories of unemployment rates. U-1 through U-6, not seasonally adjusted, are reported below for the U.S. period rates in October 2019. MERC uses the U-3 rate, which is the official unemployment rate.

Measures: U.S. October 2019		
<u>U-1</u>	Persons unemployed 15 weeks or longer, as a percentage of the civil- ian labor force	1.3%
<u>U-2</u>	Job losers and persons who completed temporary jobs, as a percent- age of the civilian labor force	1.4%
<u>U-3</u>	Total unemployed persons, as a percentage of the civilian labor force (the official unemployment rate)	3.3%
<u>U-4</u>	Total unemployed persons plus discouraged workers, as a percentage of the civilian labor force plus discourage workers	3.5%
<u>U-5</u>	(U-4) plus all other "marginal attached" workers, as a percentage of the civilian labor force plus all "marginally attached" workers	4.1%
<u>U-6</u>	Total unemployed persons, plus all "marginally attached" workers, plus all persons employed part time for economic reasons, as a percentage of the civilian labor force plus all "marginally attached" workers	6.5%

MERC Economic Update September 2019 **UNEMPLOYMENT RATES** Not Seasonally Adjusted (Preliminary Data) 495/MetroWest 2.5% Blackstone Valley 2.9% 3.0% Blackstone Douglas 2.6% Grafton 3.0% Hopedale 2.8% Mendon 2.7% Millbury 2.8% Millville 3.8% Northbridge 3.2% Sutton 2.8% Upton 2.6% Uxbridge 2.6% Greater Franklin 2.6% Bellingham 2.8% Blackstone 3.0% Foxborough 2.9% Franklin 2.6% Medfield 2.2% Medway 2.8% Millis 2.4% Norfolk 2.3% Wrentham 2.4% Greater Marlborough 2.6% 2.7% Hudson Marlborough 2.5% Northborough 2.6% Westborough 2.2% MetroWest 2.3% Ashland 2.4% Framingham 2.3% Holliston 2.5% Hopkinton 2.6% 2.2% Natick Sherborn 1.9% Southborough 2.2% Sudbury 2.7% Wayland 2.3% South Shore 2.8% Abington 2.8% Braintree 2.4%

Cohasset

Hanover

Hingham

Milton

Norwell

Quincy Randolph

Rockland

Weymouth

Massachusetts

United States

2.6%

2.6%

2.5%

2.6%

2.8%

2.7%

3.3%

2.9%

3.0%

2.9%

3.3%

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A Peek Inside MERC









MERC Interns: Fall 2019



<u>Back Row:</u> Allison Moore, Abraham Gomez, Evan Robertson, Alex Paiva Jr., Micayla Goulet <u>Front Row:</u> Madison Scott, Valeria Arauz, Mary Elizabeth Gallagher, Tess Marchioni



Metro**West**





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THANK YOU TO OUR 2019 SPONSORS

The Verve Hotel **1360 Worcester Street** Natick, MA

Thursday, May 28, 2020 8:00 a.m.

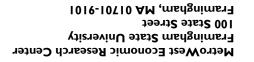
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Evan Robertson Mary Elizabeth Gallagher



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