Quarterly Economic Indicators Report

Quarter Ended March 31, 2018

Introduction

The attached Table I provides a general indication of the state of Albemarle County's economy in the quarter for which the most recent data is available. For comparative purposes, each line in Table I reveals data for Q3 FY 18, Q2 of FY 18, or Q1 of FY 18, depending on how recently the relevant information was available. Each line in Table I also reveals corresponding historical figures from FY 17, FY 16, FY 15, and FY 14. Table I presents the quarterly data in such a way that changes over time become readily apparent.

The data in Table I consists of three broad categories. The first category pertains to general economic activity in the County, as reveled 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 eleven years. This set of data pertains to Q3 FY 18 and Q3 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 Q2 FY 18 and Q2 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 Q1 FY 18, and Q1 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 Q1 FY 18 and Q1 of prior fiscal years. The House Price Index numbers cover Q2 of FY 18 and Q2 of the previous fiscal years.

Results

General Economic Activity – One Year

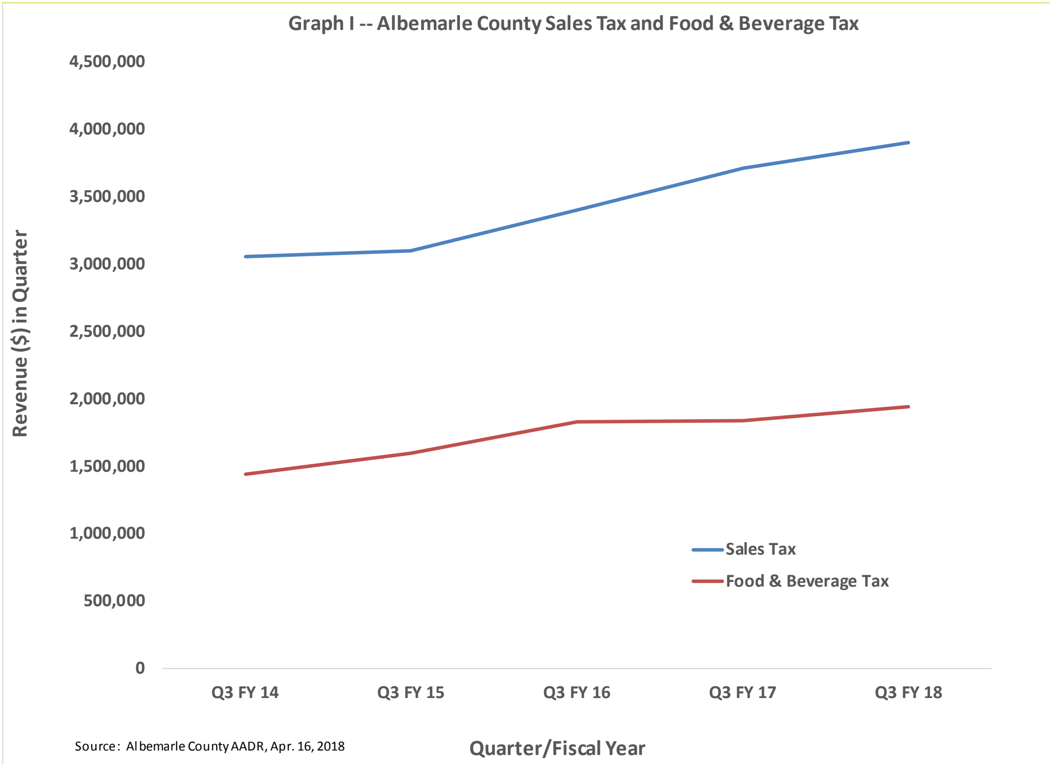
Between Q3 FY 17 and Q3 FY 18, the tax revenue streams shown in Table I exhibited strong growth. Note however that, unlike annual data, which tends to be relatively smooth, quarterly data from one fiscal year can swing widely from corresponding quarterly figures in other fiscal years. This phenomenon can come about as the result of differences in the timing of the receipt of revenues, 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 Q3 FY 17 and Q3 FY 18 Sales Tax revenue reveals growth of about 5%. This performance is due in large part to the ongoing expansion of a major shopping center south of Charlottesville during FY 18, as well as the increased popularity of a relatively new shopping center along the 29 North corridor.

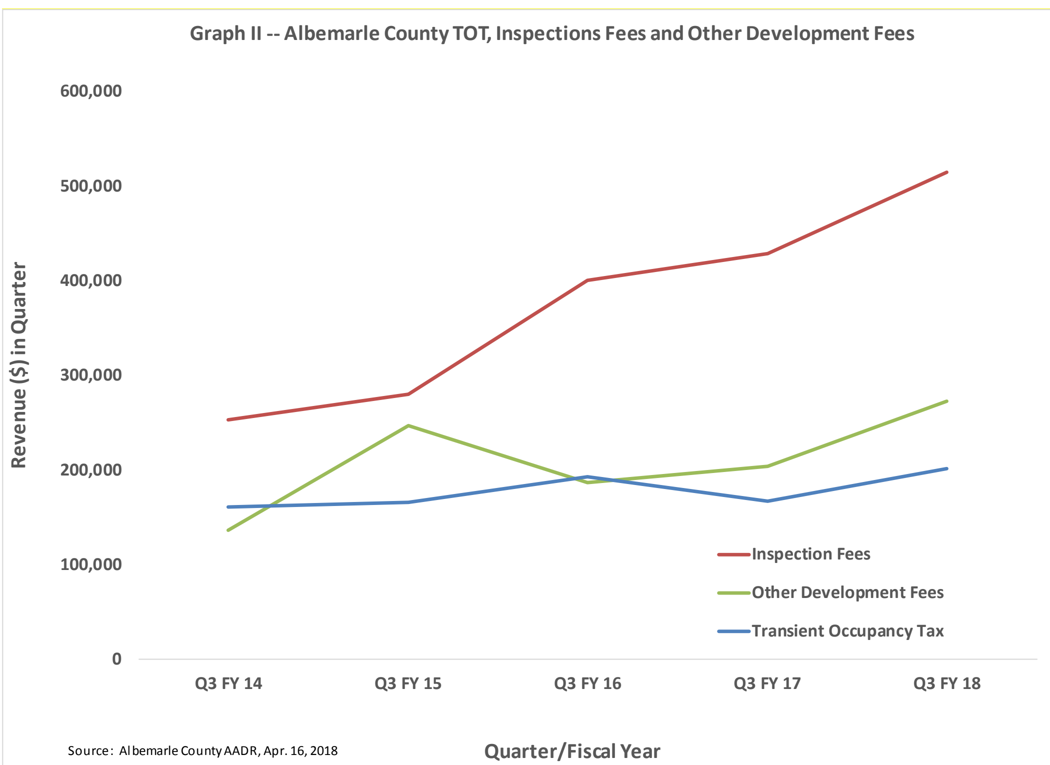
Food and Beverage tax revenue grew at a healthy rate, 5.66%, between Q3 FY 17 and Q3 FY 18. Transient Occupancy Tax (TOT), meanwhile, appears to have jumped by about 20% between Q3 FY 17 and Q3 FY 18. A word of caution in interpreting this result, however, is in order. Comparisons between the same quarter of different fiscal years can reveal increases in revenue or, alternately, substantial drops but these changes frequently prove to be fleeting in nature and, oftentimes, can be misleading. Staff is surprised by the apparently strong performance of this revenue stream, given the large increase in the supply of hotel/motel rooms in the City, relative to the County in recent years. (Note that, in the Q2 FY 18 Quarterly Economic Indicators Report, the Q2-to-Q2 change in TOT was roughly -7%). Staff will continue to monitor this situation, but expects that, in coming quarters, there will continue to be downward pressure on growth in the County's TOT revenues, due to the likely "cannibalization" of lodging sales in Albemarle County by hotels and motels that are located in the City of Charlottesville.

Table I indicates that Inspections Fees jumped by 20% between Q3 FY 17 and Q3 FY 18, while Other Development Fees also leaped by about 34% during this time. The underlying pace of new development that generated these gains, however, likely will decline in the remainder of FY 18, according to the County's Director of Community Development.

General Economic Activity – Multiyear

As shown on the attached Table I, between Q3 FY 14 and Q3 FY 18 quarterly Sales Tax revenue grew by about 28%, while quarterly TOT revenue rose by about 25%. These increases came about, at least partially, from the "filling in" of a major shopping center along the 29 North corridor since FY 13, and the opening of a new hotel near this shopping center in FY 14. Quarterly Food & Beverage tax revenue grew by about 35% during this time. This latter result is consistent with the opening of a number of high volume restaurants in the County in recent years. Quarterly Inspections Fees, meanwhile, jumped by around 104%, while quarterly Other Development Fees leaped by approximately 100%. The growth in these two revenue streams reflect the rebound in development activity that has taken place since the end of the "Great Recession" but also reflects changes, that began in FY 16, in the fee rates that the Department of Community Development charges for services. Note, also, that the County did not begin to collect VSMP fees at all until FY 15; this situation explains the jump in Other Development Fees between Q1 FY 14 and Q1 FY 15. Graphs I and II, on the next page, show visually the changes in the revenue streams listed on Table I.



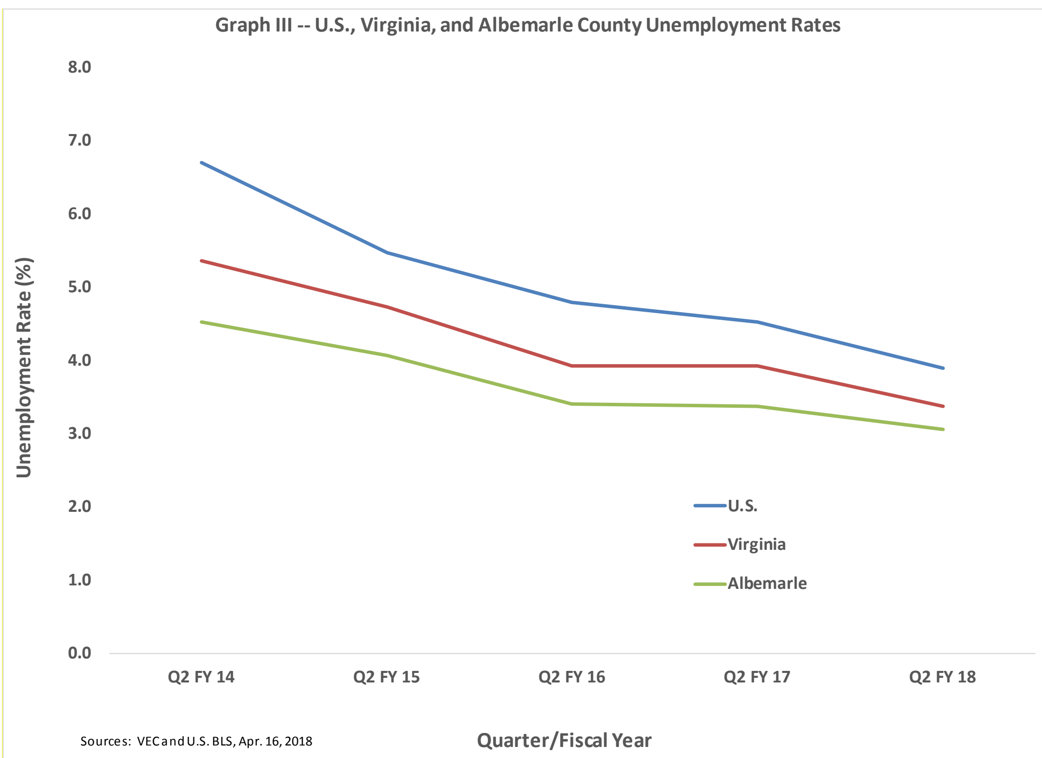


Unemployment Rate – One Year

Albemarle's average monthly unemployment rate fell from 3.37% Q2 FY 17 to 3.07% in Q2 FY 18. This decline of 0.30 percentage points (pp) was smaller the pp declines experienced at the state and national levels. The County's 3.07% rate is *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% so Albemarle's Q2 FY 18 rate of just over 3% would appear to be consistent with full employment. The County's unemployment rate has diminished slowly in the past several years since the end of the 2007-09 recession. 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 Q2 FY 14 and Q2 FY 18, Albemarle's unemployment rate fell from 4.53% to 3.07%, or by 1.47 pp. The decline in the County's rate was not quite as large as the corresponding drop in the Virginia unemployment rate (2.00 pp) or the U.S. rate (2.80 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 jumped substantially from 53,530 in Q1 FY 17 to 55,871 in Q1 FY 18, or by 2,341 positions (4.37%). This result is encouraging and speaks to an apparently robust labor market in Albemarle County. The Q1 FY 18 results shown in Table I might change, however, if the VEC publishes any revisions to the data in coming months. The apparently strong growth in jobs, in other words, might turn out to be illusory; however, this strong performance has appeared in several recent editions of the Quarterly Financial Report. Given this situation, staff thinks that growth in the County's jobs base during the course of the past several quarters likely is not a statistical fluke.

Table I reveals that the private sector gained 1,860 positions between Q1 FY 17 and Q1 FY 18, and that the private sector's share of the total number of jobs in the County essentially remained flat, moving to 68.76% of the jobs base in Q1 FY 18 from 68.29% in Q1 FY 17. During this time, the public sector experienced a net gain of 479 jobs, with the vast majority of the gain (378 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 Q1 FY 17 and Q1 FY 18 include Accommodation and Food Services (+551 jobs); Retail Trade (+419 jobs); and Educational Services (+319). Sectors that endured the greatest losses, again in terms of numbers, include Arts, Entertainment, and Recreation (-97 jobs); Management of Companies (-86 positions); and Real Estate and Rental/Leasing (-22 jobs).

Employment – Multiyear

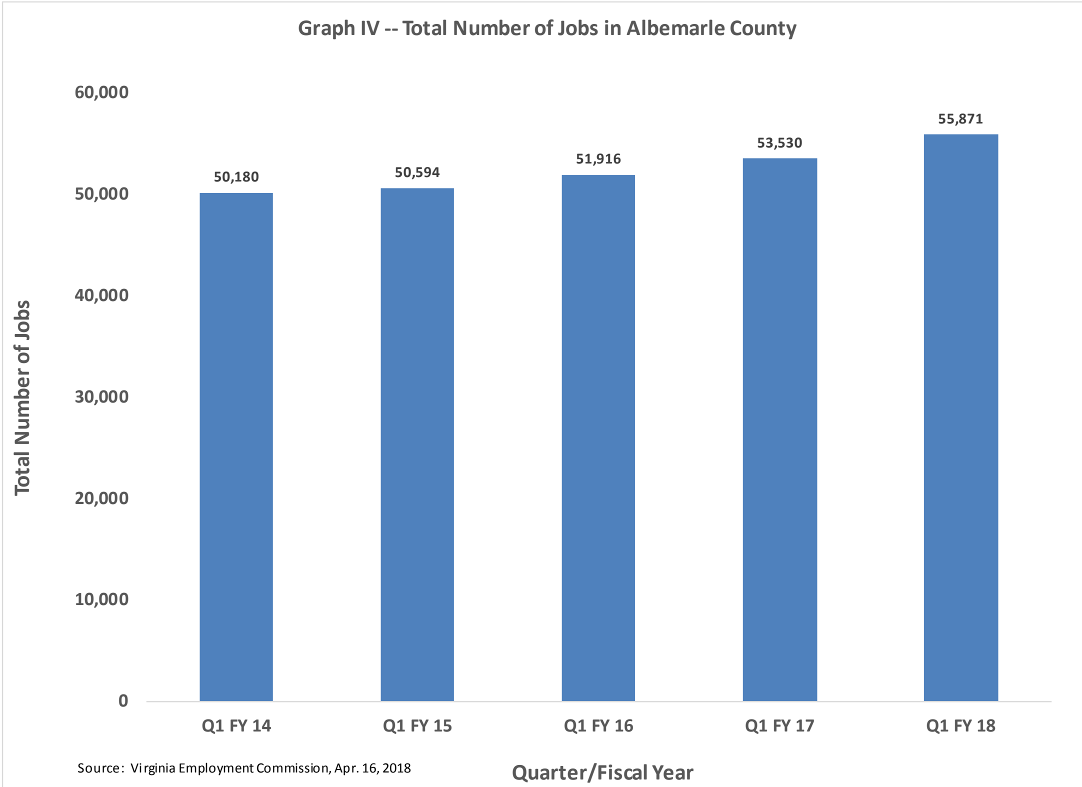
During the course of the Q1 FY 14 to Q1 FY 18 time period, the total number of jobs grew by 5,691 positions, or 11.34%. The private sector accounted for 4,333 of these jobs, or about 76% of the total growth. Note that the private sector's share of the jobs base rose slightly, going from 67.92% in Q1 FY 14 to 68.76% in Q1 FY 18. 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 1,358 between these years. This growth appears to have resulted overwhelmingly from an increase in State-level employment (+1,358 jobs), a situation which was in sharp contrast to the change in Federal Government positions (+32) and Local Government jobs (+54).

The NAICS sectors that experienced the largest increase in jobs between Q1 FY 14 and Q1 FY 18 included Retail (+1,017 jobs), Health Care and Social Assistance (+942 positions); and Educational Services (+880 jobs). Two sectors experienced the declines in employment numbers: Management of Companies (-179 jobs); and Wholesale Trade (-5 positions). Note that Manufacturing, a sector that has gained much attention both nationally and locally in recent times, remained essentially flat (+6 jobs) during the past four years. Manufacturing's share of the County's total jobs base, however, fell from 4.35% to 3.92%. The performance of the County's jobs base in the Q1 FY 14 to F1 FY 18 time period is shown on Graph IV, on the next page.

One timely topic, in light of the relatively strong performance of the Retail sector's jobs numbers discussed above, is that this performance does not seem consistent with the notion of the "retail apocalypse" that the financial media has discussed in the past year or so.[1] According to this notion, the growth of online retail and increased automation in the retail industry is decimating traditional bricks-and-mortar retail activity. If this idea were true then, in the first place, we would expect to see the absolute number of retail jobs in the County declining rather than growing. We would expect, secondly, that the *percentage* of retail jobs in Albemarle's jobs base would have dropped between Q1 FY 14 and Q1 FY 18. Retail jobs, as a share of the County's total jobs base, however, increased from 10.50% in Q1 FY 14 to 11.25% in Q1 FY 18, and retail remained Albemarle's third largest jobs sector.

As a caveat to these statements, it is worth noting that the idea of the "retail apocalypse" usually is discussed in the financial media in terms of the decimation of bricks-and-mortar retail *space*. Online shopping and retail automation, in other words, might result in substantial closing of bricks-and-mortar *stores*, but might have only a marginal impact on retail-related *jobs*, as people shift from working in stores to other types of retail-related real estate, such as fulfillment and customer service centers. In Albemarle County, staff currently does not see a substantial number of boarded-up or vacant storefronts, however, and notwithstanding the recently announced closing of a big box retailer along the 29 North corridor, the County has experienced a major increase in leased retail space in the past few years. Again, this situation would not seem to be consistent with the notion of the "retail apocalypse."

Granted, the "retail apocalypse" might take a long time to play out and, in any case, a number of communities across the United States already have experienced increases in vacant retail space in recent years, particularly among big box retailers and enclosed regional shopping malls. Staff recalls, however, that this phenomenon often has occurred in communities that have either stagnant or declining populations and frequently has involved retailers that have taken on too much debt. There might be factors other than just growth in online shopping and automation, in other words, that have resulted in the emptying of these retail spaces. Staff, nonetheless, will continue to monitor closely the County's retail environment, especially in light of foreseeable changes in the industry.

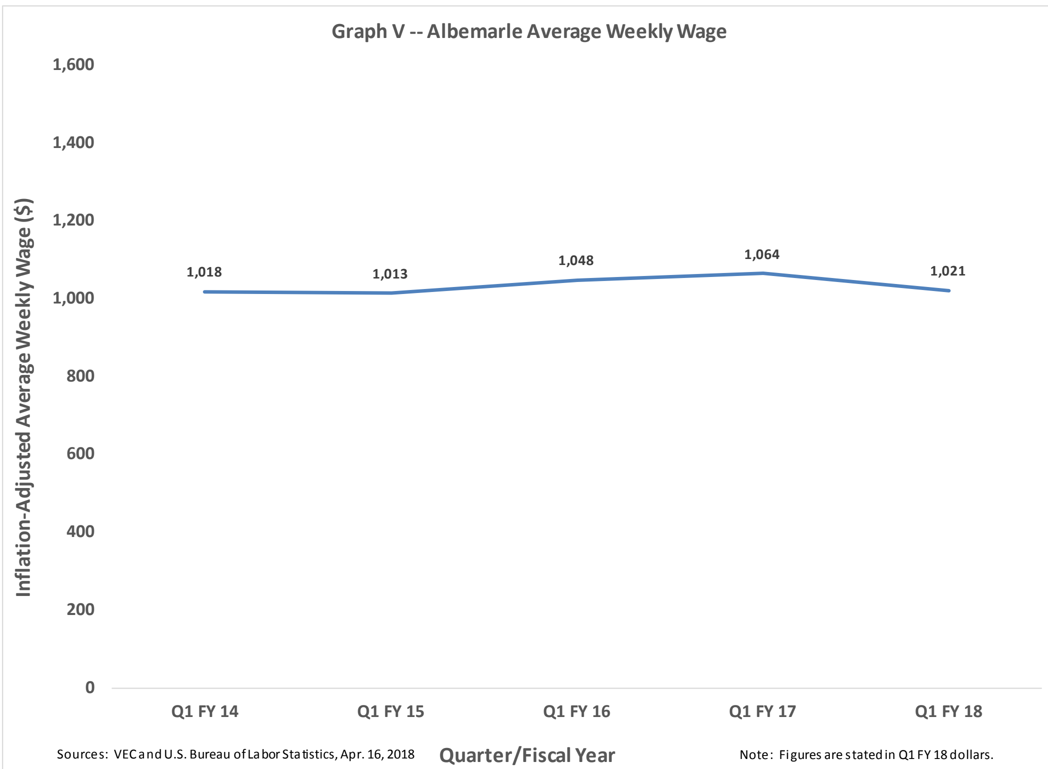


Average Weekly Wage – One Year

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 shown in the table are in Q1 FY 18 dollars. Between Q1 FY 17 and Q1 FY 18, the real average weekly wage apparently decreased from $1,064 to $1,021 (a drop of $43 or 4.05%). This result means that, after taking inflation into account, the "average" job in Albemarle paid about 4% less in Q1 FY 17 than it did in Q1 FY 18. As mentioned previously, however, a number of factors can positively or negatively impact this result, and it is worth noting that, in the Q2 FY 18 Economic Indicators report, the corresponding change between Q4 FY 16 and Q4 FY 17 was +$14 or +1.51%. By virtue of the volatile nature of this one-year metric, caution should be exercised in interpreting year-over-year changes in the dollar amount of the average weekly average.

Average Weekly Wage – Multiyear

As shown on Table I, the inflation-adjusted average weekly wage was essentially flat between Q1 FY 14 to Q1 FY 18, rising from $1,018 to only $1,021. This tiny increase of $3 (or 0.26%) over the course of the four years reflects the subdued wage growth that has existed in the United States since the end of the "Great Recession" (note that the corresponding figure from the Q2 FY 18 Economic Indicators report was an increase of only $38, or 4.36%). Graph V, below, shows visually the performance of the inflation-adjusted average weekly wage in Albemarle County between Q1 FY 14 and Q1 FY 18.



Housing 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 home 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 and are stated in terms of Q1 FY 18 dollars.

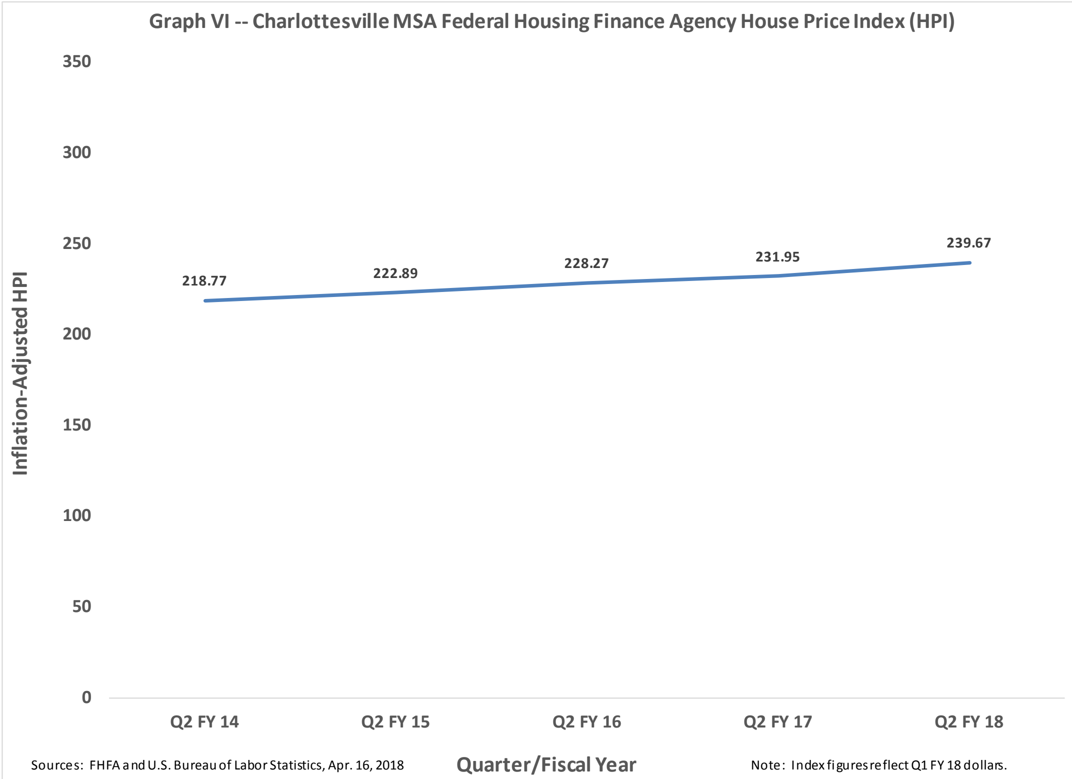
The reason why the HPI is an important piece of data is that changes in the index can serve as a *rough* proxy for changes in residents' *net worth* over time since, in the United States, primary residences represent most households' single biggest asset by dollar value.[3] As shown on Table I, between Q2 FY 17 and Q2 FY 18, the Charlottesville MSA's FHFA HPI rose from 231.95 to 239.67 (an increase of 7.72 points, or 3.33%). This result suggests that, if all else were held constant, the net worth of many Albemarle residents increased between the two years. This information, when coupled with the average weekly wage data above, however, raises potential questions about housing affordability for prospective purchasers.

Housing Price Index – Multiyear

Between Q2 FY 14 and Q2 FY 18, the Charlottesville area's HPI rose from 218.77 to 239.67 (a rise of 20.90 points, or 9.55%). Again, 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, but this result, when coupled with the multiyear average weekly wage data cited above, also would raise potential questions about housing affordability for prospective purchasers. Graph VI, on the next page, shows visually the performance of the Charlottesville MSA's HPI between Q2 FY 14 and Q2 FY 18.

Conclusions

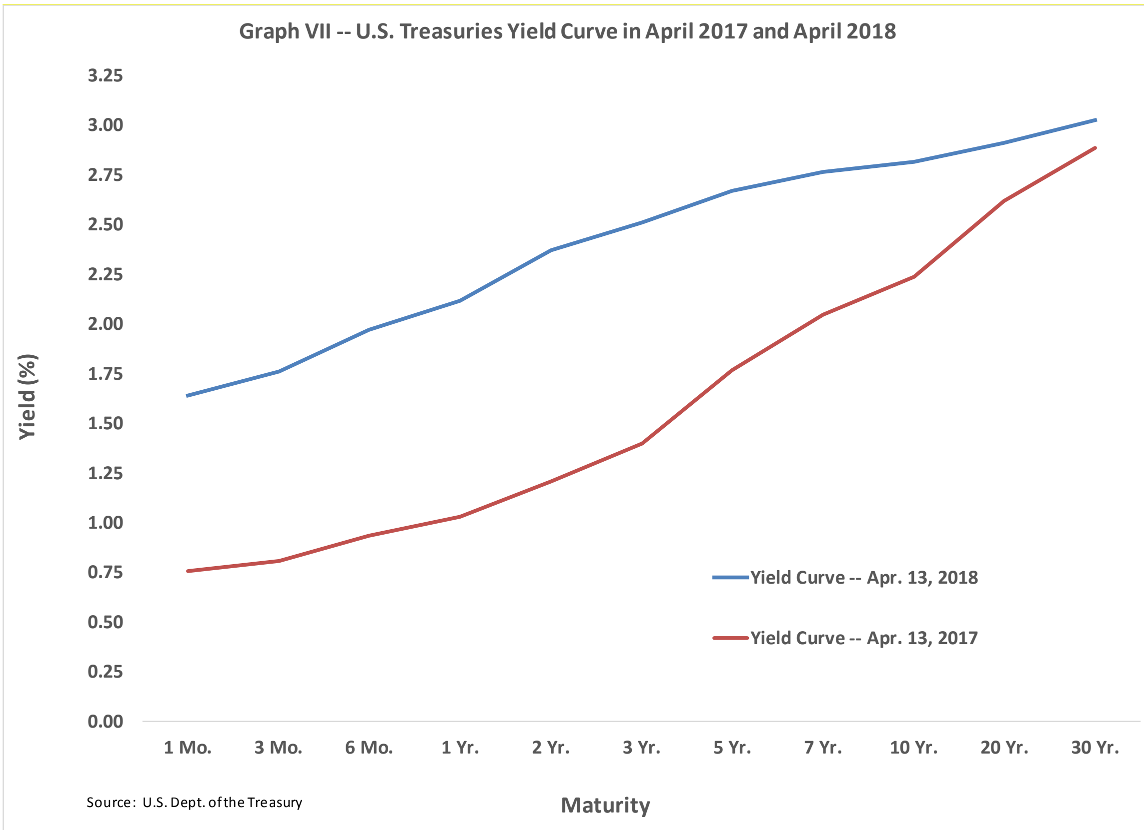
The data presented on Table I indicates that the County's economy, as represented by the *collective* performance of selected revenue streams, grew at a strong pace between Q3 FY 17 and Q3 FY 18. The 0.30 pp decline in Albemarle's unemployment rate between Q2 FY 17 and Q2 FY 18 suggests that the County's economy continued to grow this past year. The Q2 FY 18 rate of 3.07% appears to be at least nominally consistent with full employment. A substantial increase in Albemarle's jobs base between Q1 FY 17 and Q1 FY 18 (+2,341 positions, or +4.37%) implies that economic conditions were robust between these quarters. This piece of information, along with the recent decline in the County's unemployment rate, reinforces the relatively healthy picture of Albemarle's economy suggested by the revenue stream data in Table I.



An unexpected drop in the inflation-adjusted average weekly wage between Q1 FY 17 and Q1 FY 18 might reflect a statistical fluke although, as a general observation, wage growth in the County has remained subdued since the end of the "Great Recession." A rise in the inflation-adjusted FHFA HPI for the Charlottesville area reinforces the notion that the County's economy has experienced fundamental strength in the past year but, when taking into account the wage data cited previously, there exist potential questions about the direction of housing affordability.

Looking forward to the remaining quarter of FY 18, the County's economic prospects appear to be good. Assuming that, in the remaining quarter of FY 18, U.S. Gross Domestic Product (GDP) grows at the 3.2% average annualized rate forecasted by economists in the April 2018 *Wall Street Journal* survey, staff expects the County's unemployment rate will remain around 3.25%, and that the jobs base will end FY 18 about 4% over the final FY 17 level.[4]

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 some foreseeable scenarios which could induce a turn in the global macroeconomic picture. In one scenario, mentioned in the endnotes section of the Q1 FY 18 Quarterly Economic Indicators Report, a sudden correction in, say, global equities markets could induce a slowdown or a recession. In a second scenario, the yield curve for U.S. Treasuries, which has been flattening during the course of the past year (as shown on Graph VII below), might invert, i.e., short-term borrow rates might rise above the rates on longer-term borrowing, thereby helping to induce either a slowdown or an outright recession.[5] In a third scenario, trade frictions between the United States and its trading partners, particularly China, could erupt into an all-out trade war, which clearly would have severe implications for the global economic picture in the intermediate- and longer-term.[6]



In these three cases, the County's economic prospects could change although, given that FY 18 is now three-quarters over, if any or all of the three hypothetical events described above took place in FY 18, the effects likely would not ripple through Albemarle's economy until FY 19 or perhaps later.

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1. For an example of a financial media article about the "retail apocalypse" see:

http://money.cnn.com/2017/08/10/investing/retail-macys-kohls-dillards-earnings/index.html

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

http://projects.wsj.com/econforecast/#ind=gdp&r=20

5. The theoretical reason why an inverted yield curve likely would induce a slowdown, or perhaps a recession, is that lending institutions tend to borrow funds for relatively short terms, but lend funds to consumers and businesses for relatively long terms. If the interest rate on short-term funds were to rise above the rate on long-term funds, the result would be that lending institutions 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

6. See, for example, the comments made by Citigroup's Chief Economist, Willem Buiter, regarding the possible damage that would result from U.S. – China tariffs:

https://www.cnbc.com/2018/04/18/tariffs-would-cause-a-serious-trade-war-citigroup-economist.html

See also the comments made by the Director-General of the World Trade Organization, Roberto Azevedo, regarding the damage to the global economy that would result from a U.S. – China trade war:

http://www.bbc.com/news/business-43564714

Note the warning issued by the International Monetary Fund's Chief Economist, Maurice Obstfeld, with respect to the effect that rising trade tensions between the U.S. and China could have on global economic growth:

https://www.cbsnews.com/amp/news/imf-trade-tensions-threaten-strong-global-growth/