

Quarterly Economic Indicators Report



Quarter Ended September 30, 2019

Introduction

The attached Table I provides a general indication of the state of Albemarle County's economy in the quarter for which recent data is available. For comparative purposes, each line in Table I reveals data for Q1 FY 20, Q4 FY 19, or Q3 of FY 19 depending on how recently the relevant information was available. Each line in Table I also reveals corresponding historical figures.

The data in Table I consists of three broad categories. The first category pertains to general economic activity in the County, as revealed by the following local tax revenue streams: Sales Tax, Food and Beverage Tax, Transient Occupancy Tax, Inspection Fees, and Other Development Fees. Staff has determined that these revenue streams collectively reflect the overall health of the County's economy since they relate directly to a number of important industries including retail, tourism, and construction. These revenue streams, also, collectively have shadowed movements in the Charlottesville Metropolitan Statistical Area's Gross Domestic Product (GDP) during the course of the past several years. This set of data pertains to Q1 FY 20 and Q1 of previous fiscal years.

The second group of data reveals the County's unemployment rate. Corresponding information is presented for the state and U.S. unemployment rates. These figures pertain to Q1 FY 20 and Q1 of the previous fiscal years. The third data group in Table I includes information about the total number of jobs in the County. Note that this data covers Q3 FY 19, and Q3 of each previous fiscal year, due to the Virginia Employment Commission's (VEC's) ongoing two quarter reporting lag. In addition to total jobs data, Table I breaks down the information by private sector vs. public sector jobs; federal government, state government, and local government jobs; and jobs by two-digit North American Industry Classification System (NAICS) code. The fourth and fifth data groups in Table I contain information about the inflation-adjusted average weekly wage in the County and the inflation-adjusted Federal Housing Finance Agency's House Price Index for the Charlottesville Metropolitan Statistical Area. These two groups of data attempt to capture changes in income and net worth in Albemarle County. The average weekly wage data pertains to Q3 FY 19 and Q3 of prior fiscal years. The Home Price Index numbers cover Q4 of FY 19 and Q4 of the previous fiscal years. Table I presents the quarterly data in such a way that changes over time become readily apparent.

Results

General Economic Activity – One Year

Between Q1 FY 19 and Q1 FY 20, growth in the tax revenue streams shown in Table I generally was very strong. Note however that, unlike annual data, which tends to be relatively smooth, quarterly data from one fiscal year can swing widely from corresponding quarterly figures in other fiscal years. This phenomenon can come about as the result of differences in the timing of the receipt of revenues, one-time payments, as well as unusual differences in economic conditions that might exist between any two particular corresponding quarters. An example of this latter situation would be the impact of harsh weather conditions on, say, sales tax revenue.

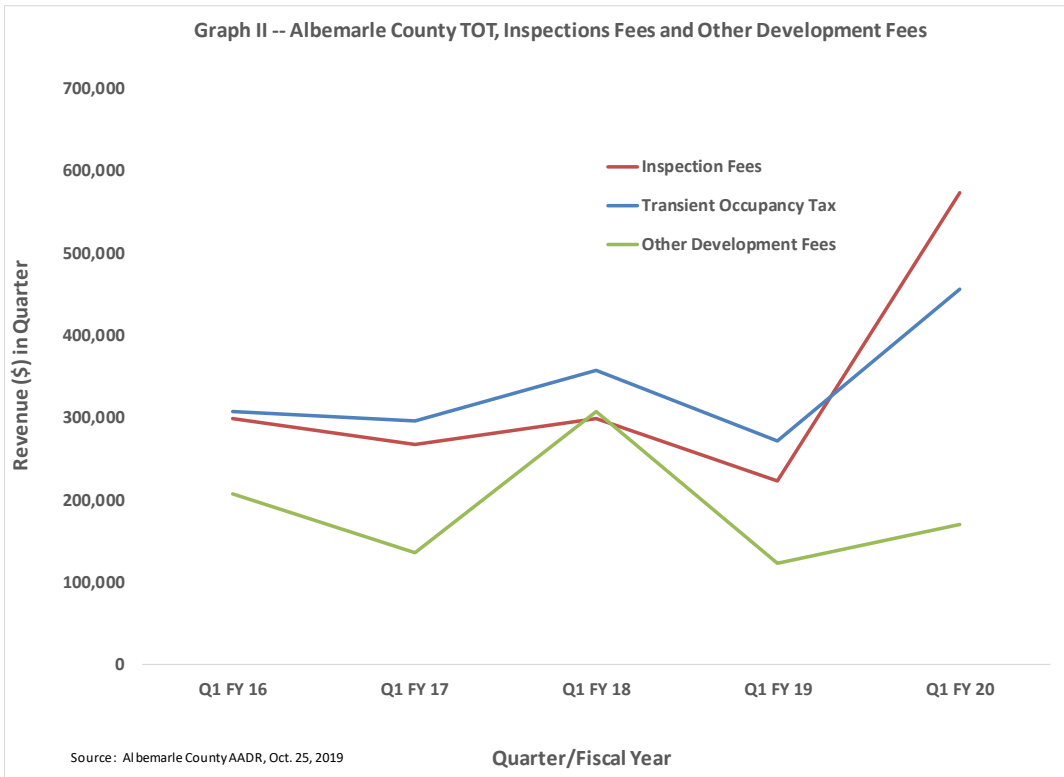
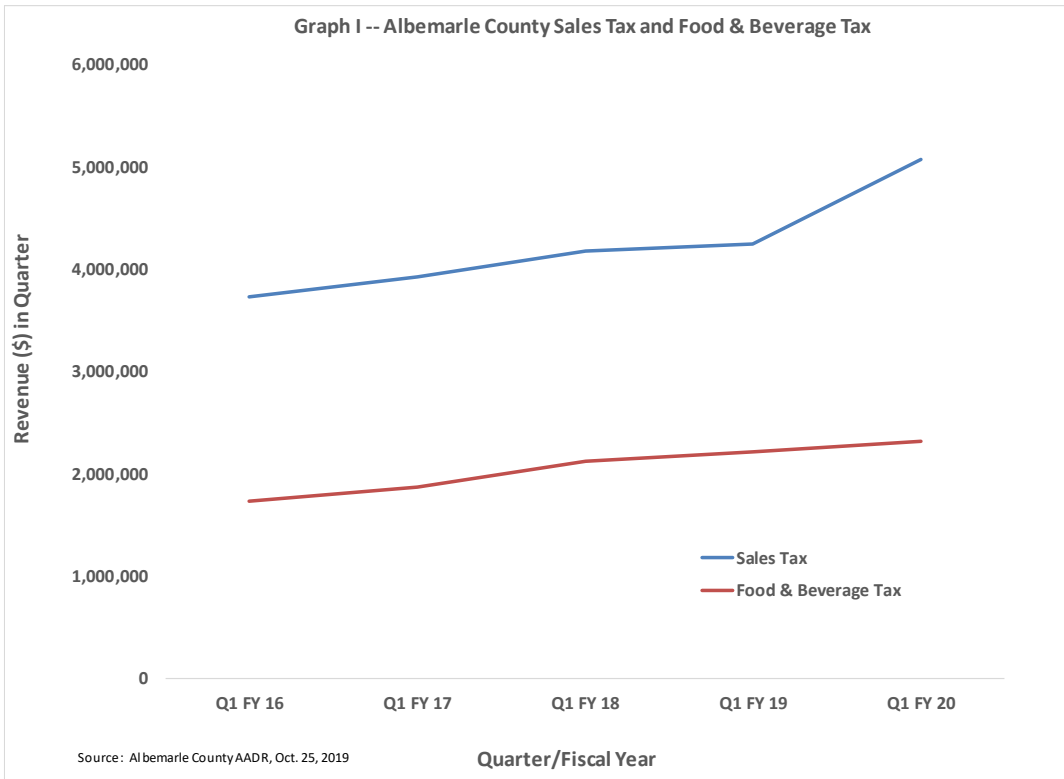
With this caveat in mind, a comparison of Q1 FY 19 and final numbers for Q1 FY 20 Sales Tax revenue reveals that sales activity jumped (+19%). This performance is not surprising, given the strength of the local jobs market (see discussion below) but this huge increase is attributable, at least in part, to a substantial one-time collection resulting from a single transaction. Without this one item, growth in sales tax revenue would have been about 12% between the two quarters.

Food and Beverage tax revenue grew between Q1 FY 19 and Q1 FY 20 (+5%). The figure for Transient Occupancy Tax (TOT), meanwhile, seems to indicate a huge leap between Q1 FY 19 and Q1 FY 20 (+68%). This outsized jump could have resulted partially from the County's beginning to enforce collection of TOT revenue from homestay (e.g., AirBnB) businesses, but staff thinks that a substantial part of the jump likely reflects a timing issue involving TOT payments made to the County in Q4 of FY 19 and Q1 of FY 20.

Table I indicates that Inspection Fees skyrocketed by 158% between Q1 FY 19 and Q1 FY 20, while Other Development Fees apparently jumped by 39% during this time. This situation would be consistent with the tremendous growth in development activity in that the County has experienced in recent months. Staff recalls, however, that sudden bursts of development of this magnitude historically have been followed by periods of much lower activity.¹ This historical experience does not necessarily mean that the flurry of development that Albemarle has experienced recently is due for a downward correction, but staff urges caution in interpreting the results shown in Table I and making the assumption that the Q1 FY 20 level of development activity in the County will continue.

General Economic Activity – Multiyear

As shown on Table I, between Q1 FY 16 and Q1 FY 20 quarterly Sales Tax revenue grew by about 36%. This increase came about, at least partially, from the “filling in” of major new shopping centers along the 29 North and 5th Street corridors. Food & Beverage tax revenue grew by about 34% during this time. This latter result is consistent with the opening of a number of high-volume restaurants in the County in recent years. Transient Occupancy Tax (TOT) grew by about 49% during this time period. As mentioned previously, at least part of this situation is due to the enhanced collection of revenues from AirBnB-style businesses, but also might have resulted from a potential timing issue involving Q1 FY 20 revenue collections. Inspection Fees, meanwhile, jumped by around 92%, while Other Development Fees declined by approximately 18%. Note that there appears to be roughly a two-year lag between major changes in revenue associated with Other Development Fees, on the one hand, and Inspection Fees, on the other hand. In the case of the five years shown on Table I, Other Development Fees peaked in Q1 FY 18, while Inspection Fees revenue reached its highest point in Q1 FY 20. This phenomenon is consistent with the notion that Other Development Fees tend to be related to the planning phase of new development, whereas Inspection Fees tend to be associated with the construction portion of new development. Graphs I and II, on the next page, show visually the changes in the revenue streams listed on Table I.

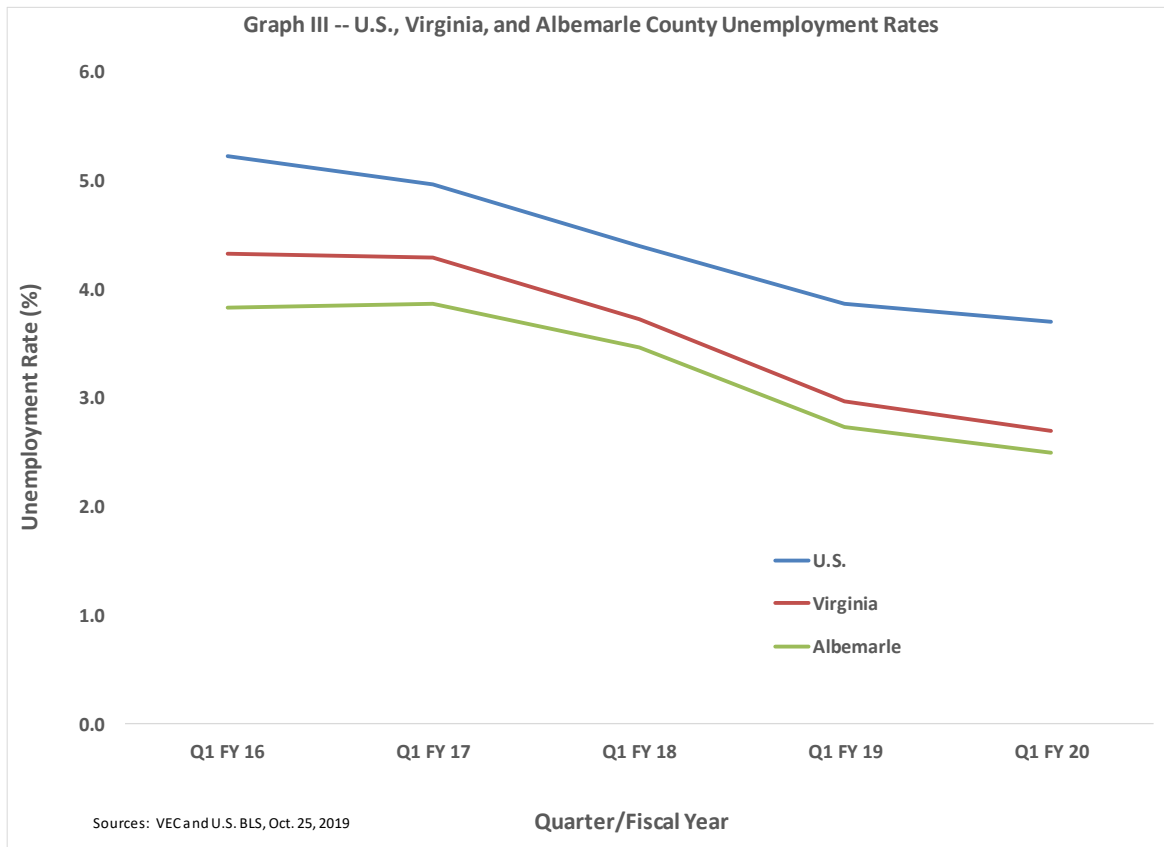


Unemployment Rate – One Year

Albemarle’s average monthly unemployment rate fell from 2.73% in Q1 FY 19 to 2.50% in Q1 FY 20. This decline of 0.23 percentage points (pp) was smaller than the pp decline experienced at the state level but larger than the drop at the national level. The County’s 2.50% rate is well below what many economists would consider to be the “frictional” or “full employment” rate of unemployment. Staff thinks that, based on the past twenty years of unemployment rate data, Albemarle’s frictional employment rate likely is *in the vicinity* of 3.5%. The current extremely low level of unemployment typically would suggest upward pressure on wages. This situation seems to be confirmed by a recent rise in the inflation-adjusted weekly wage, discussed below. Note that the unemployment rate applies only to people who are in the labor force. The number does not capture people who might have become discouraged looking for employment and have dropped out of the labor force.

Unemployment Rate – Multiyear

Between Q1 FY 16 and Q1 FY 20, Albemarle’s unemployment rate fell from 3.83% to 2.50%, or by 1.33 pp. The decline in the County’s rate was not quite as large as the corresponding drop in the Virginia unemployment rate (1.63 pp) or the U.S. rate (1.53 pp) but, as shown in Table I, and in Graph III, below, the County’s rate historically has been well below the U.S. and Virginia rates of unemployment.



Employment – One Year

Note that the jobs numbers for Albemarle come from the Virginia Employment Commission's Quarterly Census of Employment and Wages (QCEW) report; are reported by place of employment; and include both part-time and full-time positions, as well as both temporary and permanent positions. The nature of this data is such that the numbers can swing substantially from quarter to quarter during any particular year and, additionally, can vary widely between the same quarter of different years. Changes in the numbers sometimes can be misleading if, for example, employers in the County replace many part-time jobs with full-time positions. The VEC's jobs numbers, nonetheless, are used as the gauge of the number of positions in the County since no other comprehensive set of jobs data for Albemarle is readily available.

As shown on Table I, the average monthly total number of jobs in the County appears to have grown from 55,263 in Q3 FY 18 to 56,427 in Q3 FY 19, or by 1,164 positions (2.11%). This result is consistent with a robust labor market. Note that the Q3 FY 19 results shown in Table I might change if the VEC publishes any revisions to the data in coming months.

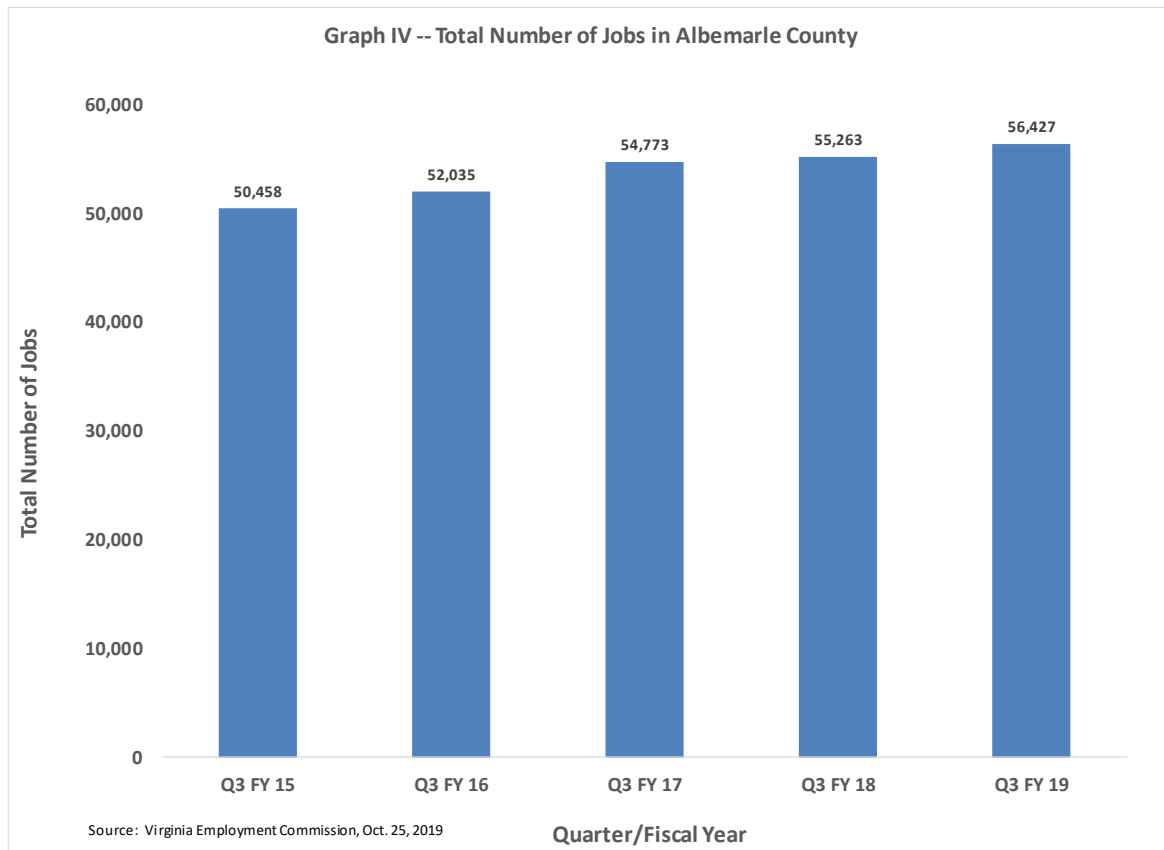
Table I reveals that the private sector gained 876 positions between Q3 FY 18 and Q3 FY 19, and that the private sector's share of the total number of jobs in the County remained essentially flat, moving to 67.58% of the jobs base in Q3 FY 19 from 66.42% in Q3 FY 18. During this time, the public sector experienced a net gain of 526 jobs, with most of the gain (386 positions) coming from the State Government sector. It is important to keep in mind that the figures presented in Table I reflect *monthly averages for the three months of the quarter*, and do *not* necessarily reveal changes in full-time, permanent positions.

Employment sectors that experienced the largest increases in numbers between Q3 FY 18 and Q3 FY 19 include Health Care and Social Assistance (+575 positions); Educational Services (+439 jobs); and Professional, Scientific, and Technical Services (+ 156 jobs). Sectors that endured the greatest losses, again in terms of numbers, include Construction (-239 jobs); Retail Trade (-113 positions); and Unclassified (-24 jobs).

Employment – Multiyear

During the course of the Q3 FY 15 to Q3 FY 19 time period, the total number of jobs grew by 5,969 positions, or 11.83%. The private sector accounted for 4,237 of these jobs, or about 71% of the total growth. Note that the private sector's share of the jobs base was essentially flat, going from 67.17% in Q3 FY 15 to 67.58% in Q3 FY 19. With regard to the public sector, growth in jobs during this time period was relatively small. The number of public sector positions in Albemarle increased by 2,010 between these years. This growth appears to have resulted overwhelmingly from an increase in State-level employment (+1,704 jobs), a situation which was in sharp contrast to the change in Federal Government positions (+47) and Local Government jobs (+259).

The NAICS sectors that experienced the largest increase in jobs between Q3 FY 15 and Q3 FY 19 included Educational Services (+1,481 jobs); Health Care and Social Assistance (+1,276 positions); and Accommodation and Food Services (+929 jobs). The three sectors that experienced the largest declines in employment numbers included Construction (-461 jobs); Management of Companies (-166 positions); and Manufacturing (-69 jobs). The performance of the County's jobs base between Q3 FY 15 and Q3 FY 19 is shown on Graph IV, below.



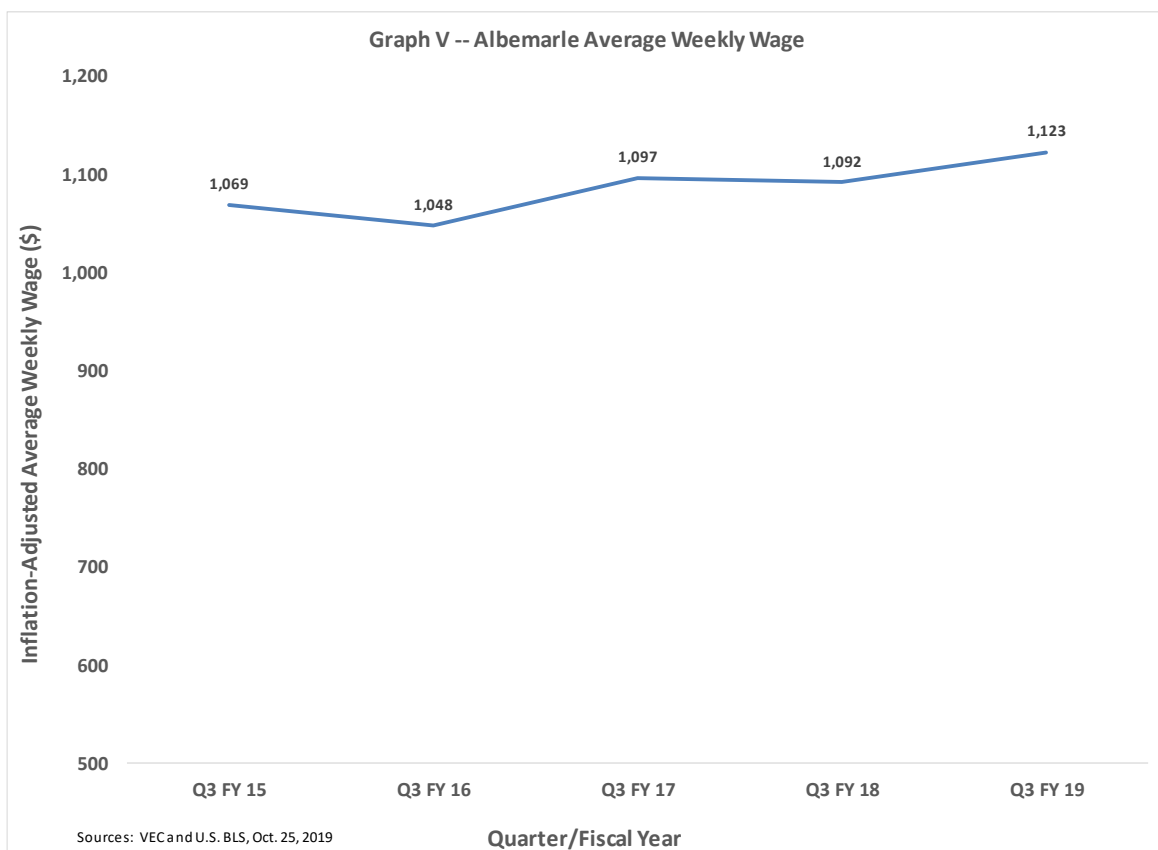
Average Weekly Wage – One Year

The average weekly wage reveals the general wage level in Albemarle County's employment base. The data comes from the Virginia Employment Commission, and is weighted by the relative number of positions in each of the NAICS employment sectors shown in Table I. The average weekly wage is included in this report in an attempt to gauge the direction and pace at which *income* is changing in the County. Note that the average weekly wage can be influenced by sharp changes in the number of jobs in any particular sector, as well as any sudden changes in the wages paid in that sector or other sectors. For these reasons, caution should be exercised in interpreting changes in the average weekly wage, particularly between the same quarter of two consecutive fiscal years. This metric, nonetheless, can give us an idea about the performance of income in Albemarle County over time. The data from the VEC, unfortunately, is stated in nominal terms, i.e., does *not* take inflation into account so, for the purposes of this

report, the VEC data is adjusted for inflation, using the Consumer Price Index for all Urban Consumers (CPI-U), from the U.S. Department of Labor's Bureau of Labor Statistics. The inflation-adjusted figures presented in Table I, in other words, reveal changes in the *real* average weekly wage. Figures are stated in Q3 FY 19 dollars. As shown in the table, between Q3 FY 18 and Q3 FY 19, the real average weekly wage apparently increased from \$1,092 to \$1,123 (\$31 or 2.83%). This result means that, after taking inflation into account, the "average" job in Albemarle paid 2.83% more in Q3 FY 19 than it did in Q3 FY 18 although, again, this result should be viewed with caution.

Average Weekly Wage – Multiyear

As shown on Table I, growth in the inflation-adjusted average weekly wage appears to have been modest, changing from \$1,069 in Q3 FY 15 to \$1,123 in Q3 FY 19. This small increase of \$54 (or 5.05%) is similar to the subdued wage growth that has existed in the United States since the end of the "Great Recession." Graph V, below, shows visually the performance of the inflation-adjusted average weekly wage in Albemarle County between Q3 FY 15 and Q3 FY 19.



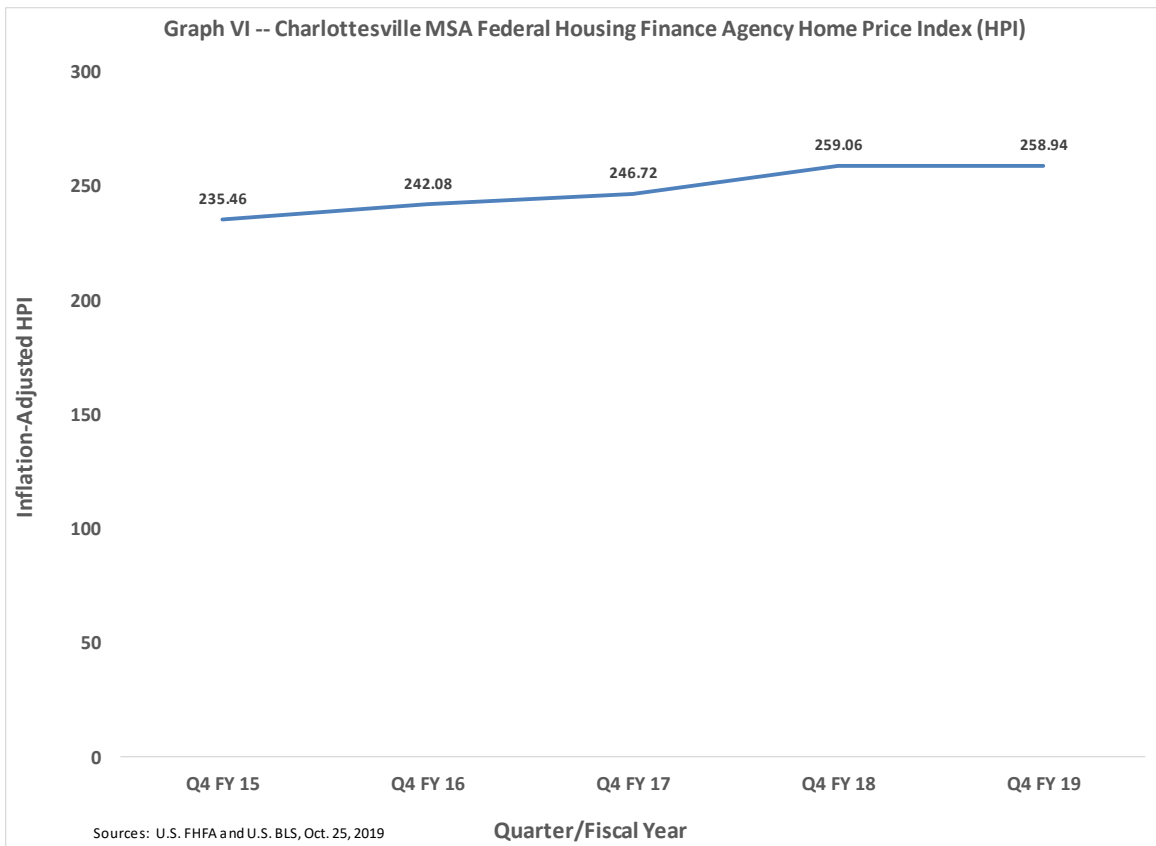
House Price Index – One Year

Each quarter, the U.S. Federal Housing Finance Agency (FHFA) publishes an index number for housing values in each Metropolitan Statistical Area (MSA) of the United States. This House Price Index (HPI) figure is based on a “repeat sales” methodology and generally is thought to offer one of the most accurate measures of housing price levels within a metropolitan area. The FHFA data cited in this report reflects “all transactions” (sales as well as refinancings) and is not seasonally-adjusted. Note that, despite the “all transactions” designation, only data from sales or refinancings that involve “conforming” mortgages are included in the HPI.² Note, also, that the HPI data is *not* broken down by cities or counties within each MSA so, for the Charlottesville MSA, information is not available separately for the County of Albemarle. Despite these limitations, the FHFA house price index offers a good measure by which to compare changes in the value of housing in Albemarle over time, since the County represents a substantial portion of the Charlottesville area’s housing stock. As was the case with the average weekly wage, the figures cited in this report have been adjusted for inflation, with Q4 FY 19 serving as the reference point.

The reason why the HPI is an important piece of data is that changes in the index can serve as a *rough proxy* for changes in residents’ *net worth* over time since, in the United States, primary residences represent most households’ single biggest asset by dollar value.³ As shown on Table I, between Q4 FY 18 and Q4 FY 19, the Charlottesville MSA’s FHFA HPI fell from 259.06 to 258.94 (a slight decrease of 0.12 points, or 0.05%). This result suggests that, if all else were held constant, the net worth of many Albemarle residents was essentially flat between the two years. Note, however, that when coupled with the apparent rise in the inflation-adjusted average weekly wage, housing in the Charlottesville area might have become relatively more affordable between Q4 FY 18 and Q4 FY 19, especially given the fact that mortgage rates declined during that time.⁴

House Price Index – Multiyear

Between Q4 FY 15 and Q4 FY 19, the Charlottesville area’s inflation-adjusted HPI rose from 235.46 to 258.94 (growth of 23.48 points, or 9.97%). If all else were held constant, this result would suggest that the net worth of many Albemarle residents increased during the course of the time period. When coupled with the increase of 5.05% in the inflation-adjusted average weekly wage, however, this situation suggests that housing in the region became somewhat less affordable over time, especially as mortgage rates increased slightly during the years in question.⁵ Graph VI, on page 9, shows visually the performance of the Charlottesville MSA’s inflation-adjusted HPI between Q4 FY 15 and Q4 FY 19.



Conclusions

The data presented on Table I indicates that the County's economy, as represented by the *collective* performance of selected revenue streams, grew substantially between Q1 FY 19 and Q1 FY 20. The numbers presented in Table I must be treated with caution, however, given that data from the same quarters of different years can swing wildly, due to a number of factors. The 0.23 pp decline in Albemarle's unemployment rate between Q1 FY 19 and Q1 FY 20 suggests that the County's economy continued to grow this past year. The Q1 FY 20 rate of 2.50% appears to be at least nominally consistent with a labor shortage. The performance of the inflation-adjusted average weekly wage between Q3 FY 18 and Q3 FY 19 seems consistent with a labor shortage. A robust increase in Albemarle's jobs base between Q3 FY 18 and Q3 FY 19 (+1,164 positions, or +2.11%) implies that economic conditions were good in Q3 FY 19. The relative flatness in the inflation-adjusted FHFA HPI for the Charlottesville area represents an anomaly within the context of a strong County economy. When coupled with the data regarding growth in the inflation-adjusted average weekly wage, however, the relative flatness in housing prices suggests a modest general increase in the region's housing affordability. This last result stands in contrast to the findings of recent year-over-year comparisons of quarterly data, which tended to show decreases in relative affordability.

Looking forward to the remainder of FY 20, the County's economic prospects appear to be generally good, despite some potential headwinds. Assuming that, in the third and fourth

quarters of FY 20, U.S. Gross Domestic Product (GDP) grows at the 1.76% average annualized rate forecasted by economists in the November 2019 *Wall Street Journal* survey, staff expects the County's unemployment rate will remain around 2.5%, and that the jobs base will grow by about 1.5% over the final FY 19 level.⁶ This outlook for the County's economy is tempered, however, by potential headwinds. If the global macroeconomic picture were to take a turn for the worse, this situation obviously could have a negative effect on the U.S. economy and, by extension, the economy of Albemarle County. Economists have identified several foreseeable issues which could induce a turn in the global macroeconomic picture. Among these items are the ongoing U.S. – China trade dispute; a potential recession in the European economy; and a slowdown in the manufacturing sector in the U.S. A fourth item, the inverted yield curve for U.S. Treasuries, appears to have diminished as a topic of concern since the curve has “reverted” to a more normal shape than was the case in August of 2019.⁷

1. Between calendar years 1988 and 1989 for example, the total number of residential building permits issued by the County went from 673 to 1,309 (+94.5%) while the total number of square feet of new non-residential space approved by the County more than doubled, going from 689,000 to 1,927,000 (+179.7%). Between 1989 and 1990, however, residential permits dropped from 1,309 to 804 (-38.6%) while the approved number of new square feet of non-residential space plummeted from 1,927,000 to 476,000 (-75.3%). Between calendar years 2001 and 2002, likewise, the number of residential building permits rose from 875 to 1,720 (+96.6%) but, between 2002 and 2003, the number fell from 1,720 to 1,079 (-37.3%). In a similar vein, between calendar years 2000 and 2001 the dollar value of approved new non-residential construction in Albemarle leaped by 79.8%, moving from \$88.307 million to \$158.751 million while, between 2001 and 2002, the figure dropped from \$158.751 million to \$85.629 million, or -46.1%. (Square footage data for non-residential space during these years is not readily available, so dollar values serve as the measure of the level of non-residential approval activity in the 2000 to 2002 time period). Source of historical building permit data: Albemarle County *Building Activity Reports* for the relevant years.

2. Conforming mortgages include only mortgages that are eligible to for purchase by Fannie Mae or Freddie Mac. Generally, these mortgages must be under a certain dollar value, which varies by metropolitan area.

3. See Table 3, p. 18 of the *Federal Reserve Bulletin*, September 2017 (Vol. 103, No. 3). This table, which contains data from the 2016 *Survey of Consumer Finance*, reveals that, at the time of the survey, 63.7% of respondents owned their primary residence and the median value of this owned asset was \$185,000. This amount was greater than the conditional median value of any other owned asset class.

4. For analytical purposes, quarterly mortgage rates are defined as the average weekly 30-Year fixed rate mortgage, not taking points into account, during the course of the quarter. In Q4 FY

19, the figure came to 4.01% while, in Q4 FY 18, the number equaled 4.54%. For historical mortgage rate data from Freddie Mac (the Federal Home Loan Corporation), please see:

<http://www.freddiemac.com/pmms/archive.html>

5. According to Freddie Mac, in Q4 FY 15 the 30 Year fixed mortgage, without points, equaled 3.82% and, as mentioned in Endnote 4, the corresponding figure for Q4 FY 19 was 4.01%.

6. For details about the survey, see the *Wall Street Journal* website:

<https://www.wsj.com/graphics/econsurvey/>

7. The theoretical reason behind the concern that many economists expressed in the summer of 2019 over the inversion of the U.S. Treasuries yield curve involved the fact that lending institutions tend to borrow funds for relatively short terms, but lend funds to consumers and businesses for relatively long terms. In the case of an inverted yield curve, the interest rate on short-term funds rises above the rate on long-term funds. The result of this phenomenon is that lending institutions that borrowed for the short-term but lent for the long-term would experience a squeeze on their profit margins and, holding everything else equal, would choose to cut back on lending. Credit tends to be the lifeblood of the economy, so the drop in lending activity ultimately would result in a slowdown or outright drop in economic activity. Based on empirical evidence, this theory seems to have some validity: Since 1955, an inverted yield curve has preceded all recessions and, additionally, an inverted yield curve on only one occasion has erroneously predicted a recession. (In this last case, however, the inverted yield curve *did* foreshadow a *slowdown*). For more information about the inverted yield curve phenomenon, please see, “Monetary Cycles, Financial Cycles, and the Business Cycle,” (Federal Reserve Bank of New York, Staff Report No. 421, January 2010). This paper examines the relationship between changes in the slope of the yield curve and changes in real economic activity. The paper is available at the following link:

https://www.newyorkfed.org/research/staff_reports/sr421.html

As shown in Graph VII on the following page, the yield curve inverted earlier in 2019, prompting concern among many observers. Graph VII compares yields across maturities in August of 2018 and reveals the same information for August of 2019. Note that the yield curve maturities looked reasonably normal in August of 2018, but that sections of the curve inverted a year later. Indeed, the 3 Month yield in August of 2019 (1.99%) was higher than was the 10 Year yield (1.63%). Many economists, financial analysts, and investors pay particular attention to these two points on the yield curve since a pronounced and durable inversion of the two yields historically has signaled the coming of a recession in 12 to 18 months. As shown on Graph VIII on the same page, however, by the end of October of 2019, these two points on the curve had (barely) reverted. The yield curve, however, still is relatively flat – might invert again – so the possibility of a recession, or at least a slowdown, in economic activity in the coming year remains a possibility.

