SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS
VIRGINIA TECH

Annual Economic Outlook Report for Albemarle County, Virginia

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I. Executive Summary

This Annual Economic Outlook Report for Albemarle County, Virginia, provides a comprehensive review of the current intricate and unique economic circumstances globally and in the United States (U.S.) that present the framework for assessing the economic conditions for Albemarle County and the Commonwealth of Virginia.

The U.S. economy is the largest in the world and while it is a dominant global player, the U.S. economy also routinely benefits from and is dependent on global economic markets and growth. The global economic interconnectedness affects everyone in the U.S. daily. American consumers demand and enjoy goods manufactured and shipped from other countries and U.S. businesses are dependent on global supplies and sell globally. Moreover, what happens elsewhere affects U.S. consumers and businesses quickly in a global economy where goods and services are produced and shipped all over the world.

The global economic interconnectedness has been felt poignantly recently. In fact, the U.S. economy, along with other countries' economies, has been whipsawed by major global events for over two-and-a-half years since early 2020. It is to our advantage to understand the dynamic circumstances and interconnections that appear quickly on our doorsteps to foster pro-active and defensive action to protect our bottom lines and advance our strategic missions and goals.

Therefore, to better frame and understand the local and regional economy, the report first establishes the context of the global economic conditions and then proceeds with a comprehensive analysis of national, state, and local economic trends and outlook.

The report's comprehensive analysis of global and national economic trends identifies that the global and U.S. economies are still processing the effects of the coronavirus pandemic as well as the impacts of the Russian-Ukrainian war at this writing. Shifting consumer demand for goods and services during the course of the pandemic and global and domestic supply chain disruptions caused shifting supply and demand imbalances resulting in inflationary and labor market pressures. These pandemic effects were still being processed by world markets in early 2022 when Russia invaded Ukraine which caused significant, global supply and price shocks.

Already elevated inflation spiked to record highs after the Russian-Ukrainian war exacerbated inflationary pressures caused by the pandemic and supply chain disruptions. As a result, the Federal Reserve began consistently raising the federal funds rate in early 2022, after which inflation continued to rise, and the Fed instituted a total of five rate increases through September 2022 with a stated commitment to continue rate increases to do what it takes to cool demand and beat back inflation. Relatedly, concerns grew during 2022 regarding the potential for rising interest rates to dampen consumer and business demand to the point that the U.S. economy is pushed into a recession.

Despite U.S. real gross domestic product (GDP) declining two consecutive quarters in early 2022, the U.S. economy had not entered into a recession as of mid-2022 based on the depth, diffusion and duration criteria of the National Bureau of Economic Research Business Cycle

Dating Committee that officially determines the timing of recessions. Yet current economic indicators are mixed at this writing with slowing activity in some sectors along with resiliency in other sectors, including a continued strong job market. Inflation remains at record highs and the Federal Reserve further confirmed at its September 2022 meeting its commitment to continue to raise rates into 2023 to convincingly bring inflation back toward its longer-run target of 2%, and a willingness to tolerate higher unemployment to achieve its price stability goal. The tight job market, which has been pushing on inflation, and the return of the official unemployment rate to pre-pandemic levels provides the Federal Reserve incentive and room to address its price stability mandate along with its maximum employment mandate.

Based on growing signals, an economic slowdown appears likely to be unfolding in the U.S. and globally at this writing, with an anticipated arrival by late 2022 or early 2023. The most recent prominent forecasts project U.S. real GDP growth of 0.2% to 1.6% in 2022, and -0.2% to 1.6% in 2023, compared to 5.7% growth in U.S. real GDP in 2021. There are several headwinds and downside risks to the economic forecasts with wide bands of uncertainty regarding inflation, interest rates, the housing market, declining real personal income, cooling consumer and business demand, continuing supply challenges, continued geopolitical risks and impacts (such as supply and price shocks), and a reshuffling of global trade flows. The evolving circumstances and wide bands of uncertainty have led to repeated revisions to economic forecasts thus far in 2022 with more revisions expected.

Along with the global and national reviews, the report provides a detailed analysis of Virginia's economy and its relationship to the national economy, including overall economic growth, labor market trends, and consumer and housing activity. Since the report finds that Virginia's key economic indicators generally follow the patterns of the related national indicators, albeit sometimes at different levels, the national economic outlook is a relevant barometer for the state's economic outlook.

For Albemarle County, Virginia, the report provides a detailed analysis of the County's economic trends and outlook, including overall economic growth, labor market trends, and consumer, housing, and business activity, as well as the relationship between the County's economic indicators and those of the state and nation.

The report also provides detailed analysis of Albemarle County's additional community factors related to income and poverty, housing patterns and costs, and educational attainment based on the rich data released in the U.S. Census Bureau's most recent American Community Survey (ACS) 2016-2020. This examination is intended to highlight key characteristics and provide information to support effective policy analysis and decision-making for the community.

The report finds that Albemarle County has a strong economy with a history of mostly solid economic and job growth, high real per capita personal income, low unemployment, strong hourly wages regionally, significant employment in relatively higher-income industries, and strong local business activity.

Given the identified history of Albemarle County's economic indicators generally following state and national economic trends, albeit sometimes at different levels, the report further recommends it prudent for Albemarle County to also anticipate an economic cooling with the accumulating signals of a likely economic slowdown in the U.S., state, and globally. Additionally, Albemarle County's overall solid economic base provides more scope within which to effectively plan and act defensively as compared to many other communities that face major, chronic economic issues.

To facilitate continued financial resiliency and agility, the report also provides organizational recommendations in the face of the rapidly changing environment and identifies some areas for additional consideration during policy reviews based on the County's economic review.

Albemarle County's history of prudent financial management and its overall solid economic base provide a foundation and community capacity for strategic initiatives. Many other communities struggle with strategic initiatives because their economic foundations are not solid and repeatedly require significant organizational resources to maintain effective operations.

As always is the case, we "have to run hard to break even and run even harder to get ahead." Thus, the County's strategic and methodical analysis, review, and policymaking are commended and will continue to advance the community toward its strategic objectives.

II. Methodology

The methodological approach to this study was custom-tailored to the needs of Albemarle County, Virginia. Myriad economic and community indicators were researched and carefully selected to maximize the insights regarding the County's economic foundation and history; the relationship between the county's economic indicators and those for the state, nation and surrounding Metropolitan Statistical Areas (MSAs); and current economic trends and outlook. In many instances, alternative versions of indicators were researched to maximize comparisons between the County and the state, nation or surrounding MSAs (e.g., per capita, or annual, quarterly or monthly data).

Each table and graph also was custom-built for this report in the Federal Reserve Economic Data (FRED) interactive database tool or Excel to effectively visualize the relevant economic trends and relationships. For continuity and cohesiveness through the report, a consistent coloring scheme was used for graphs, with the U.S. data presented in blue, Virginia data in red, and Albemarle County, Virginia, data in green.

III. Global Context for the United States Economy

When we think of the economy, it is natural to think of our experiences at our jobs, the grocery and retail stores, and the gas pump. Yet, all those elements are impacted by the global economy. The U.S. economy is the largest in the world and while it is a dominant global player, the U.S. economy routinely benefits from and is dependent on global economic markets and growth. The global interconnectedness affects everyone in the U.S. daily. Just as an example, many of the items we purchase at grocery and retail stores are manufactured and shipped from other countries. And our American businesses are dependent on global supplies and sell globally. While we are blessed with a large land mass in the United States (U.S.) that stretches from "sea to shining sea" that causes us to feel somewhat removed from events around the world. what happens elsewhere affects us quickly in a global economy where goods and services are produced and shipped all over the world.

The global interconnectedness has been felt poignantly recently. In fact, the U.S. economy, along with other countries' economies, has been whipsawed by major global events for over two-and-half years since early 2020. It is to our advantage to understand the dynamic circumstances and interconnections that appear quickly on our doorsteps to foster pro-active and defensive action to protect our bottom lines and advance our strategic missions and goals.

Therefore, to better frame and understand the local and regional economy, this report first establishes context with the global economic conditions and then proceeds with a comprehensive analysis of national, state, and local economic trends and outlook.

The global and U.S. economies are still processing the effects of the coronavirus pandemic as well as the impacts of the Russian-Ukrainian war at this writing. Shifting consumer demand for goods and services during the course of the pandemic and global and domestic supply chain disruptions caused shifting supply and demand imbalances resulting in inflationary and labor market pressures. These pandemic effects were still being processed by world markets in early 2022 when Russia invaded Ukraine which caused significant, global supply and price shocks.

While the Russian and Ukrainian economies are relatively small overall, the two countries are major global suppliers of energy, grain, and raw materials (e.g., scandium, gallium, vanadium, titanium, platinum, antimony) that are important to other countries and manufacturing worldwide (Conference Board, April 13, 2022). Thus, the supply disruptions related to the Russian-Ukrainian war have reverberated around the world and increased prices for food, energy, raw materials, and numerous goods dependent on these inputs (e.g., fertilizer, semiconductors, and many other goods). For example, The Conference Board estimates that Ukraine and Russia combined account for 16% of the world exports of grain, matching the United States' share, including wheat, rye, barley, oats, corn (maize), sorghum, and various other grains (Conference Board, March 2022). Additionally, the U.S. Energy Information Administration reported that in 2021 Russia was the third largest producer of oil accounting for 11% of the world supply, behind the U.S. as the top producer (20% world supply) and Saudi Arabia as the second largest producer (11% of world supply) (U.S. Energy Information Administration). Further, Forbes reported that

in 2021 Russia was the second largest producer of natural gas worldwide with a 17% global share, behind the U.S. as the top producer with a 23% share (Rapier, July 25, 2022).

Thus, the supply disruptions of the Russia-Ukraine war show up in the cost and availability of innumerable products around the globe, with certain regions dependent on their supply more acutely impacted than others.

China's role in global manufacturing and its zero-covid policy also are impacting the global economy and outlook. In 2011-2019 China's real GDP grew at an average 5.7% annually, serving as a major driver of global economic growth, along with India and Turkey. Even during the first full year of the coronavirus pandemic, China's real GDP grew a modest 2.0% and bounced back at a strong 8.0% rate in 2021. However, repeated coronavirus surges and lockdowns along with a real estate market crisis are dragging down China's growth this year, which is projected to grow a tepid 2-4% based on the age of the forecast, with relatively tepid projections for 2023 (Table 1).

As noted in Table 1 below, world gross domestic product (GDP) increased a healthy 5.7%-6.0% in 2021, as a rebound from the initial onset of the coronavirus pandemic, after declining -3.3% in 2020 in the first year of the pandemic (World Bank, OECD, S&P Global, and the Conference Board). For 2022, global real GDP in 2022 is projected to increase 2.7%-3.0% with a wider projected range of 1.7%-3.0% for 2023, based on the latest forecasts at this writing with the more recent forecasts at the end of the summer trending lower than the projections at the beginning of the summer. High global inflation heavily driven by food and energy prices, central bank tightening worldwide to tame inflation, declining consumer demand, continued supply strains, and geopolitical risks are expected to impact global economic growth in 2022-2023. As a point of reference, The Conference Board estimates that during the pre-pandemic period of 2011-2019, the World GDP average annual growth rate was 3.1%. Forecasts have been repeatedly downgraded this year since the Russian invasion of Ukraine and numerous central banks worldwide began raising interest rates to combat global inflation.

Table 1. U.S. and Selected World Real GDP 2021 and Forecasts 2022-2023 (%y/y)

U.S. and Selected World Real GDP Annual % Change 2021 - 2023												
Forecast Organization	United States			World			Euro Area			China		
	2021	2022*	2023*	2021	2022*	2023*	2021	2022*	2023*	2021	2022*	2023*
World Bank, June 2022	5.7	2.5	2.4	5.7	2.9	3.0	5.4	2.5	1.9	8.1	4.3	5.2
OECD, June 2022	5.7	2.5	1.2	5.8	3.0	2.8	5.3	2.6	1.6	8.1	4.4	4.9
S&P Global June 2022	5.7	2.4	1.6	6.0	3.6	3.5	n/a	2.6	1.9	n/a	3.3	5.4
Conference Board, September 2022	5.7	1.4	0.3	6.0	2.7	1.7	5.1	3.2	0.2	8.0	2.0	3.0
Wells Fargo Economics, Aug. & Sept. 2022	5.7	1.9	-0.2	n/a	n/a	n/a	5.4	3.0	-0.4	8.1	3.0	4.9
Federal Reserve, Septermber 2022**	5.7	0.2	1.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Moody's Analytics, September 2022	5.7	1.3	1.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
KPMG Economics, September 2022	5.7	1.6	0.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
University of Michigan, August 2022	5.7	1.5	0.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

*Forecast; **Federal Open Market Committee

Headwinds to global growth are widely expected to increase in late 2022 into 2023 based on a careful review of reports by the forecasting organizations in Table 1 along with Fitch Ratings. At this writing concerns are rising of a potential broad-based, global recession which provide several downside risks to current forecasts and wide bands of uncertainty: heightened geopolitical risks, the energy crisis in Europe resulting from the Russian-Ukrainian war, global inflation, monetary tightening by central banks worldwide to arrest inflation, cooling consumer and business demand, and reshuffling of global trade flows. A major negative movement in any one of these factors, or an accumulation of smaller negative movements across multiple factors could have a significant downward impact on global growth.

IV. National Economic Overview and Outlook

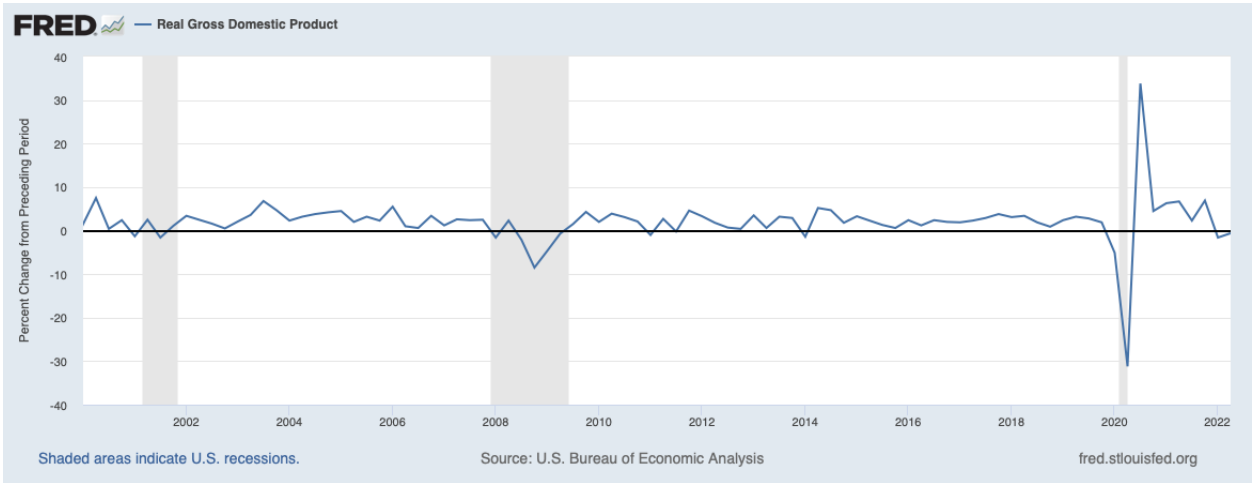
Overall, the U.S. national economy currently is presenting mixed results and facing several headwinds. This analysis will proceed through the economy's building blocks, first examining overall economic growth and then reviewing the labor, price, monetary policy, consumer, real estate, and business components.

A. Economic Growth Overall

Nuances Underlying U.S. Gross Domestic Product

As a backdrop, during 2011-2019 U.S. real GDP grew at an average annual rate of 2.2% (The Conference Board, August 2022). See Figure 1 below for a historical view of real GDP.

Figure 1. U.S. Real Gross Domestic Product, Q1:2000 – Q2:2022



Seasonally adjusted annual rate

Once the pandemic hit, the U.S. national economy rode the global pandemic roller coaster along with the rest of the world, with real GDP declining -3.4% in 2020 and rebounding with strong 5.7% growth in 2021. It was a bumpy ride through the virus variant surges as noted in Table 2

below, with quarterly real GDP growth rising and falling as consumers quickly responded to waves of coronavirus case, hospitalization, and death data.

It is interesting to note that consumers generally responded to the coronavirus health data distinctly before any government mitigation actions as revealed by credit and debit card purchase and locational statistics and mobility data (Chetty et al., 2020). Our credit and debit cards and cell phones yield significant real-time data (anonymized) that are now closely monitored by economists for early economic signals before official federal statistics are released. The key takeaways are that (a) consumers and businesses react faster than reflected in official government statistics, and (b) it is advisable to develop and maintain a variety of information sources and relationships to routinely monitor, preferably close to labor market, consumer, and business activity, especially in fluid and evolving circumstances.

Table 2. U.S. Real Gross Domestic Product Annual and Quarterly Rates, 2019 –– Q2:2022

U.S. Real Gross Domestic Product Annual Rate & Percent Change from Preceding Quarter													
				Seasonally Adjusted Annual Rates									
				2020				2021				2022	
	2019	2020	2021	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2*
Real gross domestic product (GDP)	2.3	-3.4	5.7	-5.1	-31.2	33.8	4.5	6.3	6.7	2.3	6.9	-1.6	-0.6

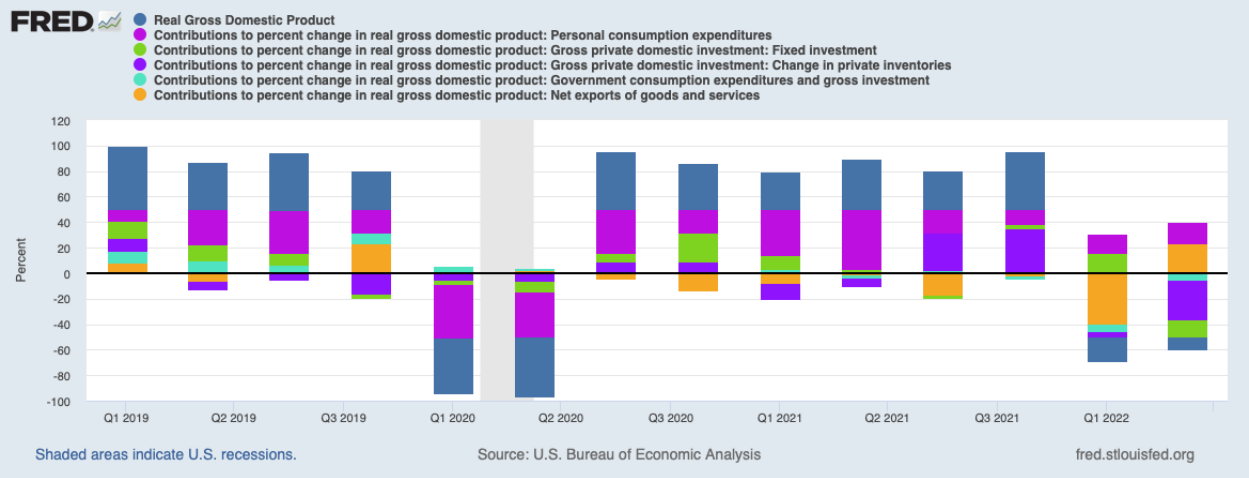
* Second estimate released August 25, 2022

In 2022, U.S. real GDP declined at the seasonally adjusted annual rates of -1.6% and -0.6% in the first and second quarter, respectively. However, the U.S. economy is not currently in a recession at this writing, despite the often used "rule of thumb" of two consecutive quarters of contracting real GDP as a signal of a recession. In reality, the official start and ending dates of U.S. recessions are determined by the National Bureau of Economic Research (NBER) Business Cycle Dating Committee, which uses several federal monthly aggregate statistics to assess the depth, diffusion and duration of a slowdown in economic activity. NBER's traditional definition of recession is for a "significant decline in economic activity that is spread across the economy and that lasts more than a few months" (NBER, n/d). A range of U.S. economic data indicate that the U.S. economy does not yet meet the NBER criteria for recession, and the analysis below provides a better look behind the curtain of the headline numbers.

A closer examination of the components of real GDP for Q1:2022 and Q2:2022 reveal a more nuanced picture. U.S. GDP has four main components: (a) consumer spending, comprising over 68%, (b) business investment, including fixed investment (residential and nonresidential) and inventories, (c) government spending (federal, state, and local), and (d) net exports (exports less imports). We will walk through these GDP building blocks for the first half of 2022 (H1:2022) to gain a clearer picture of the moving parts underneath the surface. Figure 2 below presents the quarterly percentage change in real GDP in 2019 through Q2:2022 and the component contributions of the personal consumption expenditures, private fixed investments, private

inventories, total government expenditures and gross investment, and new exports of goods and services. Note the component shifts above and below the zero percent black line through the graph, with personal consumption expenditures (fuchsia), the majority component, staying above the line through Q2:2022 and positively contributing to real GDP growth.

Figure 2. U.S. Real GDP and Contributions by Component, Q1:2019 – Q2:2022



Seasonally adjusted annual rate

In Q1:2022, personal consumption expenditures and business fixed investment (residential and nonresidential) increased over the preceding quarter, but a greater negative trade imbalance (exports less imports) and decreases in private inventory investment and government spending in the first quarter pulled down real GDP into an overall reduction. The lower real GDP figure masked underlying solid fundamentals in consumer and business spending in the economy in Q1:2022, with consumer spending comprising over 68% of the U.S. economy and solid business investments in equipment and intellectual property products. Further, increased imports in the first quarter were driven by robust consumer demand for durable goods, especially nonfood and nonautomotive consumer goods, and a strong dollar. The lower private inventory investment in the first quarter was led by motor vehicle impacts on wholesale and retail trade, and the decrease in federal government spending mainly reflected lower defense spending on intermediate goods and services.

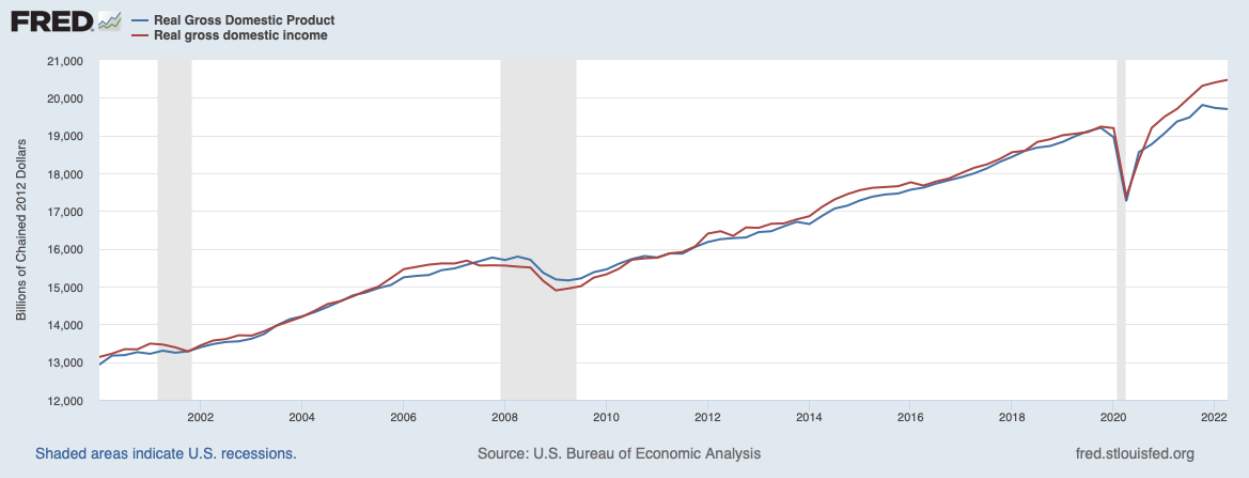
In Q2:2022, real personal consumption expenditures again increased over the preceding quarter, albeit at a slower rate than in the first quarter. The increased consumer spending reflected a strong shift to services, partly offset by lower goods expenditures, indicating consumers exuberantly emerged in Spring 2022 after two years of cloistered, pandemic living. Consumers' spirited shift to services in the second quarter is related to two deductions in real GDP, the reductions in private inventory investment, especially in retail, and the increase in imports for services and travel (which negatively impact GDP). Beyond inventories, overall business spending in the second quarter was impacted by lower residential fixed investment, primarily brokers' commissions, and reduced nonresidential fixed investment in structures and equipment mostly offset by higher intellectual property investments. Federal government spending was reduced by nondefense spending, mainly reflecting releases from the Strategic Oil Reserve,

offset by higher defense spending. Additionally, state, and local government spending was lower in the second quarter as compared to the first quarter, primarily related to lower expenditures on structures.

U.S. Gross Domestic Income

Given the nuances in real GDP for H1:2022, it is helpful to also look at Gross Domestic Income (GDI), an alternative measure of economic activity also routinely released by the U.S. Bureau of Economic Analysis (BEA). While GDP measures the total value of everything produced from the spending side, GDI measures the total income received from producing those things in the economy. As seen in Figure 2 below, real GDP steadily increased in both Q1:2022 and Q2:2022 while GDP experienced the component shifts noted in the section above that pulled the quarterly figures down during that period.

Figure 3. U.S. Real Gross Domestic Product and Gross Domestic Income, Q1:2000 – Q2:2022



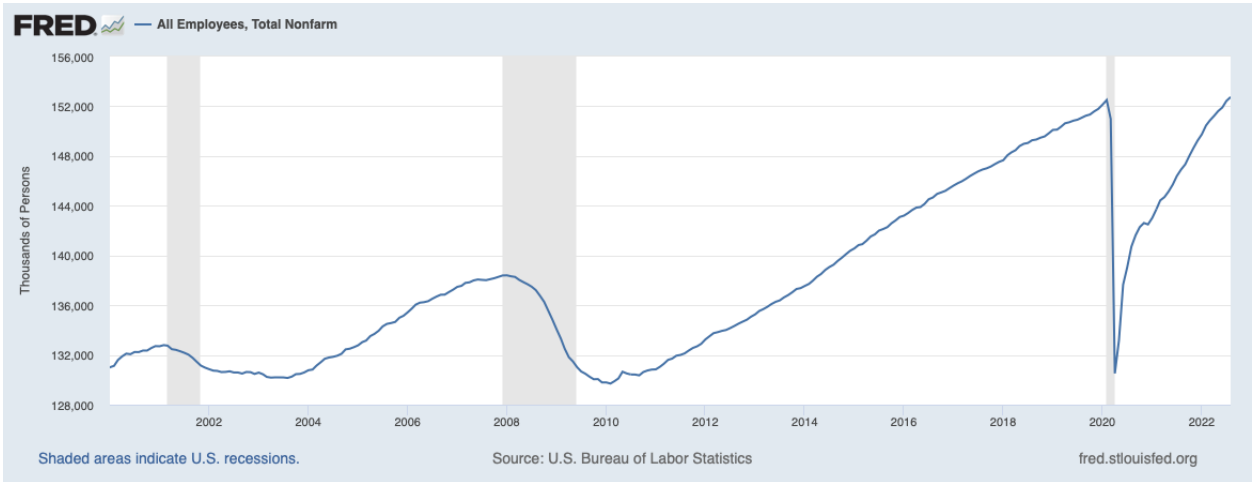
Seasonally adjusted annual rate

B. Labor Market Trends

The pandemic altered the U.S. labor market in many ways. This section will review national trends in jobs, employment, unemployment, job openings and quits, hourly wages, and labor force participation.

After a dramatic drop in nonfarm payroll jobs in March-April 2020 with the onset of the coronavirus pandemic, the U.S. economy posted monthly job growth almost consistently during May 2020 to August 2022, except for a slight dip in December 2020 coinciding with the detection of the coronavirus Alpha variant (BLS establishment survey; Figures 4).

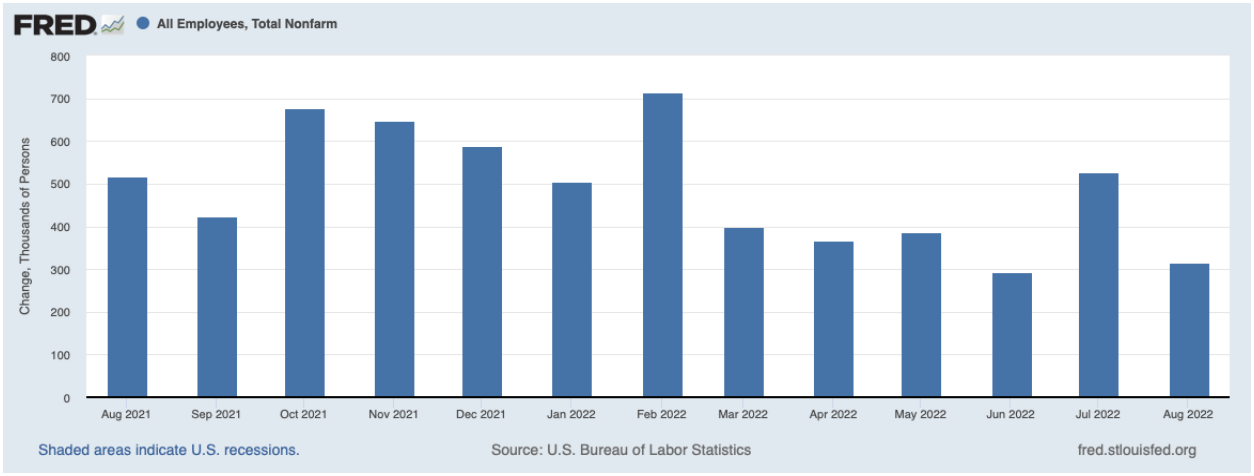
Figure 4. U.S. Total Nonfarm Payroll Jobs, January 2000 – August 2022



Establishment survey; seasonally adjusted

Solid nonfarm payroll job growth was posted in July 2022 with the addition of 526,000 jobs, followed by the addition of another 315,000 jobs in August 2022 (BLS establishment survey; Figure 5). In August 2022, the cumulative job gains since May 2020 pushed the U.S. economy across the threshold to fully recover the jobs lost during the pandemic. While the economy essentially "broke even" in August 2022 with the February 2020 total jobs number, the two and one-half years of job growth that we would have taken place without the pandemic was still foregone (based on previous trends).

Figure 5. U.S. Monthly Change in Nonfarm Payroll Jobs, August 2021 – August 2022

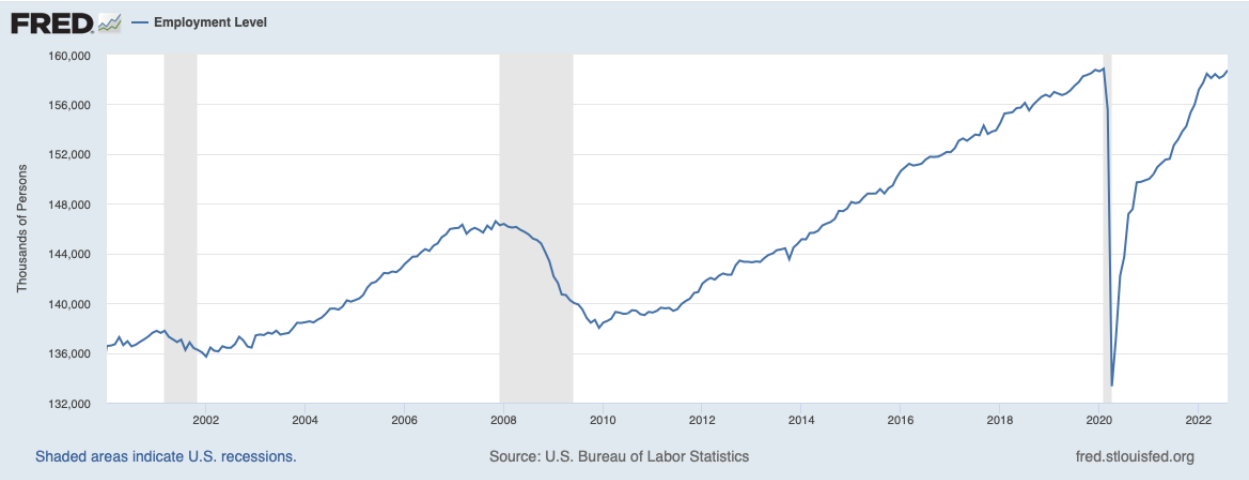


Establishment survey; seasonally adjusted

In addition to the monthly establishment survey to assess nonfarm payroll jobs, the Bureau of Labor Statistics (BLS) also conducts a monthly household survey to assess the civilian labor force, employment, and unemployment.

After also dropping precipitously at the beginning of the pandemic, the total number of employed persons in the U.S. steadily increased monthly from May 2021 – August 2022, cumulatively growing to register just below the pre-pandemic level of employment in August 2022 (BLS household survey; Figure 6).

Figure 6. U.S. Total Employed Persons, January 2000 – August 2022



Household survey; seasonally adjusted

After a meteoric and quick rise with the onset of the pandemic to a peak of 14.7% in April 2020, the official unemployment rate (labeled U-3 by BLS) steadily decreased from May 2020 to March 2022, reaching 3.6% in March 2022 which is the same general territory as the monthly unemployment rate during the six-month period before the pandemic. The official unemployment rate stayed flat at 3.6% during April 2022 to June 2022, reducing slightly to 3.5% in July 2022 and rising slightly to 3.7% in August 2022 (BLS household survey; Figure 7).

Looking below the headline unemployment statistics provides a fuller view of labor market conditions. Both the BLS and the Federal Reserve System publish additional indicators to assess labor underutilization (BLS) and non-employment (Federal Reserve), with the BLS monthly publishing six measures of unemployment or labor underutilization.

A quick summary of some additional BLS labor force classifications:

- The official unemployment rate, U-3, measures the number of people in the household survey reporting as being laid-off and awaiting recall or as being unemployed and having actively looked for work during the previous four weeks, as a percentage of the civilian labor force. Thus, U-3 excludes unemployed persons that actively looked for work during a period beyond the immediately preceding four weeks (the monthly household survey is conducted mid-month). .
- BLS assigns the classification "marginally attached to the labor force" to persons who report they are willing and able to work and actively sought a job in the last 12 months but had stopped actively looking. Marginally attached persons are not included in the BLS civilian labor force calculation.

- U-6 is the BLS fuller measure of labor underutilization which incorporates U-3, plus all persons marginally attached to the labor force and those reporting being employed part-time for economic reasons (PERT) but would like to work full-time (as a percentage of the civilian labor force plus all persons marginally attached to the labor force). (BLS Table A-15, August 2022).

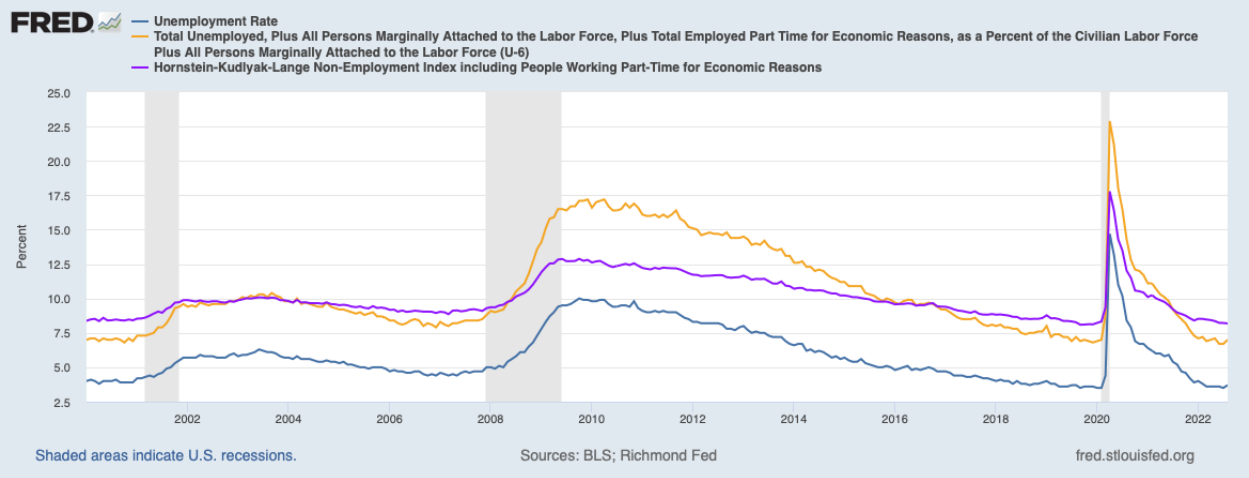
Just before the pandemic, U-6 registered at 7.0% in February 2020. After spiking dramatically early in the pandemic to 22.9% in April 2020, U-6 steadily declined during May 2020 to January 2022, and then bounced around in the 6.7% - 7.1% range during February to August 2022, thereby generally returning to the range for U-6 six months prior to the pandemic's onset (BLS household survey; Figure 7).

The Federal Reserve also conducts a broader monthly assessment of non-employment based on the microdata in the BLS monthly household survey. The Hornstein-Kudlyak-Lange Non-Employment Index (NEI) considers both unemployed persons and those out of the labor force and weights different non-employed groups based on historical rates of transitioning back into the job market (e.g., marginally attached to the labor force, students, retirees, the disabled, and those not retired, disabled, or in school). The Federal Reserve's NEI-PERT index is a companion measure to the BLS U-6 unemployment rate.

The Fed's NEI+PERT index likewise spiked early in the pandemic to 17.8% in April 2020, gradually decreased beginning in May 2020, and registered at 8.2% in August 2022, thereby generally returning to the general range reported in the six months before the pandemic. (Richmond Fed, August 2022)

U-6 and NEI+PERT indicate there is persistent labor underutilization and non-employment exists in the economy beyond the headline, official employment rate. A key element to note is that persons not actively looking for work in the last four weeks are not included in the monthly official unemployment rate or civilian labor force calculation. From a policy perspective, it is prudent to closely examine both the official unemployment rate and those persons classified as out of the labor force.

Figure 7. U.S. Unemployment Rate: BLS U-3 (Official Rate), BLS U-6, and Federal Reserve Non-Employment Index, January 2000 -August 2022

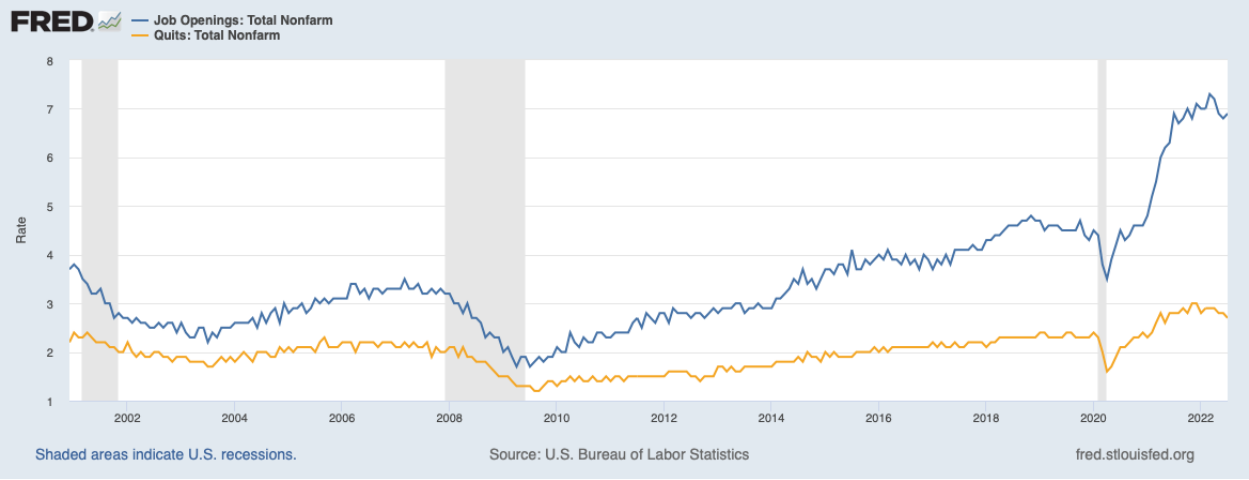


Seasonally adjusted

Monthly growth in job openings in the U.S. exceeded pre-pandemic levels beginning in February 2021 with the initial roll-out of vaccines, with monthly job opening growth continuing at a high level through the first half of 2022 (H1:2022) and a moderation appearing in Summer 2022 (BLS; Figure 8).

Quit rates similarly increased above pre-pandemic levels in early 2021 and remained elevated through H1:2022 with a moderation appearing in Summer 2022 (BLS; Figure 8).

Figure 8: U. S. Job Opening and Quit Rates, January 2019 – July 2022

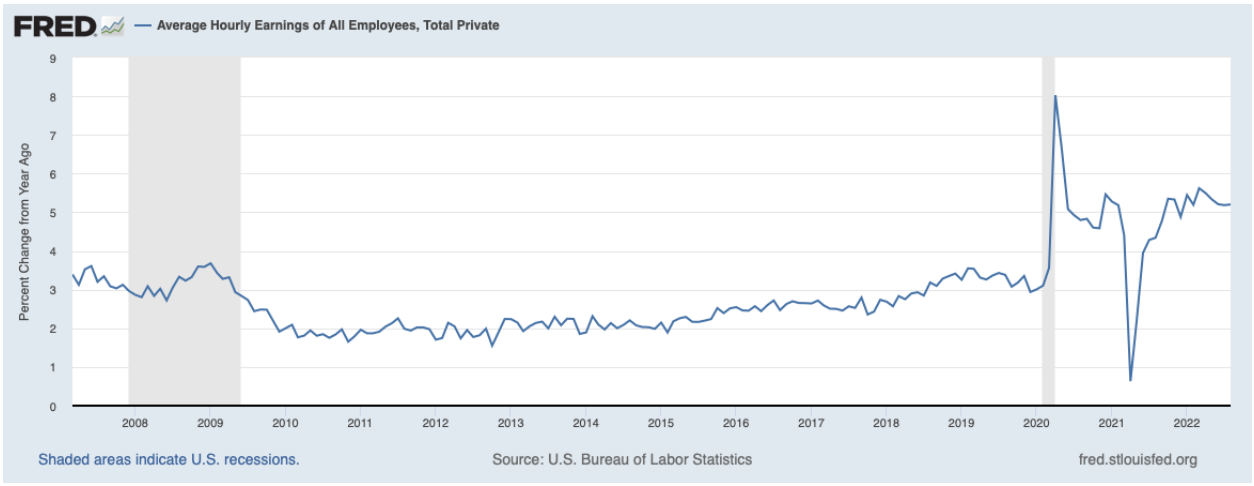


Seasonally adjusted

The tight labor market has led to significant monthly jumps in U.S. wages almost continuously since April 2020 except for one month in Spring 2021 (BLS; Figure 9). Thus far in 2022, while monthly U.S. wage growth peaked in March 2022 and declined slightly through the summer, in

August 2022 hourly wages increased 5.2% in the U.S., almost 2% higher than the average monthly wage growth in calendar year 2019 (3.3%).

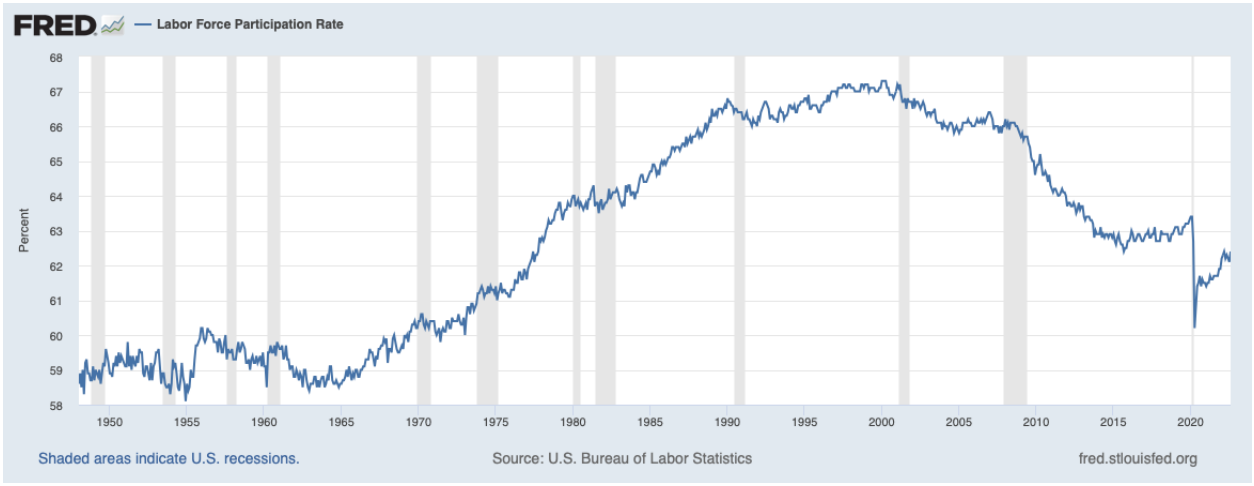
Figure 9. U.S. Average Hourly Earnings March 2003 – August 2022 (%y/y)



Seasonally adjusted

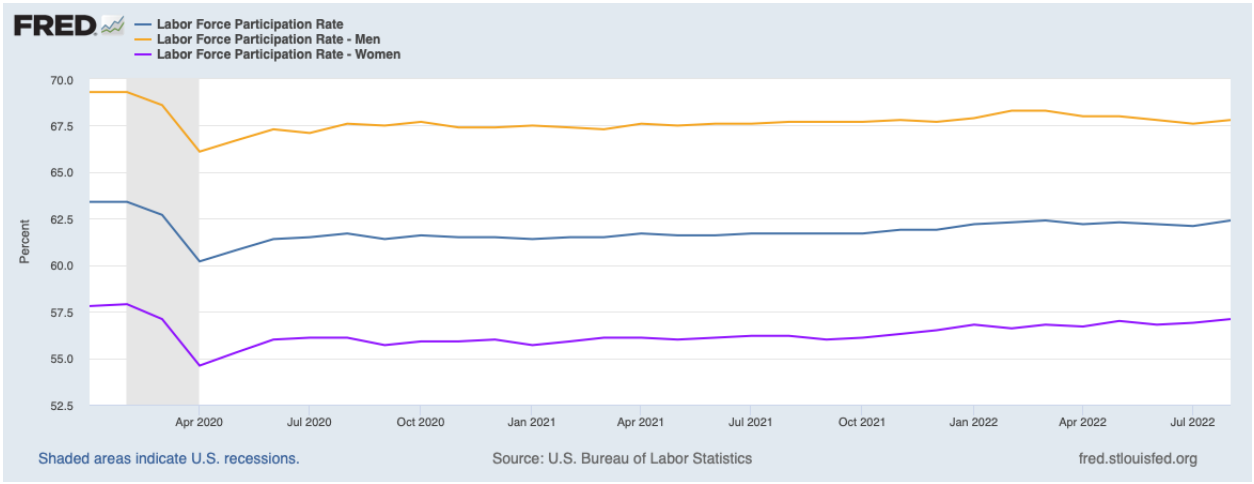
The current tight labor market also has been impacted by the long-term decline in labor force participation since the mid-1990's and the dramatic drop at the pandemic's onset. Many people who left the U.S. labor force at the beginning of the pandemic have not yet returned as of August 2020 (BLS; Figure 10). As of August 2020, women's labor force participation rate had almost reached its pre-pandemic level while that for men still had not fully recovered (BLS; Figure 11).

Figure 10. U.S. Labor Force Participation January 1948 – August 2022



Seasonally adjusted

Figure 11. U.S. Labor Force Participation by Gender January 2000 – August 2022



Seasonally adjusted

C. Consumer Activity

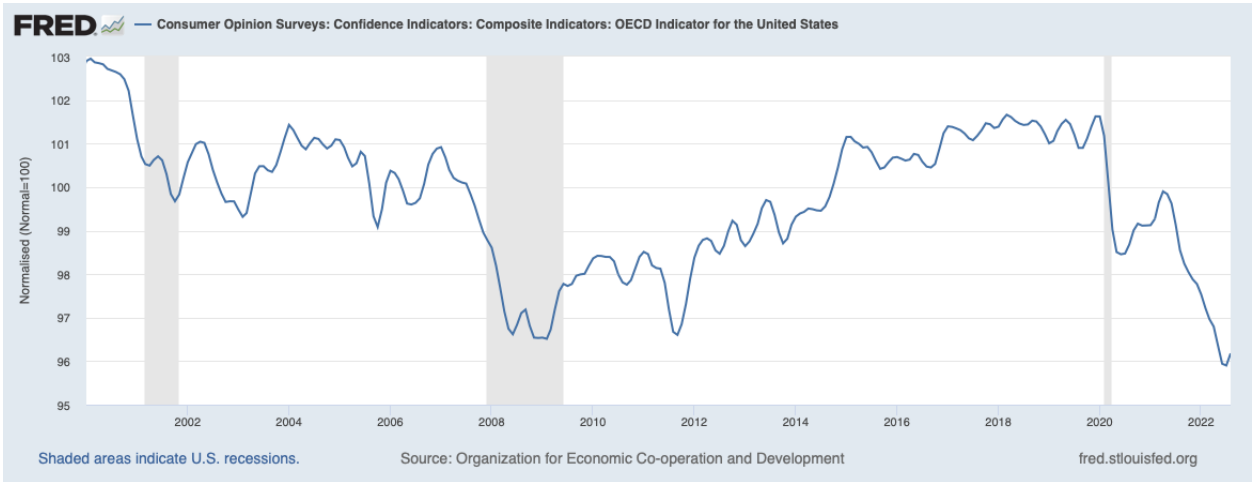
Consumer spending is a driving component of the U.S. economy, comprising over 68% of U.S. GDP. This section will review several factors of consumer activity in the U.S. economy.

Consumer Confidence and Sentiment

Consumers' perspective on the economy is so important that it is monitored in many ways. Two widely used indicators are the U.S. Consumer Confidence Index published monthly by OECD and the University of Michigan Consumer Sentiment Index. The two indicators track closely and reflect the consumers' bumpy ride on the pandemic roller coaster which also was exacerbated by global price shocks in early 2022 (Figures 12 and 13).

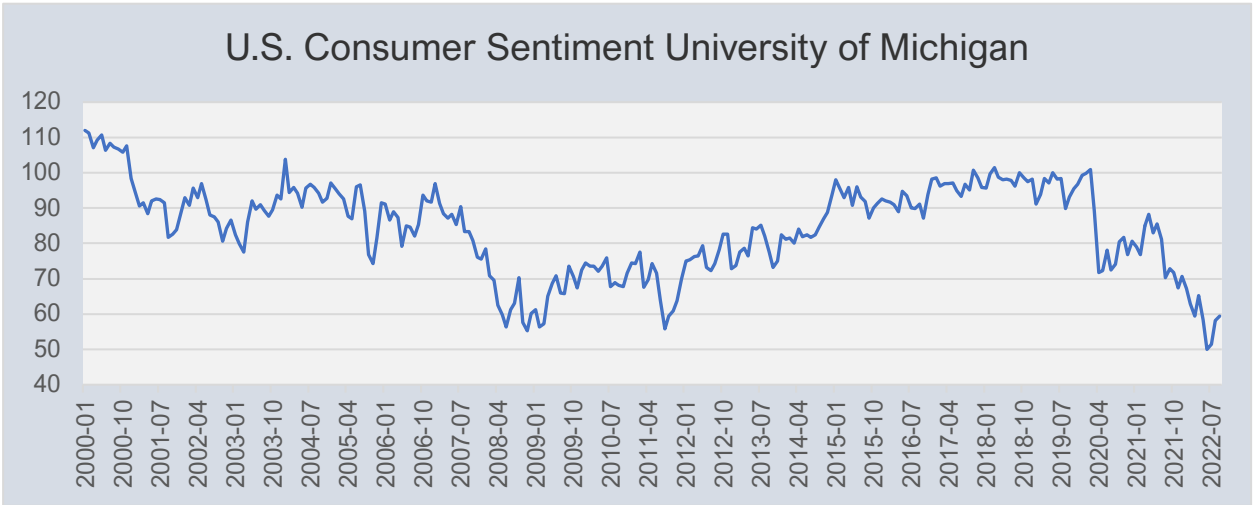
Consumers' outlook plummeted at the onset of the pandemic in March 2020 and began to rebound in June 2020 with emergence after the initial pandemic lockdown. Monthly improvements in consumers' outlook continued through April 2021 when coronavirus variants caused new coronavirus surges and growing inflation began to pinch. Consumers' outlook experienced an almost steady slide from May 2021 through the Summer 2022 with waves of new coronavirus variants and surges, growing inflation, and major food and energy price shocks due to the Russian-Ukrainian war. Consumers' outlook finally broke its long fall in August – September 2022 with gas price relief and a slight easing in the previously ever-growing inflation.

Figure 12. U.S. Consumer Confidence, January 2000 – August 2022



Seasonally adjusted

Figure 13. U.S. Consumer Sentiment, January 2000 – September 2022



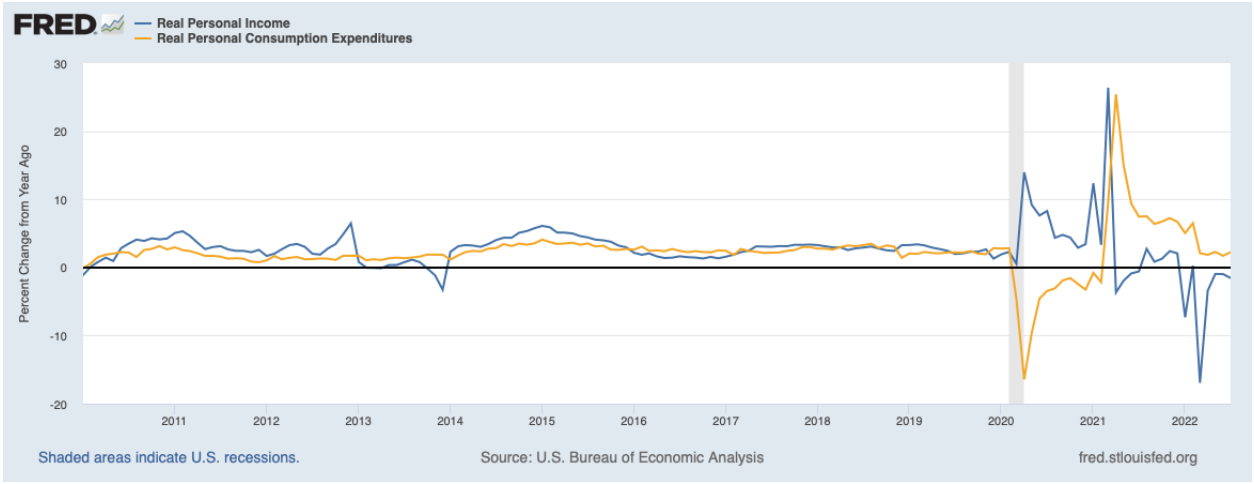
Not seasonally adjusted

Personal Income and Consumer Spending

Historical patterns in U.S. real personal income and real personal consumption expenditures also were disrupted by the pandemic. Real personal income monthly growth plummeted to 0.5% (y/y) in March 2020 with the onset of the pandemic and began a cycle of rebounding and then sharply dropping with each of the federal government's three stimulus checks in March 2020, December 2020, and March 2021 (BEA; Figure 14). After dropping to negative territory in April 2021, real personal income exhibited modest positive monthly growth in August – December 2021 and has remained mostly negative during January – September 2022 with a sharp monthly decline in March 2021.

Real personal consumption expenditures, a substantial component of GDP (over 68%), immediately started monthly drops in March 2020 with the onset of the coronavirus epidemic, registering a pandemic-era monthly low of -16.4% (y/y) in April 2020, and monthly growth stayed negative through February 2021 (Figure 14). Real personal consumption expenditures strongly rebounded with a substantial monthly gain in March 2021, finally jumping into positive territory, where it remained solidly positive through February 2022 (registering 6.5% (y/y) in February 2022). While remaining positive, monthly growth in real personal consumption expenditures dropped significantly in March 2022 after the global food and energy shocks brought by the Russian invasion of Ukraine. Real personal consumption expenditures have slowed down and been bumpy since March 2022, posting average monthly growth of 2.0% (y/y) which is trending below the monthly average growth of 2.2% (y/y) in CY2019 (as of August 2022).

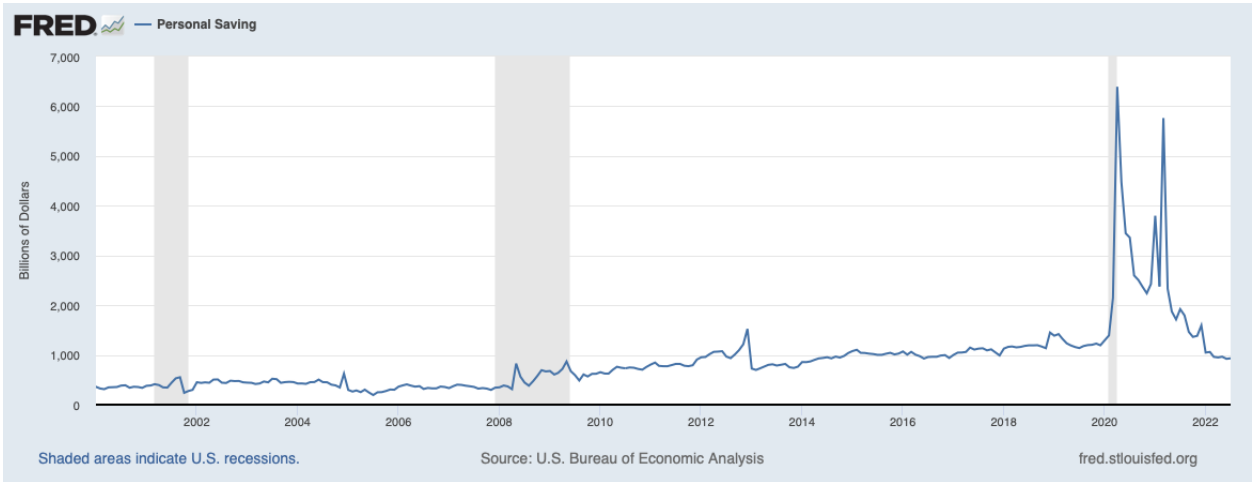
Figure 14. U.S. Real Personal Income and Real Personal Consumption Expenditures January 2010 – July 2022 (%y/y)



Seasonally adjusted annual rate

Companion to the trends in real personal income in 2020 – 2021, consumer savings began a cycle of increasing and then sharply dropping with each of the federal government's three stimulus checks in March 2020, December 2020, and March 2021 (BEA; Figure 15). In Fall 2021 consumer savings returned to pre-pandemic levels with continued drawdowns thereafter through July 2022, signaling that further slowing in consumer spending is likely.

Figure 15. U.S. Personal Savings, January 2022 – July 2022

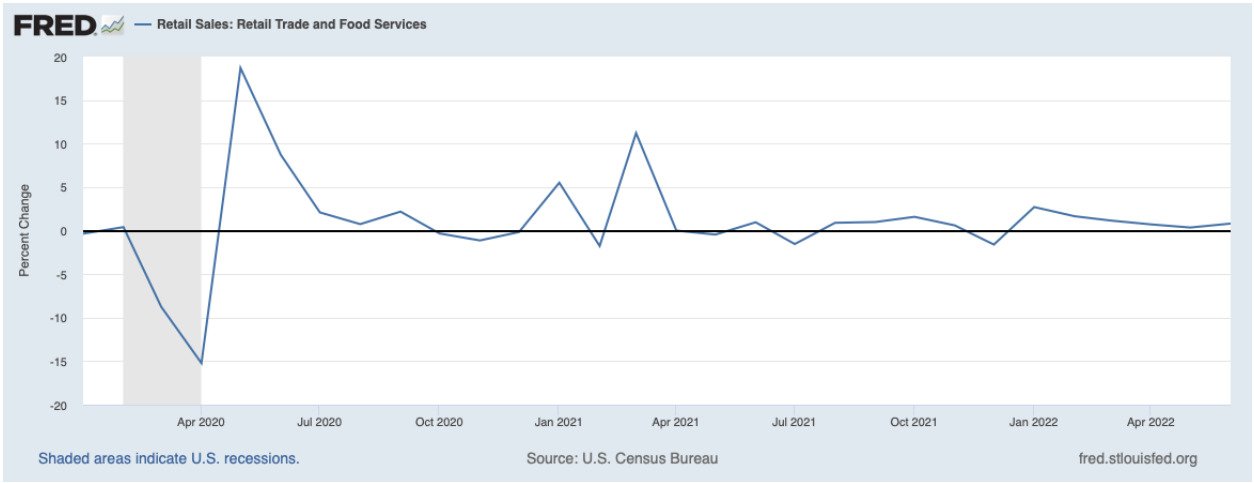


Seasonally adjusted

Retail Sales

Retail sales monthly growth was pulled up from negative territory by each of the three federal stimulus infusions after the onset of the pandemic (Census; Figure 16). After the last federal stimulus check of March 2021, monthly growth in retail sales stayed mostly positive except for dipping in response to the Delta and Omicron variant surges in mid- and late-2021. Although monthly retails sales growth started 2022 strong, retail sales monthly growth slowed almost steadily through August 2022 and posted negative growth in July 2022 (-0.4%).

Figure 16. U.S. Retail Sales January 2020 – August 2022 (%m/m)



Seasonally adjusted

D. Consumer and Producer Prices

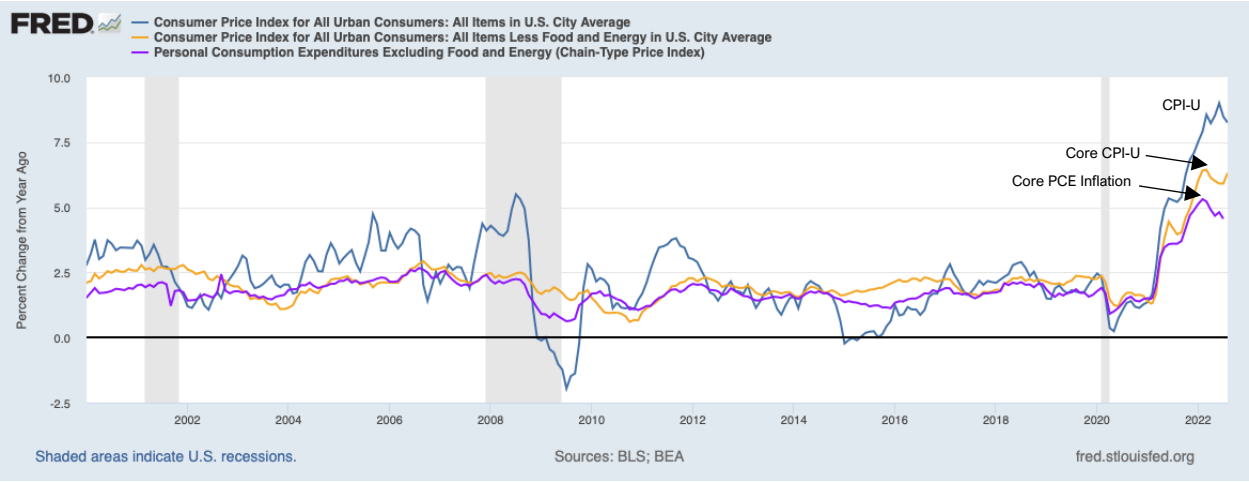
Inflation has been a global byproduct of the coronavirus pandemic and Russian-Ukrainian war. The dramatic onset of the global pandemic immediately caused supply and demand imbalances and supply chain disruptions in 2020 which continued as consumers and producers cycled through waves of the coronavirus and its variants through 2021. Then as the coronavirus waves were attenuating, the Russian-Ukrainian war in early 2022 caused global shocks to food, energy and raw material supply and prices as noted earlier in this report.

A quick summary of key U.S. consumer price indices:

- The Consumer Price Index for Urban Consumers (CPI-U) is the headline price index that is widely reported in the news and is issued by BLS.
- CPI-U Less Food and Energy, also known as Core Inflation (or Core CPI-U), removes the volatile food and energy components to monitor broader, underlying consumer price activity (BLS).
- The Personal Consumption Expenditure Price Index (PCE Inflation) considers that consumers substitute goods in their market basket in response to higher prices (e.g., switch to another brand or product), and is issued by the U.S. Bureau of Economic Analysis (BEA).
- To assess price trends in the economy, the Federal Reserve utilizes Core PCE Inflation, which removes food and energy components from the PCE Inflation index to reflect the underlying inflation in the economy (BEA and Federal Reserve).
- All four indicators are measured as a percentage change from the same month a year ago.

In August 2022, CPI-U (headline) registered 8.2%, Core CPI was 6.3% and Core PCE Inflation was 4.6%, over double the Fed's longer-run target of 2% for Core PCE Inflation (BLS, BEA; Figure 4).

Figure 17. U.S. Monthly Change in Consumer Prices, January 2000 – August 2022 (%y/y)

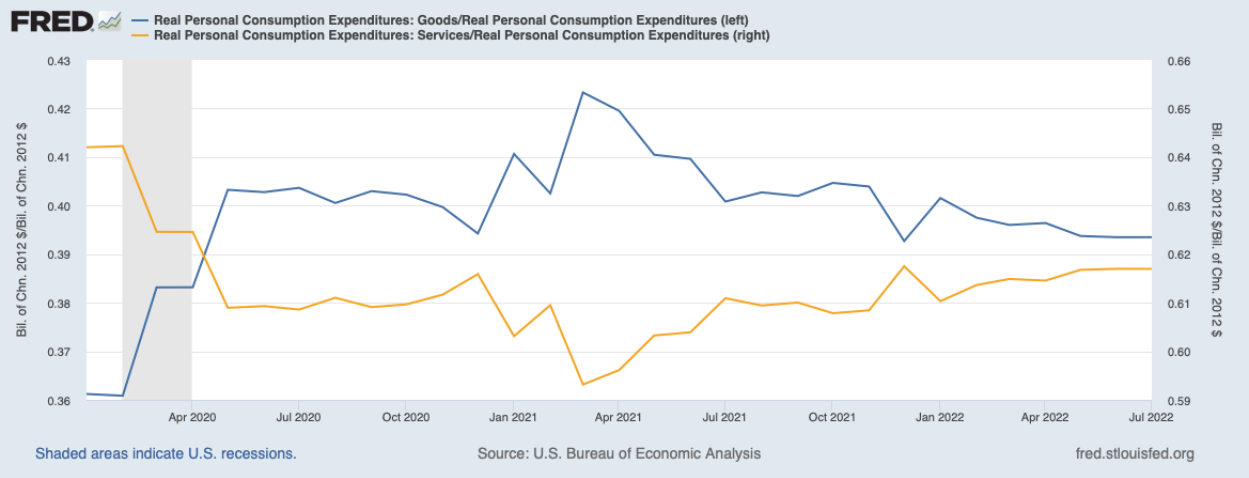


Seasonally adjusted

The coronavirus pandemic has been a major disrupter in several dimensions. One of the factors initially driving inflation was the substantial shift in consumer purchases between goods and services during the coronavirus pandemic (BEA; Figure 18). Prior to the pandemic, consumers had long spent about two-thirds on services and one-third on goods. With in-person services becoming limited and then less desirable with the pandemic, consumers' spending shifted sharply to goods, initially stocking up on products and food for home-based living and work, and then acquiring many durable goods such as furniture, appliances, and exercise equipment. As a result, the breakdown between spending components reached an approximately 40% goods-to-60% services split in March 2021. This substantial shift in consumer spending challenged goods producers and shippers to meet the elevated consumer demand while dealing with a global pandemic and drove up inflation. Likewise, service industries were challenged by the significantly reduced consumer demand and struggled to pivot to consumers' new preferences.

Since Spring 2021, the breakdown between consumer goods and services expenditures have been gradually returning toward historical proportions. In Spring 2022, consumers strongly shifted back to services with a desire to emerge from the latest Omicron coronavirus variants and cloistered living for over two years. As a result, goods producers found themselves with excess inventory and service businesses struggled to hire staff to meet the increased consumer demand for services, thereby pushing up wages. It remains to be seen where consumers will ultimately land since online ordering and curbside pickup for both goods and services have shown staying power with consumers (BEA, Figure 18).

Figure 18. U.S. Real Personal Consumption Expenditures Goods and Services January 2020 – July 2022



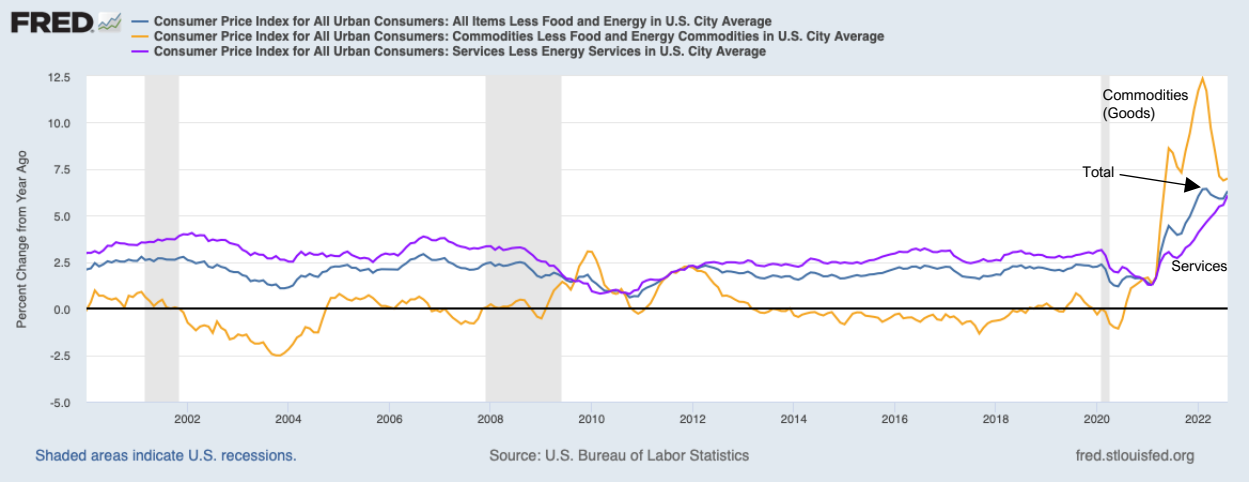
Seasonally adjusted annual rate

The underlying components of core inflation reflected the swings in consumer spending between goods and services. Core CPI-U for goods (commodities) greatly increased after the pandemic began and Core CPI-U for services declined, reflecting consumers' significant shift from services to goods faster than good manufacturers and retailers could respond. The dramatic uptick in goods prices, along with food and energy price shocks after the Russian invasion of Ukraine, pulled all total price indices up with monthly headline CPI-U, Core CPI-U, and Core

PCE Inflation all recording substantial peaks in March 2022 at 8.6%, 6.4%, and 5.3%, respectively (BLS, BEA; Figures 18 & 19).

With persistent and elevating inflation, the Federal Reserve responded by starting to raise the federal funds rate in March 2022 (reviewed further in the following section) and inflation indicators eventually began gradually trending downward until August 2022 when Core CPI-U posted another monthly increase while headline CPI-U posted another monthly decline.

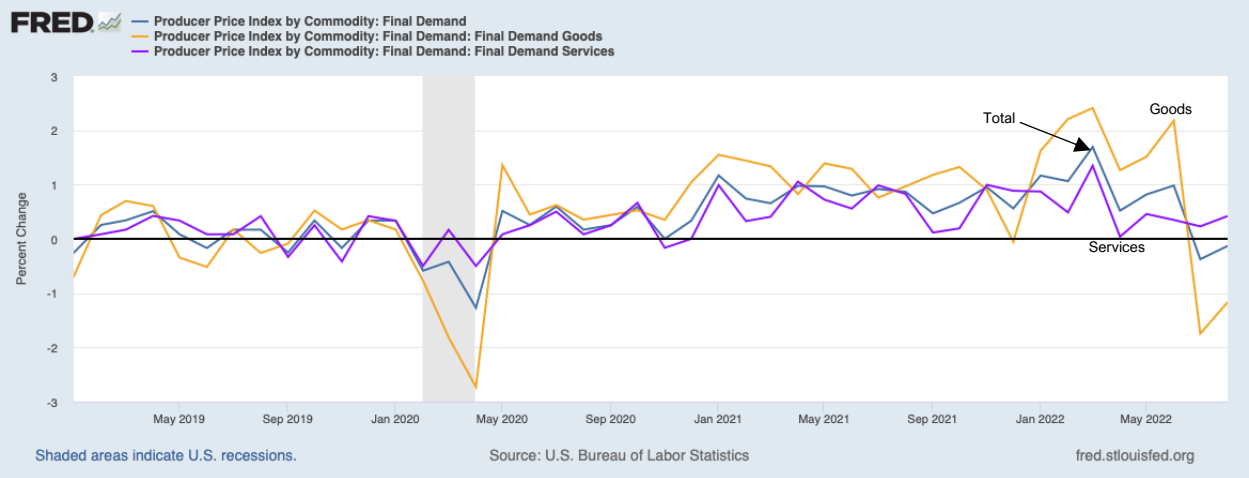
Figure 19. U.S. Monthly Change in Consumer Goods, Services and Total Prices, January 2000 – August 2022 (%y/y)



Seasonally adjusted

The Producer Price Index, measured as a month-to-month percentage change, also has been impacted by the significant changes in consumers' demand for goods and services during the course of the pandemic (BLS; Figure 20). Prior to the pandemic producers' goods and services monthly price changes generally trended close together. With consumers' dramatic shift to goods early in the pandemic, producers' goods prices experienced major monthly increases as producers were challenged to meet the suddenly elevated demand. With the higher goods demand, producers' monthly services prices generally experienced much lower monthly price increases. Then in Spring 2022 with consumers' dramatic shift back to services, producers' goods prices decreased sharply and producers' services prices began recording monthly increases.

Figure 20. U.S. Monthly Change in Producer Goods, Services and Total Prices, January 2019 – August 2022 (%m/m)



Seasonally adjusted

E. Federal Reserve Actions to Address Inflation

As a backdrop, the Federal Reserve System has two mandates, maximum employment and price stability. There often are tensions between these two mandates, requiring delicate balancing, and the extreme circumstances of a global pandemic presented challenges to both of the Federal Reserve's mandates. The Federal Open Market Committee (FOMC) sets monetary policy for the Federal Reserve and is comprised of the Federal Reserve's Board of Governors, the President of the Federal Reserve Bank of New York, and a rotation of four of the remaining 11 Presidents of the system's Federal Reserve Banks.

In early 2020 the Federal Reserve, through the FOMC, dropped the federal funds rate, the rate commercial banks borrow and lend excess reserves to each other overnight, to the lowest positive range of 0.00% - 0.25% to fight the extreme circumstances of the pandemic and avoid economic collapse (the Federal Reserve sets a 0.25%-wide range for the federal funds rate). The federal funds rate is the bellwether rate that is charged to banks in the banking system and thereby drives interest rates in the economy.

Through CY2021 there was a prevailing view at the Fed, along with most other central banks worldwide, that the global inflation that had appeared during the pandemic was primarily related to the multiple demand and supply imbalances and shipping disruptions caused by the global pandemic and therefore "transitory," even though PCE Core was well above the Federal Reserve's 2% longer-run target.

However, before global markets had the opportunity to work through the various pandemic effects, the Russian invasion of Ukraine brought substantial supply and price shocks to the food, energy, and raw materials sectors and precipitated much larger monthly increases in inflation worldwide.

In response to persistent and elevating inflation in 2022, the Federal Reserve began raising interest rates in March 2022 from the bottom-basement level that had been established in 2020, seeking to cool demand and break the cycle of inflationary expectations and wage-price increases. Several other central banks worldwide likewise began raising interest rates in 2022 to combat the global inflation. The Federal Reserve initially raised the Federal funds rate 0.25% in March 2020, and then by 0.50% in May 2022 (Table 3). Yet, Core PCE Inflation continued to rise and the Federal Reserve proceed to three, successive 0.75% rate increases in June – September 2022 to obtain a federal funds rate range of 3:00% - 3.25% in September 2022.

Table 3. U.S. Federal Open Market Committee (FOMC) Actions in 2022

Meeting	Fed Funds Lower	Fed Funds Upper	Delta	Average
January	0.00	0.25	0.00	0.125
March	0.25	0.50	0.25	0.375
May	0.75	1.00	0.50	0.875
June	1.50	1.75	0.75	1.625
July	2.25	2.50	0.75	2.375
September	3.00	3.25	0.75	3.125

Source: Board of Governors of the Federal Reserve System

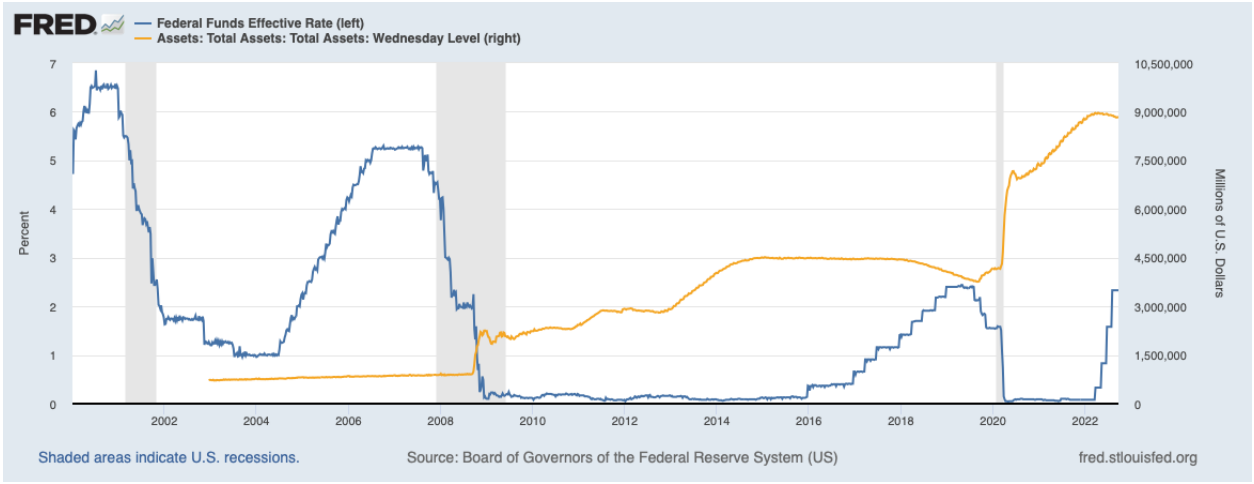
The Federal Reserve wields another instrument of monetary policy, its balance sheet, which usually receives much less attention than the federal funds rate. The Federal Reserve's assets are comprised mainly of U.S. Treasury notes and bonds, federal agency debt, and agency mortgage-backed securities, and the Fed discloses information on its balance sheet weekly. When the Federal Reserve increases its security holdings, it raises the price of those securities and lowers yields, thereby providing liquidity to the financial markets under a policy also known as "quantitative easing."

In early 2020 to combat the fast and deep economic drop caused by the pandemic's onset, in addition to dropping the federal funds rate, the Federal Reserve began infusing tremendous liquidity into the financial markets by greatly increasing it holdings of securities (Federal Reserve; Figure 21). The Fed quickly expanded its total assets from about $4 trillion dollars in Fall 2019 to $6 trillion dollars in early April 2020 and continued to grow its total assets to a record peak of $8.97 million dollars in April 2022. Companion with the increases in the federal funds rate, the Federal Reserve began to draw down its security holdings systematically and gradually in May 2022 (also known as "policy normalization" or "quantitate tightening"), with its total assets registering at $8.82 million on September 21, 2022.

Kindly note that the Federal Reserve also pursued quantitative easing and greatly expanded its balance sheet in response to the Great Financial Crisis of 2007-2009. Once recovery from the Great Financial Crisis had taken hold, in December 2015 the Fed began the first policy normalization process to draw down its balance sheet gradually and systematically to avoid shocking the financial markets. However, the coronavirus pandemic arrived while this earlier

policy normalization process was still proceeding, and the Fed reversed course to address the pandemic's extreme economic challenges and avoid an economic collapse.

Figure 21. U.S. Federal Funds Rate and Federal Reserve Total Assets, January 1, 2000 – September 21, 2022



Weekly, not seasonally adjusted

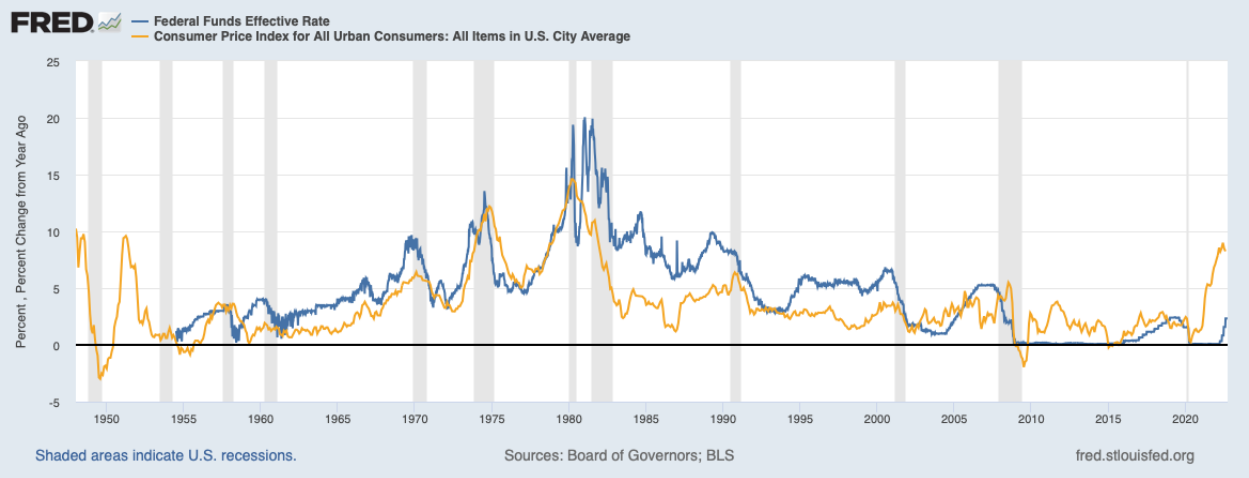
Going forward, the Federal Reserve has strongly indicated its commitment to raising interest rates to defeat inflation and bring Core PCE Inflation back toward its 2% longer-run target. With a tight labor market that is adding approximately 400,000 jobs a month and an unemployment rate back to pre-pandemic levels at this writing, the Fed has some room between its two mandates to wage a strong fight against inflation. Moreover, the Fed has clearly signaled through the public statements of Chairman Jerome Powell and several Federal Reserve Bank Presidents that it is willing to tolerate increased unemployment to defeat inflation.

Chairman Powell has specifically referenced the lessons learned in the 1970's and 1980's regarding the Fed withdrawing rate increases too quickly. Figure 22 below shows the historical relationship between the federal funds rates and CPI-U since 1948. During the 1970's in response to rising inflation, the Fed twice raised interest rates and then soon retreated, and inflation returned stronger each time while the economy stumbled along with waves of downturns and mostly tepid growth. By 1980 inflation was roaring at 13.5% which then required much stronger and continued federal funds rate increases in 1980 – 1981 under former Chairman Paul Volcker's leadership (reaching 20% in January 1981) which precipitated a deep and long recession and high unemployment (reaching 10.8% in 1982), but finally choked back inflation and fostered strong economic growth for several years thereafter. With this historical lesson, Chairman Powell has stated the Fed's commitment to front-loading interest rate increases to bring inflation under control to avoid repeated downturns interwoven with tepid growth.

While many analysts regard the current global inflation as being generated mostly from the supply side, the Federal Reserve only has tools directed toward cooling consumer and business demand, which operate at a lag. As such, downward revisions to forecasts and recessionary projections have grown throughout the federal funds rate increases in 2022. Notably, the Federal

Reserve has signaled the expectation of a significant economic slowdown in its most recent Summary of Economic Projections with a median forecast of only 0.2% growth in real GDP overall in 2022 and 1.2% growth in 2023, and the official unemployment rate rising to 4.4% in 2023 and 2024 from 3.7% in August 2022 (Federal Reserve, September 21, 2022).

Figure 22. U.S. Federal Funds Rate and Consumer Price Index-Urban, January 1, 1948 – September 21, 2022



F. Real Estate Market Trends

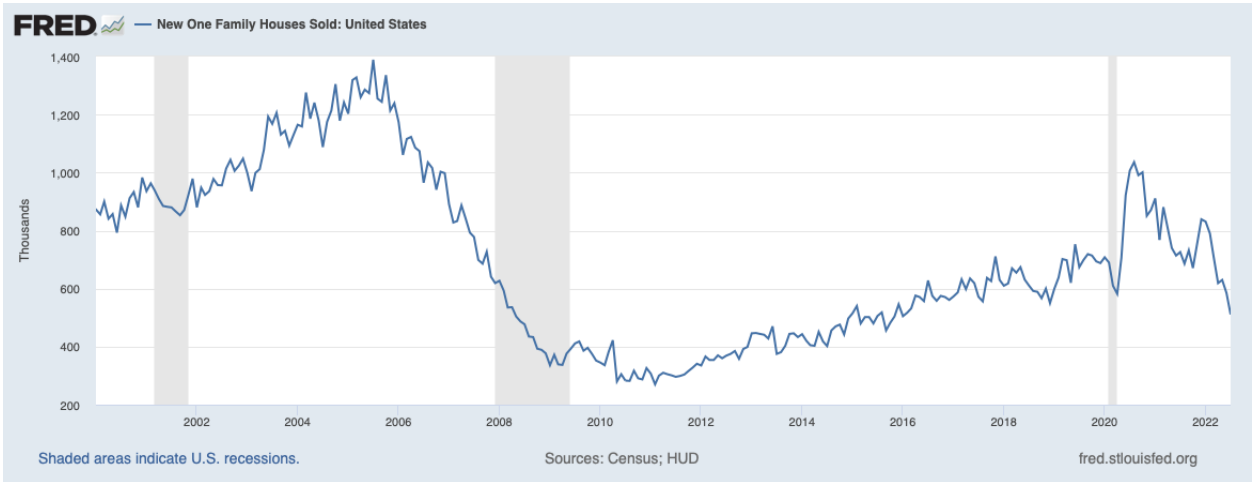
Real estate market activity comprises about 40% of U.S. private fixed investment and is closely monitored as a major component of GDP (BEA). This section will review residential and nonresidential real estate trends.

Residential Trends

The housing market is one of the most rate-sensitive sectors. With mortgage rates significantly increasing in 2022 in response to the Federal Reserve rate increases, the real estate market has experienced declining new and existing home sales (Census, HUD, National Association of Realtors (NAR); Figures 23 and 24) after experiencing substantial growth in 2020-2021, with almost flat existing home sales in August 2022 likely in response to a small, short-lived reduction in mortgage rates that month. The monthly supply of housing likewise mostly increased in 2022 after getting tightly squeezed in 2020 – 2021, except the monthly supply for existing homes remained flat in August (Figures 25 - 26).

Incidentally, a byproduct of declining home sales in 2022 has been increased rental housing prices as potential home buyers chose to continue to rent after foregoing home purchases with rising mortgage rates, thereby increasing the demand for rental housing. Relatedly, the shelter component of inflation experienced companion increases and pushed up core inflation readings in 2022 (BLS).

Figure 23. U.S. New Home Sales, January 2000 – July 2022

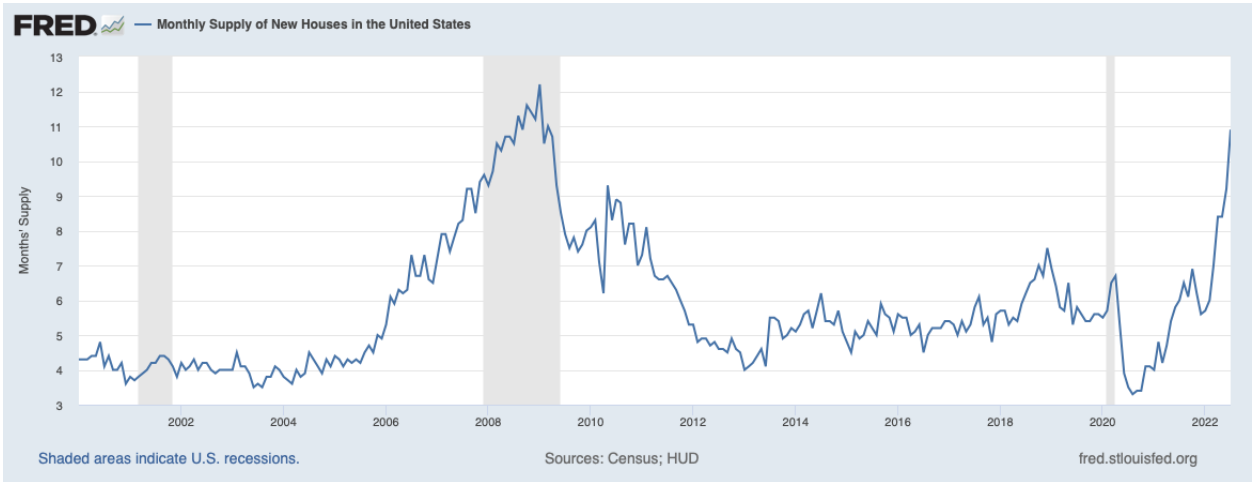


Seasonally adjusted annual rate

Figure 24. U.S. Existing Home Sales, August 2019 – August 2022

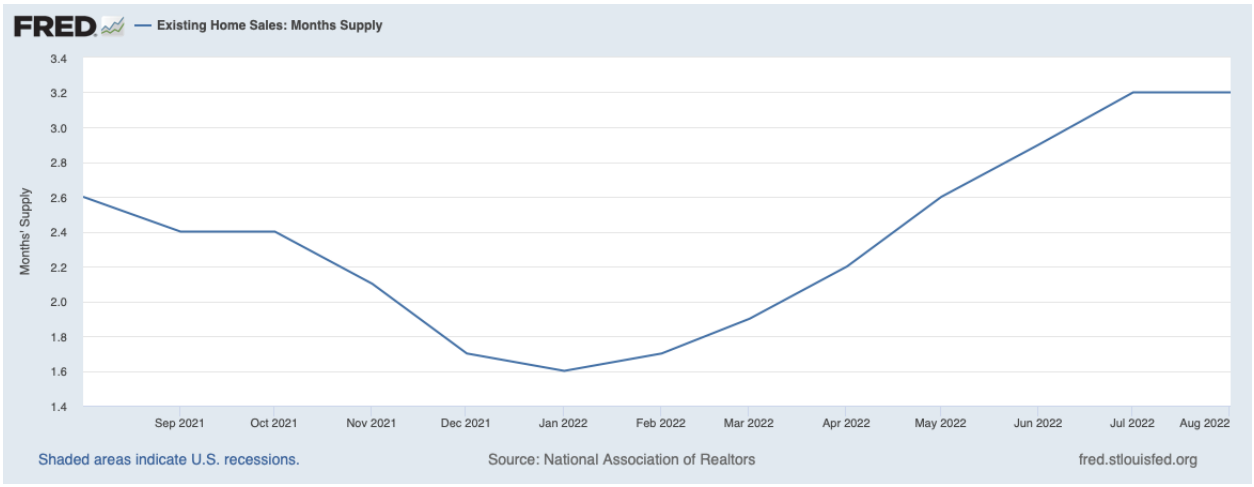
Seasonally adjusted annual rate

Figure 25. U.S. New Homes Monthly Supply, January 2000 – July 2022



Seasonally adjusted

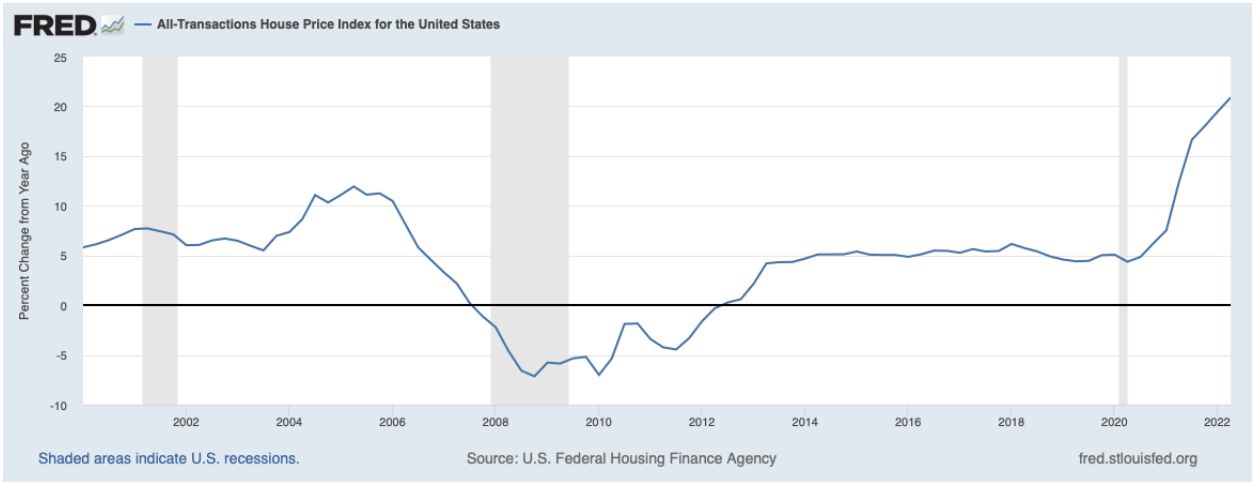
Figure 26. U.S. Existing Homes Monthly Supply, August 2021 – August 2022



Not seasonally adjusted

Despite higher mortgage rates and declining home sales, the U.S. Federal Housing Finance Agency's (FHFA) House Price Index (HPI) for all single-family transactions (including refinancings) continued its steep rise through Q2:2022. The HPI began growing sharply in 2020 when the demand for housing outstripped the available inventory.

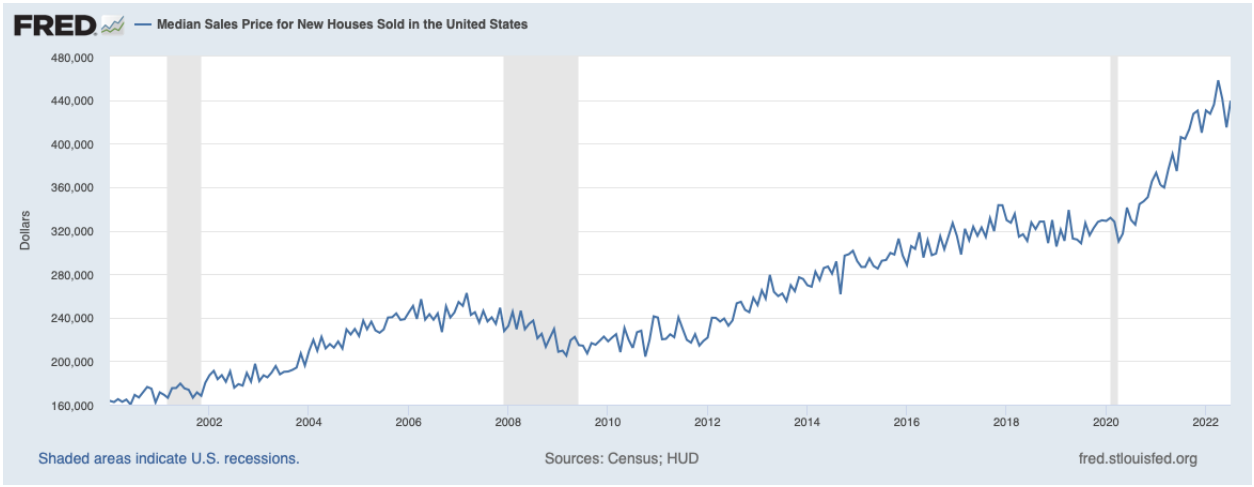
Figure 27. U.S. House Price Index (Single-Family), Q1:2000 – Q2:2022 (%y/y)



All single-family transactions; not seasonally adjusted

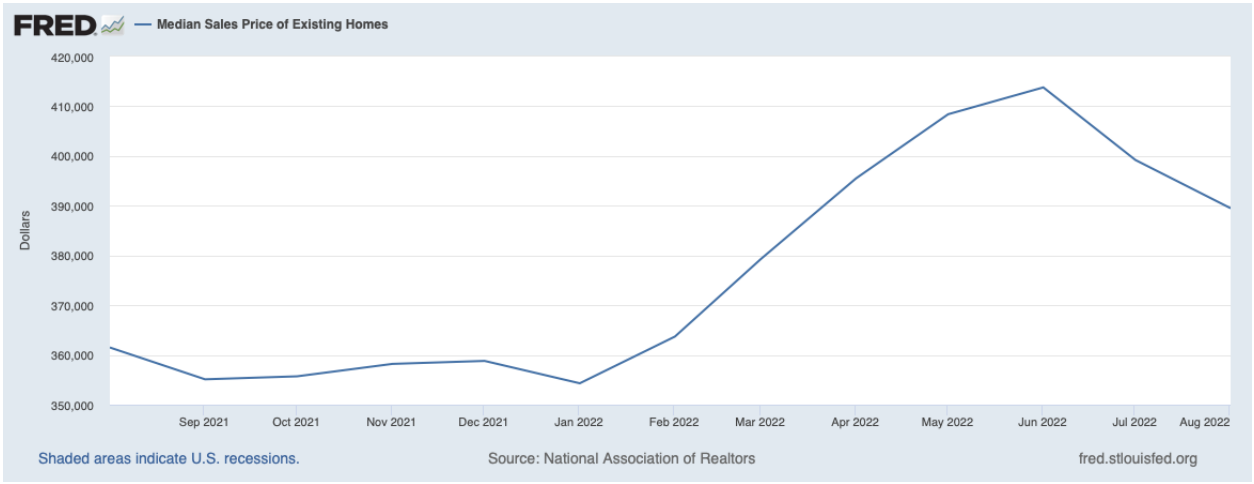
Similarly, median home prices were on an upward trajectory through mid-2022 after which the median price for existing homes decreased and the median price for new homes had a big dip in June 2022 and then bounced up slightly in July 2022 (Census, HUD, NAR; Figures 28 and 29).

Figure 28. U.S. New Home Median Sale Price, January 2000 – July 2022



Not seasonally adjusted

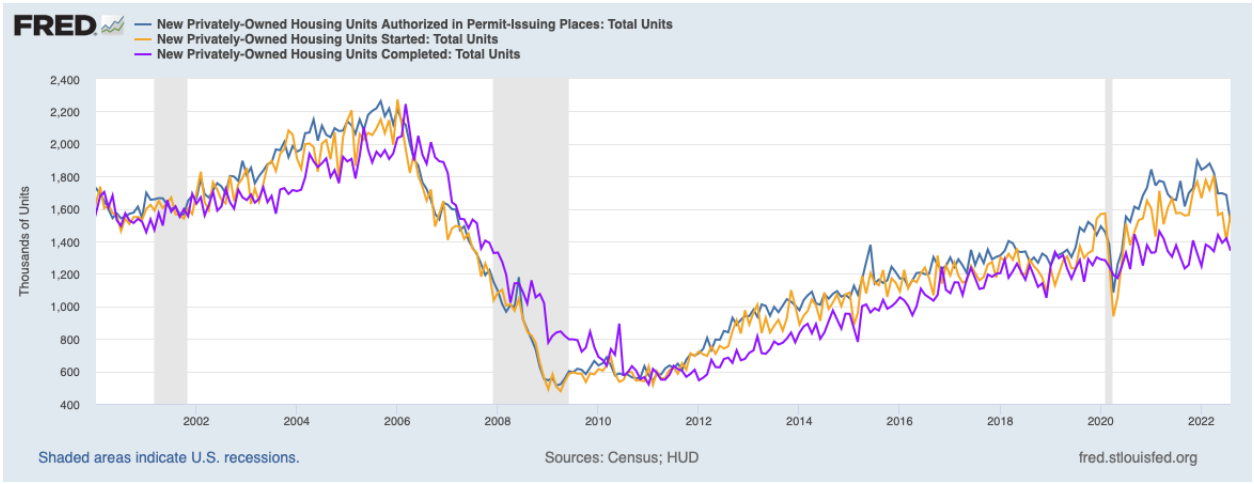
Figure 29. U.S. Existing Home Median Sale Price, August 2021 – August 2022



Not seasonally adjusted

After a two-month drop at the onset of the coronavirus pandemic, new residential housing permits and starts began increasing in May 2020 and maintained an upward trajectory through April 2022 after which increasing mortgage rates slowed down new housing activity through July 2022 (Census, HUD; Figure 30). New housing starts bounced up in August 2022 while new permits continued to decline. Monthly new housing completions remained steady from Summer 2020 through September 2022, thereby maintaining employment among the trades for the near-term.

Figure 30. U.S. New Residential Construction January 2000 – August 2022



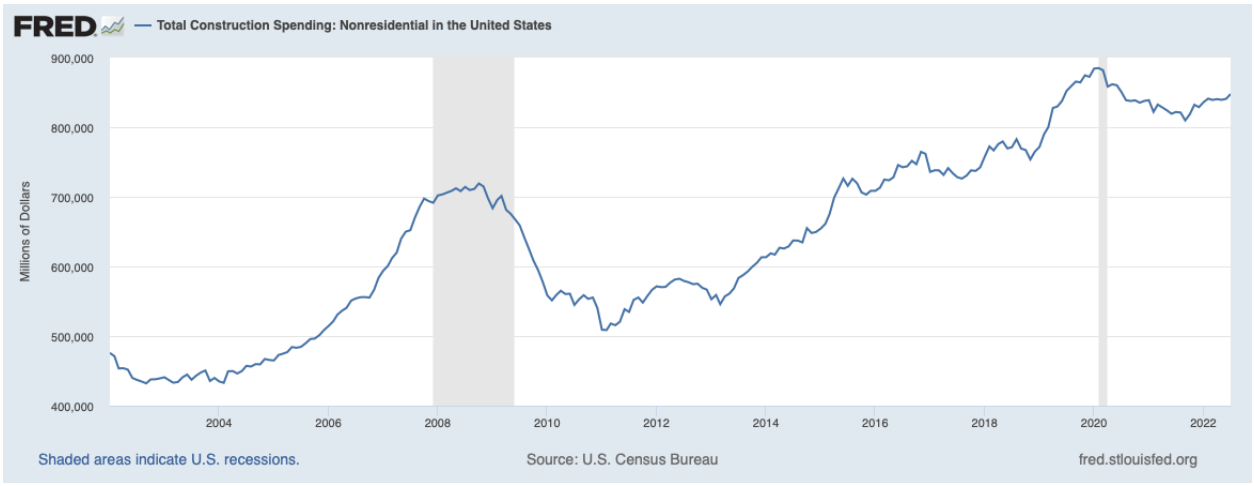
Seasonally adjusted annual rate

Nonresidential Trends

Nonresidential construction spending dropped in March at the onset of the coronavirus pandemic and mostly continued downward through Summer 2021, and then began mostly rising in July 2021 through July 2022. Continued close monitoring of this sector is warranted to detect the

effects of the Fed's commitment to continue raising rates to bring inflation down (Census; Figure 31).

Figure 31. U.S. Nonresidential Construction Spending, January 2002 – July 2006



Seasonally adjusted annual rate

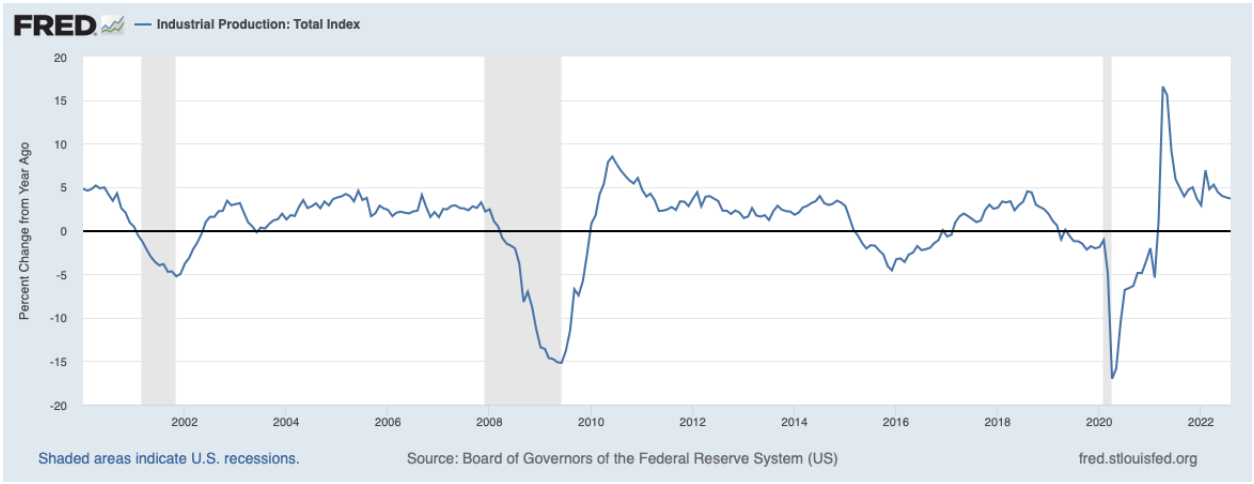
G. Business Activity

Beyond housing, additional elements of business activity were reviewed, including industrial production, purchasing managers' indices, and the business confidence index.

Industrial Production

Monthly changes in U.S. industrial production declined precipitously at the beginning of the pandemic, and began clawing back in June 2020 through gradually diminishing monthly declines to positive monthly growth in March 2021 and peaking in April 2021 at 16.6% (y/y). The monthly growth in industrial production fluctuated and gradually declined during May 2021 to August 2022, with 3.7% (y/y) growth in August 2020.

Figure 32. U.S. Industrial Production, January 2000 – August 2022 (%y/y)



Seasonally adjusted

Purchasing Managers' Index

Reports from the Institute of Supply Management (ISM) provide a current and forward view of economic activity in the manufacturing and service sectors through monthly surveys of purchasing executives across numerous industries.

As a reflection of the current mixed signals in the economy, in August 2022 ISM reported that economic activity grew in both the manufacturing and service sectors in August 2022 for the 27th consecutive month of growth (Manufacturing Purchasing Managers' Index (PMI) and Services PMI, August 2022). ISM further indicated that growth increased at a slightly faster rate in the services sector, companion to consumers' shift back to services earlier this year as noted earlier in this report. New orders and employment expanded in both sectors in August 2022 and production and backlogs were growing, according to ISM. Regarding inputs, ISM reported some easing in supplier delivery delays and the ability to grow raw materials inventories in 2022, along with prices increasing at a slower rate. Exports were reported as contracting in August 2022 with imports growing (ISM PMI, August 2022).

Supply chain challenges continued to be a prevailing concern across different industries based on purchasing executive comments in August 2022, along with inflation, hiring, softening demand, and fear of customer pulling back on orders (cancelling or delaying) (ISM PMI, August 2022).

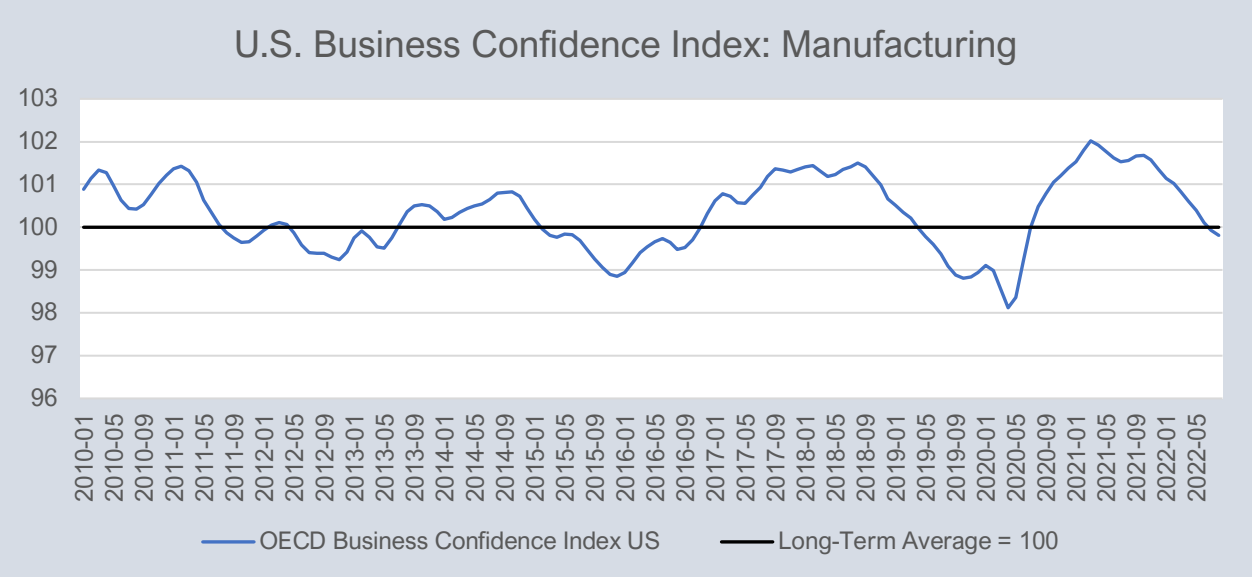
These generally encouraging reports for the manufacturing and services sectors likely provided the Federal Reserve policymakers some room to institute the third, consecutive 0.75% increase in the federal funds rate at their September 2022 FOMC meeting.

Business Confidence

Another indicator used to assess future developments in the industry sector is the U.S. business confidence index issued by OECD. Similar to the ISM-PMI indices, the U.S. business confidence index is based on industry surveys regarding manufacturing production, orders and stocks of finished goods (OECD). As another sign of the current mixed economic signals, the U.S. business confidence index for manufacturing steadily declined during November 2021 to August 2022, crossing into negative territory in July 2022 (OECD, Figure 33).

These overall mixed signals in the business sector augur the potential approach of an inflection point in the economy and require close monitoring going forward for early warning signals of further economic slowdown.

Figure 33. U. S. Business Confidence Index: Manufacturing, January 2017 – August 2022



Source: Organisation of Economic Co-operation and Development; amplitude adjusted

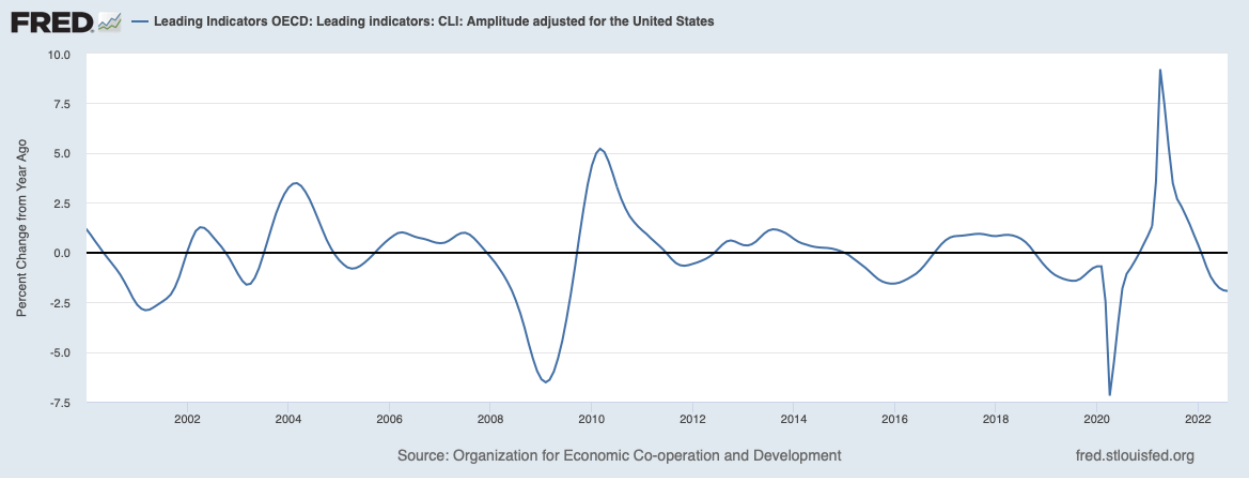
H. U.S. Leading Indicator

As a data powerhouse, OECD also releases a leading economic index for the U.S based on a range of standard U.S government, industry and financial market indicators that gauge consumer, housing and industrial activity and developments. Monthly changes in the leading indicator index dropped dramatically at the beginning of the pandemic, then began a steep ascent in May 2020, moving through diminishing monthly declines and crossing into positive monthly growth in December 2020 before peaking in April 2021 with 9.2% (y/y) monthly growth. The monthly rate of growth in the leading indicator index steadily slowed after June 2021, crossing into negative territory in February 2022, and registered seven consecutive months of negative growth as of August 2022 (OECD; Figure 34). The Conference Board also develops its own proprietary

Leading Economic Indicator and similarly reported the sixth month of consecutive declines in its index in September 2022 (Conference Board, September 22, 2022).

These two leading indicator indices signal headwinds ahead and mounting downside risks for the U.S. economy.

Figure 34. U.S. Leading Economic Indicator Index (%y/y), January 2000 to August 2008



Amplified adjusted; seasonally adjusted

I. National Economic Outlook

Looking forward to the remainder of 2022 and 2023, the outlook is for a slowing economy with the risk of a recession in late 2022 or early 2023, as depicted in Table 1 in Section III above. As a signal of the wide bands of uncertainty, there are wide ranges of projections in real GDP growth in the forecasts just since June 2022. At this writing prominent forecasts since June 2022 project overall U.S. real GDP growth in 2022 at 0.2% to 2.5%, and a wider range of -0.2% to 2.4% in 2023, with more recent forecasts of the late summer generally trending decidedly lower than the projections issued at the beginning of the summer. Looking at the later prominent forecasts of August and September 2022, U.S. real GDP growth is projected at 0.2% to 1.6% in 2022, and -0.2% to 1.6% in 2023, compared to 5.7% growth in U.S. real GDP in 2021.

Additional revisions are expected in most U.S. forecasts since the Federal Reserve again revised its outlook in its quarterly forecast of September 21, 2022, dropping its median forecast for real GDP growth to 0.2% for 2022 and 1.2% for 2023, which are 1.5% and 0.2% lower than its June 2022 forecast, respectively.

The Federal Reserve also signaled its commitment to raise rates to combat inflation and to tolerate increased unemployment in the process. On September 21, 2022, the Federal Reserve also revised its median forecasts upward for the federal funds rate, to 4.4% for 2022, 4.6% for 2023, and 3.9% for 2024, signaling its commitment for continued increases in the federal funds rate through next year to beat inflation. For the unemployment rate (official U-3 rate), the Fed increased its forecast to 3.8% for 2022 and to 4.4% for both 2023 and 2024, as compared to the

official unemployment rate of 3.7% in August 2022. Since increases in the federal funds rate take time to dampen demand, the Federal Reserve is signaling its willingness to withstand higher unemployment to break inflation.

Prior to the Federal Reserve's revised quarterly forecast of September 21, 2022, there were a wide range of opinions of the Federal Reserve's ability to tame high inflation and also avoid a recession. With the Fed's recent forecast revision projecting 0.2% real GDP growth in 2022, early reactions of economic investors, forecasters, and business leaders reflect an increased expectation of a recession in late 2022 or early 2023.

Even before the Fed's recent rate increase and quarterly forecast revision, the Conference Board, KPMG Economics, and Wells Fargo Economics all forecasted real consumer spending to decline to -0.1% to 0.9% in 2023 along with higher unemployment next year. Another round of forecast revisions by these and other forecasters is expected.

The tightness in the labor market across many industries is expected to cushion any increases in unemployment with an economic slowdown, due to ongoing labor shortages. While the current U.S. economic outlook generally anticipates a shallow and brief slowdown, a longer or deeper downturn would exert pressure on jobs and employment levels.

The future U.S. economic outlook has many headwinds and wide bands of uncertainty, including inflation, interest rates, the housing market, cooling consumer and business demand, government infrastructure spending, continued supply challenges, shifting global trade flows, and continued geopolitical risks and impacts (such as supply and price shocks). Close monitoring will be required to detect small and/or large shifts in any of these multiple factors to gather early warnings in order to deftly detect, adapt and adjust.

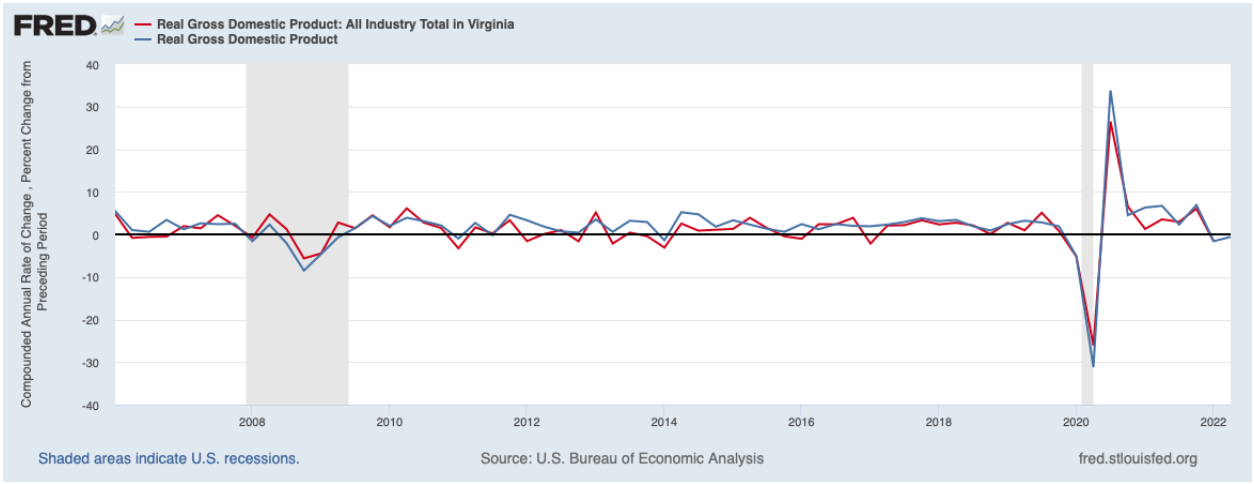
V. Virginia Economic Overview and Outlook

This section provides a detailed analysis of the Virginia economy and its relationship to the national economy, including overall economic growth, labor market trends, and consumer and housing activity.

A. Virginia's Economic Growth Overall

Historically, Virginia's real GDP growth has closely followed that for the nation, although Virginia initially had a slower recovery from the pandemic (BEA; Figure 35).

Figure 35. U.S. and Virginia GDP, Q1:2006 to Q2:2022



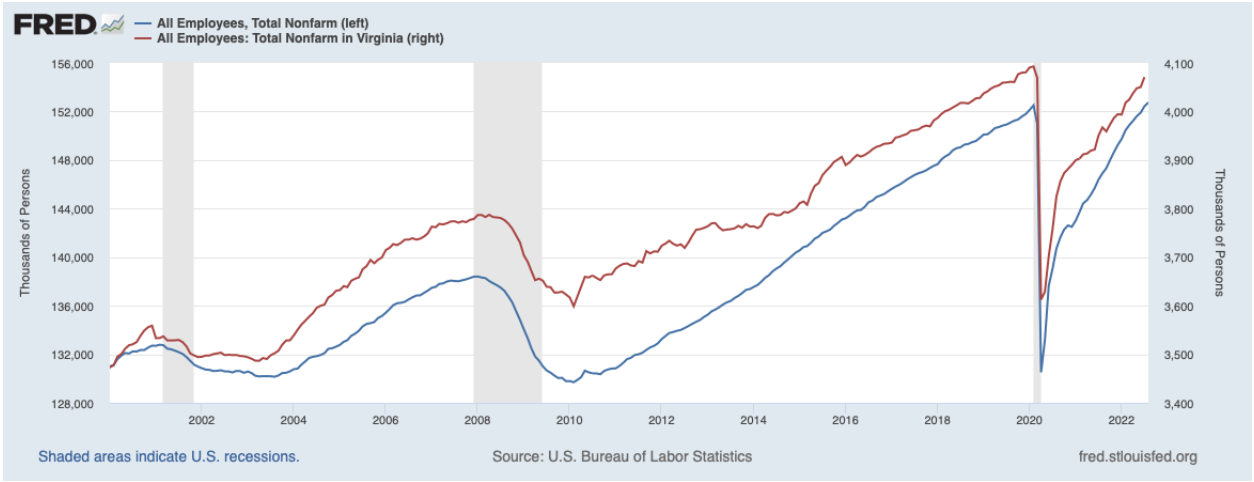
Seasonally adjusted annual rate

B. Virginia's Labor Market Trends

To provide a broad analysis of the state's labor market trends, Virginia's job, employment, unemployment, hourly wages, and labor force participation are reviewed.

Virginia's nonfarm payroll job trends have generally followed those of the nation historically (BLS; Figure 36). While the U.S. reached and exceeded its pre-pandemic level of nonfarm payroll jobs in August 2022, Virginia almost but had not quite fully recovered all of the jobs lost in the state since the pandemic by August 2022 (shy about 7,000 jobs in August 2022).

Figure 36. Total Nonfarm Payroll Jobs: U.S. & Virginia January 2000 to August 2022

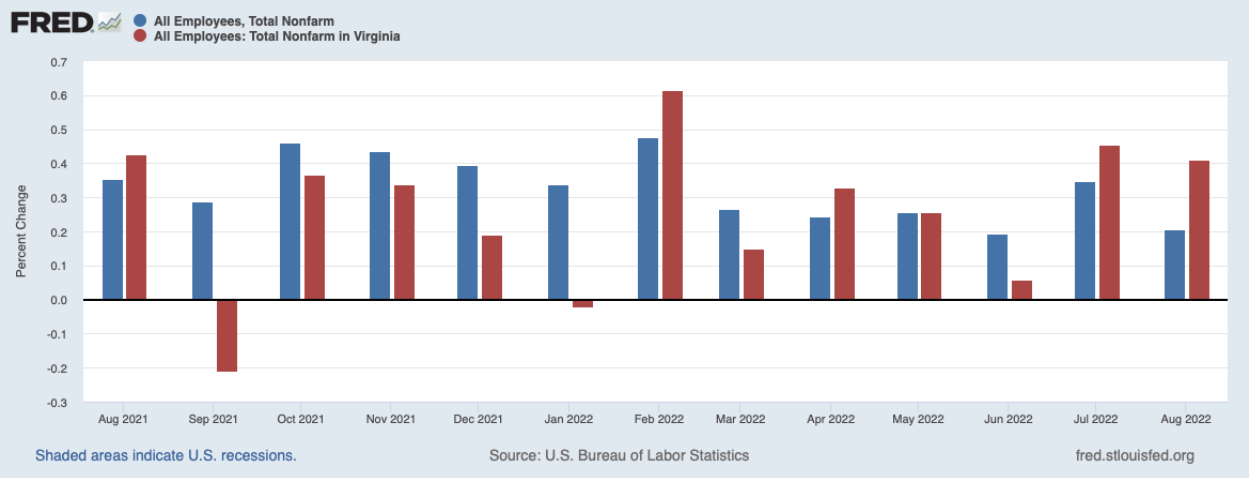


Establishment survey; seasonally adjusted

Virginia's monthly job growth trended below that for the nation in most months during August 2021– January 2022, actually declining in September 2021and January 2022 (BLS; Figure 37).

The pattern improved during February 2022 – August 2022, with Virginia's monthly job growth equal to or greater than that for the nation in five of those seven months (BLS; Figure 37).

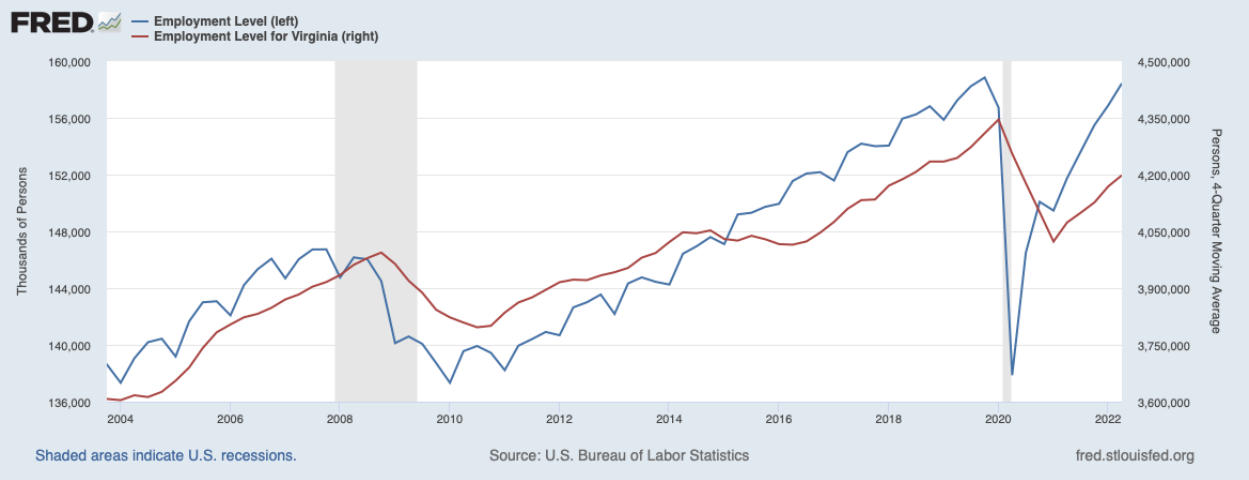
Figure 37. Monthly Change in Jobs: U.S. and Virginia, August 2021 – August 2022



Establishment survey; seasonally adjusted

Virginia's employment level has generally followed national trends, with Virginia's employment dropping less steeply during the Great Financial Crisis. However, during the pandemic Virginia's employment dropped for a longer period and recovered more slowly through Q2:2022 (BLS household survey; Figure 38). By Q2:2022 the U.S. had achieved 99.7% of its employment level during Q4:2019, just before the pandemic, while Virginia's employment level in Q2:2022 was only 97.4% of its employment level in the full quarter preceding the pandemic.

Figure 38. Total Employment: U.S. and Virginia, Q4:2003 to Q2:2022

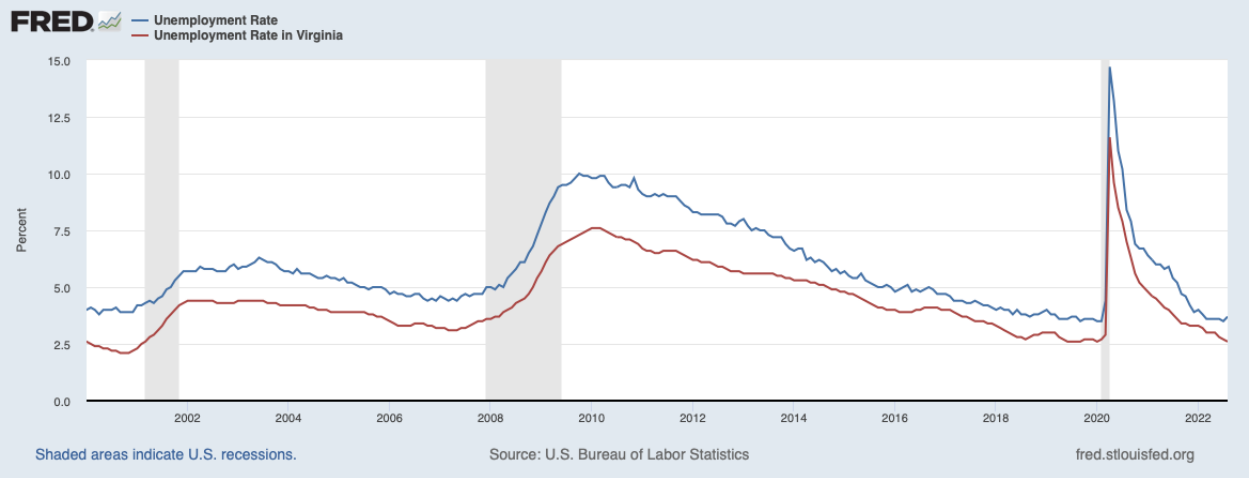


Household survey; not seasonally adjusted

Virginia's official unemployment rate has been historically lower than the corresponding national unemployment rate and has followed the same general trends. This pattern continued

through the pandemic and Virginia's unemployment rate returned to pre-pandemic levels in July 2022 and registered 2.6% in August 2022 as compared to a 3.7% unemployment rate for the U.S. (BLS household survey; Figure 39).

Figure 39. Unemployment Rate (U-3 Official Rate): U.S. and Virginia, January 2000 – August 2022



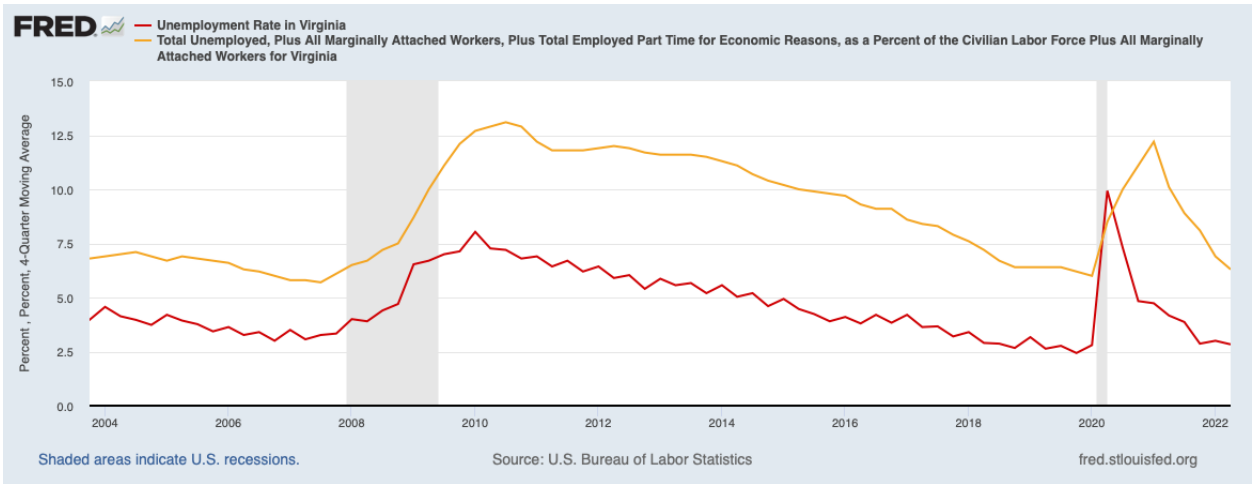
Household survey; seasonally adjusted

BLS also provides quarterly calculations of alternative measures of labor underutilization for states. As noted in Section IV.B. above, the BLS U-6 unemployment rate is a fuller measure of labor underutilization, incorporating persons marginally attached to the labor force and persons settling for part-time schedules for economic reasons in addition to those "officially" unemployed (laid off and awaiting recall or actively looked for work in the preceding four weeks). Similar to the national experience, Virginia's U-6 unemployment rate jumped during the Great Financial Crisis widening the distance between U-3 and U-6 (BLS household survey; Figure 40). However, unlike at the national level, the wider distance between U-3 and U-6 persisted through 2019 in Virginia whereas the corresponding distance narrowed at the national level, signaling that employed persons displaced during the Great Financial Crisis did not regain employment in Virginia at the same pace as at the national level.

With the pandemic Virginia's U-6 unemployment rate grew higher and longer than the state's official U-3 unemployment rate, not peaking until Q1:2021, whereas the U-3 unemployment rate peaked in the quarter immediately following the pandemic's onset (Q2:2020) (BLS household survey; Figure 40). By Q2:2022 Virginia's U-6 unemployment rate declined to 6.3% and returned to its pre-pandemic level, approximately 3.5% higher than U-3 that quarter which has been the general historical spread between the unemployment rates after the Great Financial Crisis.

From a policy perspective, it is prudent to closely monitor U-6 unemployment and civilian labor force statistics along with U-3 unemployment rates to gain a fuller picture of employment in the civilian population and bring light to persons whom the economy may have left behind.

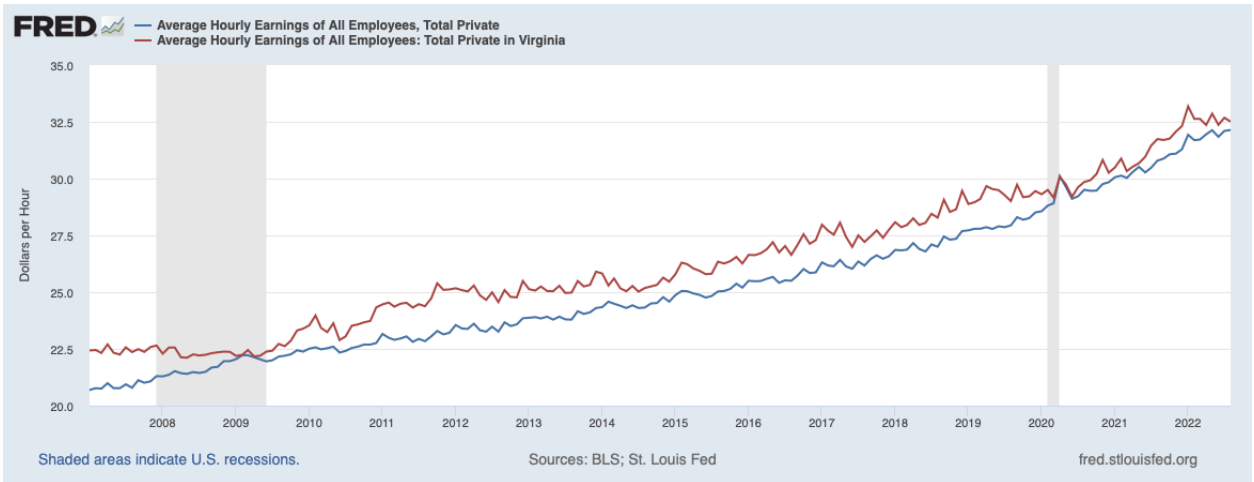
Figure 40. Unemployment Rate: Virginia BLS U-3 (Official Rate) and BLS U-6, Q4:2003 – Q2:2022



Household survey; not seasonally adjusted

Virginia's hourly wages have historically been higher than those for the nation and have generally followed the national pattern of increase during January 2007 – August 2022 (BLS and Federal Reserve Bank of St. Louis; Figure 41).

Figure 41. Average Hourly Earnings: U.S. and Virginia January 2007 – August 2022

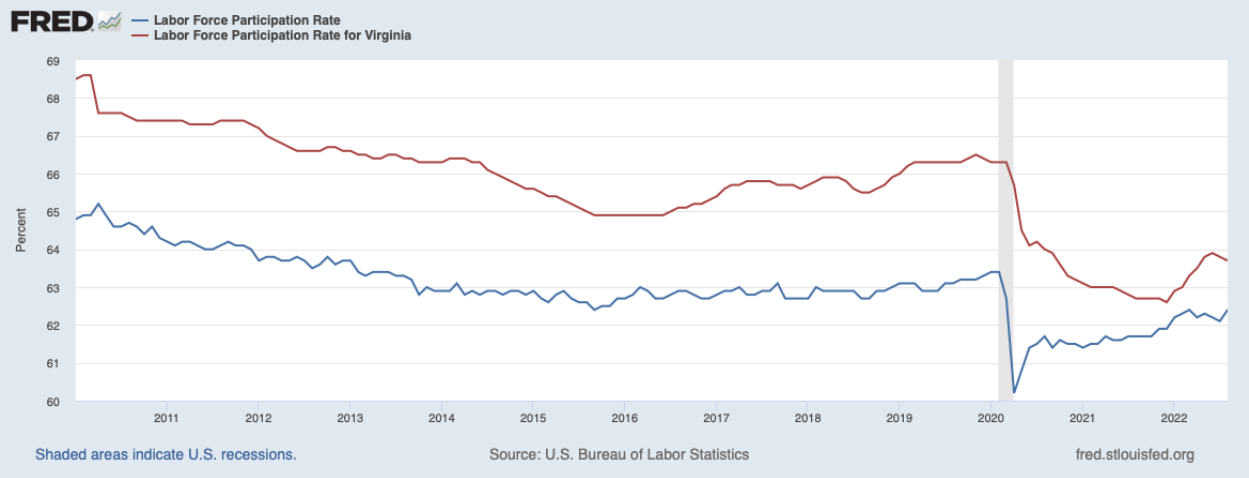


Not seasonally adjusted

Virginia's labor force participation rate generally was consistently higher than that of the nation before the pandemic, but the state's labor force participation rate fell deeper and longer than the nation's after the pandemic. While still higher, in August 2022 the difference had narrowed between Virginia's labor force participation rate (63.7%) and that for the U.S. (62.4%) (BLS household survey; Figure 42).

A recent study by the Federal Reserve Bank of Richmond (Richmond Fed) identified that Virginia's lower labor force participation is primarily due to men over 65 leaving the work force in 2019 - 2021 (whereas Maryland's lagging labor force participation was mainly due to prime working age women leaving the work force) (Richmond Fed, September 23, 2022). Digging deeper into underlying data and trends helps to inform effective policy interventions, such as those to encourage older workers to continue working or to draw younger people.

Figure 42. Labor Force Participation: U.S. and Virginia January 2010 to August 2022



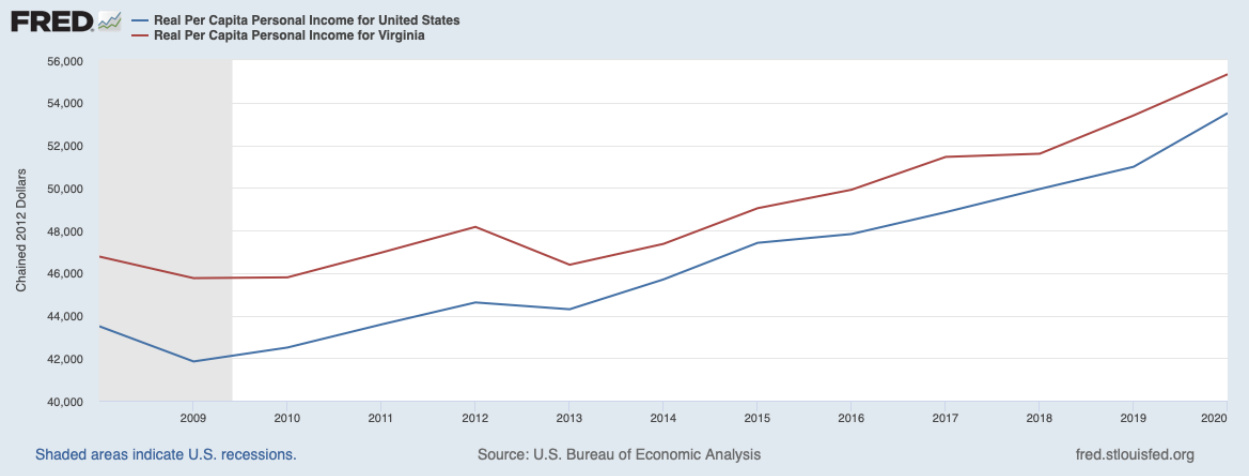
Seasonally adjusted

C. Virginia's Consumer Activity

Virginia's real per capita personal income has been historically higher than that of the U.S. and followed the national pattern of increasing during 2008 – 2020 (BEA; Figure 43).

In terms of recent growth, the Richmond Fed reported that in Q1:2022 Virginia's real personal income growth declined -0.36% compared to the preceding quarter and -7.69% compared to the same period the preceding year, similar to the national pattern (Richmond Fed; September 2022).

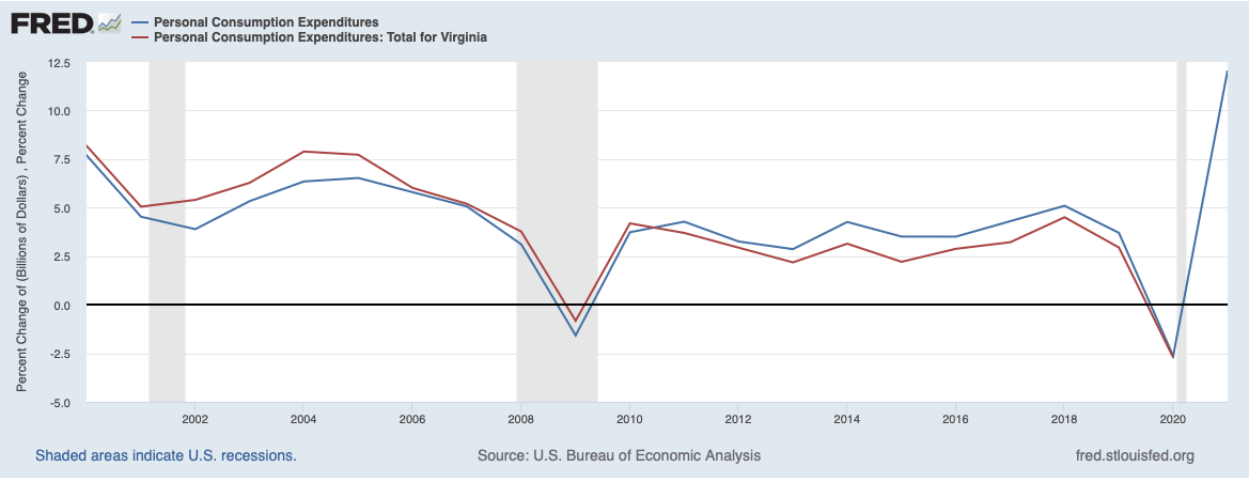
Figure 43. Real Per Capita Personal Income: U.S. and Virginia 2008 - 2020



Not seasonally adjusted

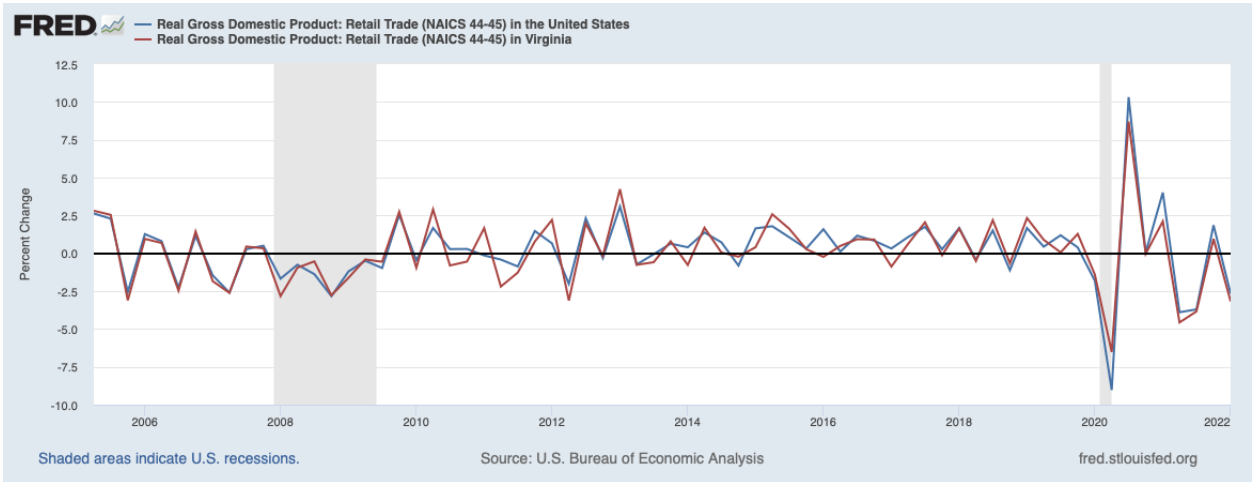
Virginia's consumer spending and retail trade closely mirrored national trends through 2020 based on available data (BEA; Figures 44 and 45).

Figure 44. Consumer Spending: U.S. and Virginia 2000-2021 (%y/y)



Not seasonally adjusted

Figure 45. Retail Trade: U.S. and Virginia Q4:2005 – Q1:2022

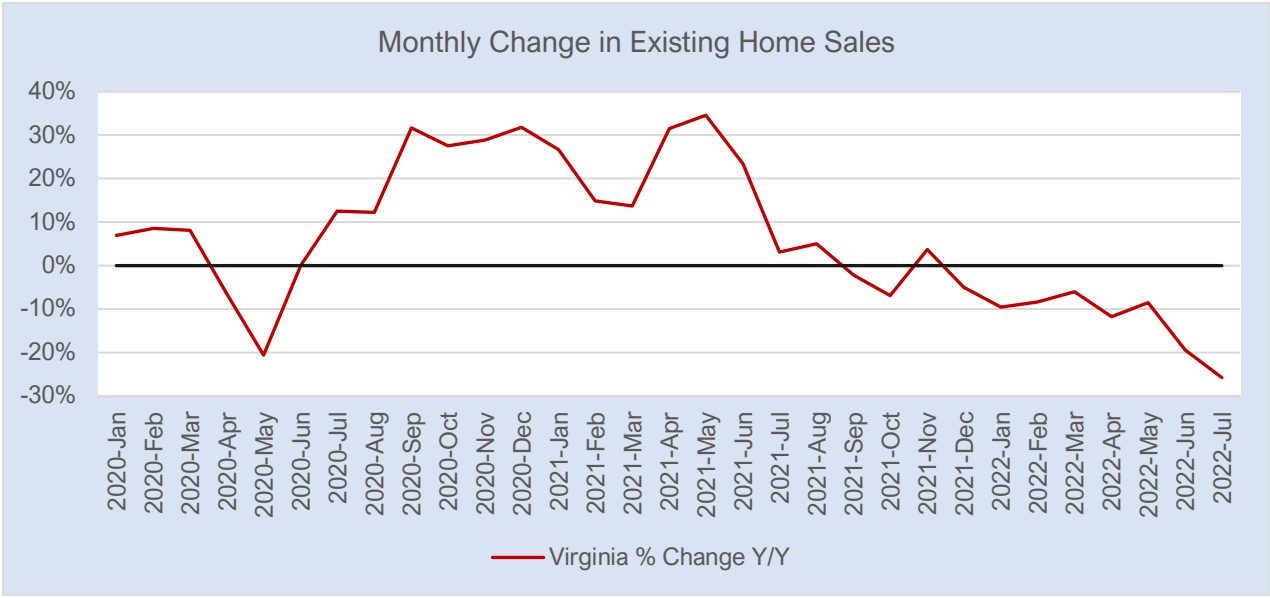


Seasonally adjusted annual rate

D. Virginia's Housing Activity

After initially declining at the beginning of the pandemic, existing home sales grew monthly at a strong pace during June 2020 – May 2021, and generally declined monthly during July 2021 – July 2022 (Virginia Association of Realtors; Figure 46).

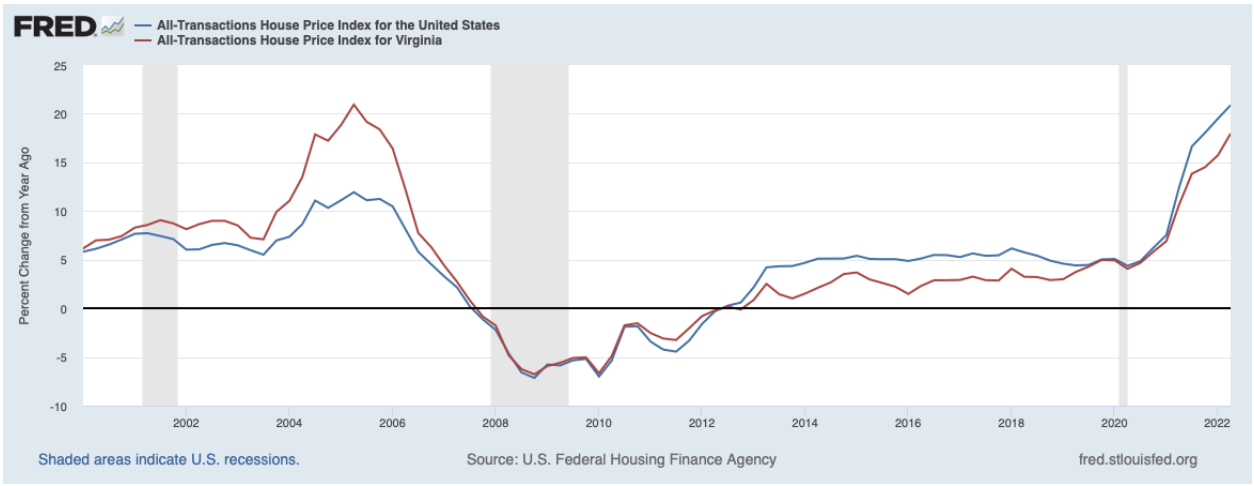
Figure 46. Existing Home Sales: Virginia January 2020 – July 2022 (%y/y)



Source: Virginia Association of Realtors

Despite the slowdown in existing home sales since mid-2021, Virginia's House Price Index for all single-family transactions posted monthly increases through July 2022, similar to the national trend (FHFA; Figure 47).

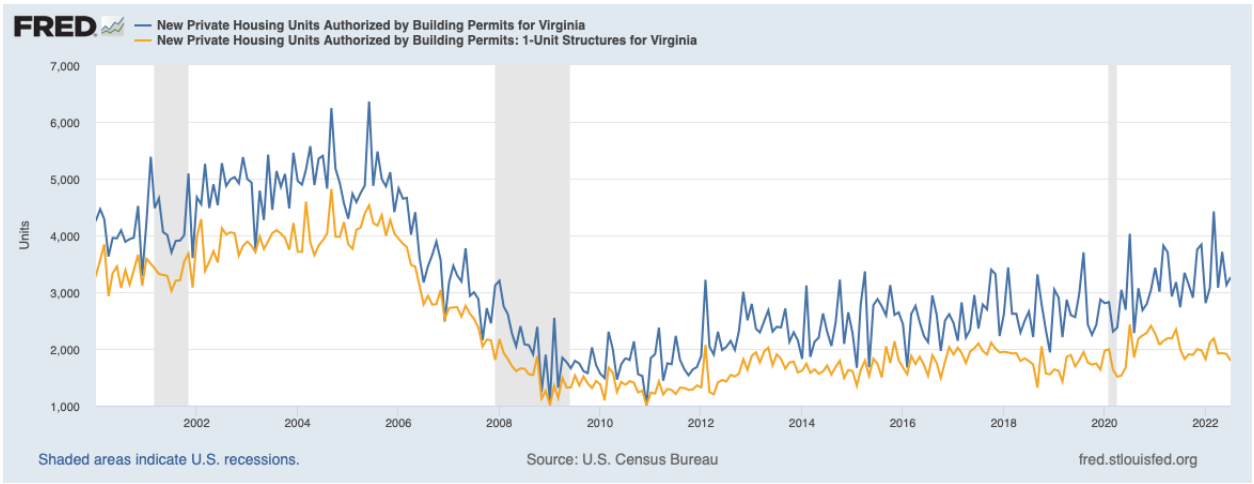
Figure 47. House Price Index (Single-Family): U.S. and Virginia, Q1:2000 – Q2:2022 (%y/y)



All single-family transactions; not seasonally adjusted

New residential building permits in Virginia continued a generally upward trend in July 2022, posting a 2.6% monthly gain to 3,556 units, up 19.61% over the same period a year ago (Census: Figure 48).

Figure 48. New Residential Building Permits: Virginia January 2010 – July 2022



Seasonally adjusted

E. Virginia's Economic Outlook

In the two years after the economy first emerged from the pandemic's initial hammer to the world, firms were primarily concerned with enduring supply chain disruptions, high inflation, and record levels of job openings and quits.

However, in Summer 2022 the Richmond Fed's Fifth District and national business surveys indicated that firms' and CFOs' growing concerns about the macroeconomic health of the economy, softening demand, and recession risks had overtaken continuing concerns about supply chain challenges and variable input costs, while concerns about the ability to hire and retain workers stayed unchanged (Richmond Fed, June 29, 2022, and September 1, 2022).

Given that Virginia's key economic indicators generally follow the patterns of the related national indicators, albeit sometimes at different levels, the national economic outlook is a relevant barometer for the state's economic outlook. Headwinds to the state's economic outlook overlap those of the national economy: uncertainties regarding inflation, interest rates, the housing market, declining real personal income, cooling consumer and business demand, continuing supply challenges, shifting trade flows, and continued geopolitical risks and impacts (such as supply and price shocks).

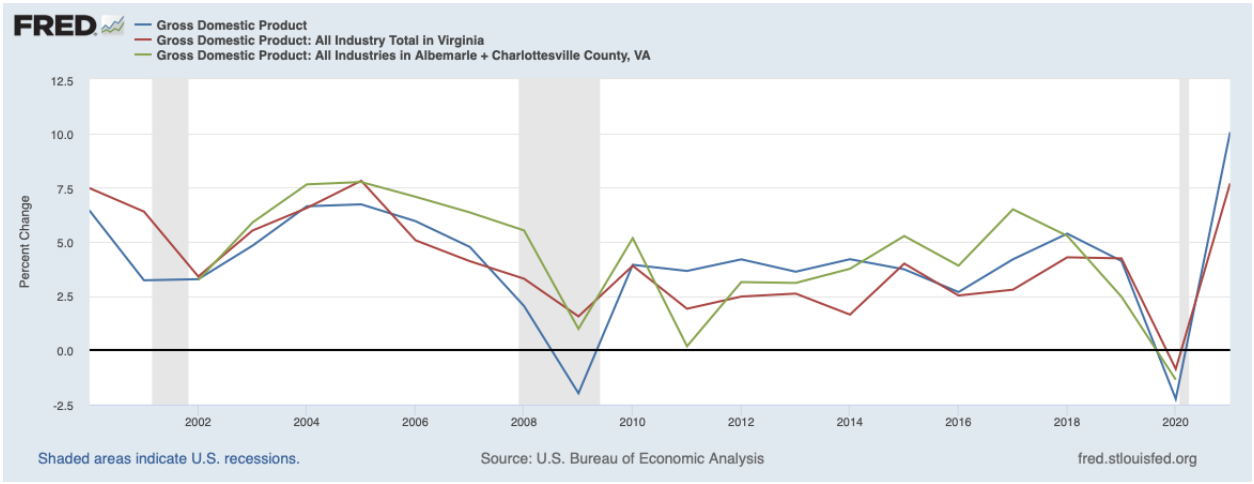
VI. Albemarle County, Virginia Economic Overview and Outlook

This section provides a detailed analysis of several components of the economy of Albemarle County, Virginia, including overall economic growth, labor market trends, and consumer, housing and business activity.

A. Overall Economic Growth in Albemarle County, Virginia

BEA data is available for annual real GDP growth in Albemarle County + Charlottesville, Virginia, for the period of 2002 to 2020, which has been mapped along with similar national and state data for 2000-2021. As seen in Figure 49 below, Albemarle County + Charlottesville's growth in annual Real GDP generally outpaced the corresponding growth rates for the U.S. and/or Virginia in many years during the period of 2002-2018 and placed below the U.S. and Virginia growth rates in 2019-2020 (BEA).

Figure 49. GDP: U.S., Virginia, and Albemarle County, Virginia, 2000-2021 (%y/y)

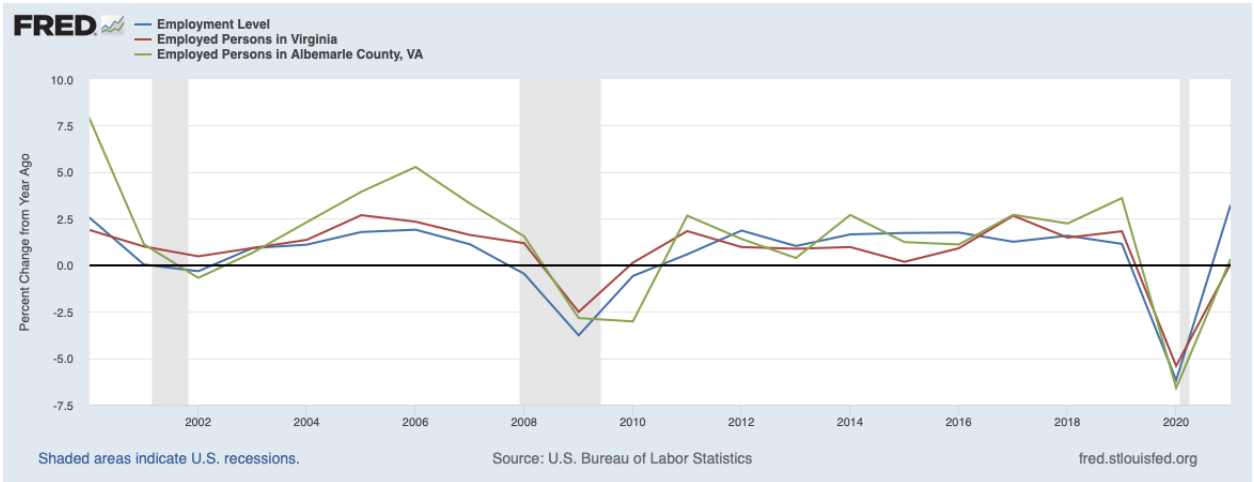


Current dollars; not seasonally adjusted

B. Labor Market Trends in Albemarle County, Virginia

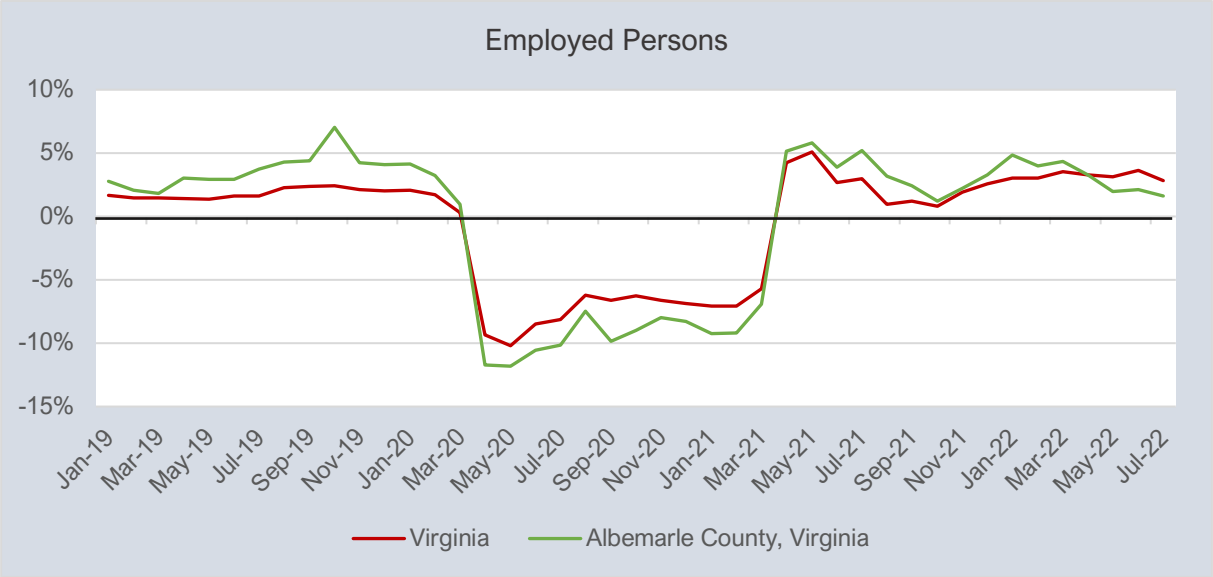
Albemarle County historically has had a strong job market with annual growth in employment levels (employed persons) equal to or greater than the corresponding growth in the state, except for the period immediately following the Great Financial Crisis and during the initial period of the recent pandemic (BLS household survey and Virginia Employment Commission, Figures 50 and 51).

Figure 50. Employment Level: U.S., Virginia and Albemarle County, Virginia, 2000-2021 (%y/y)



Household survey; not seasonally adjusted

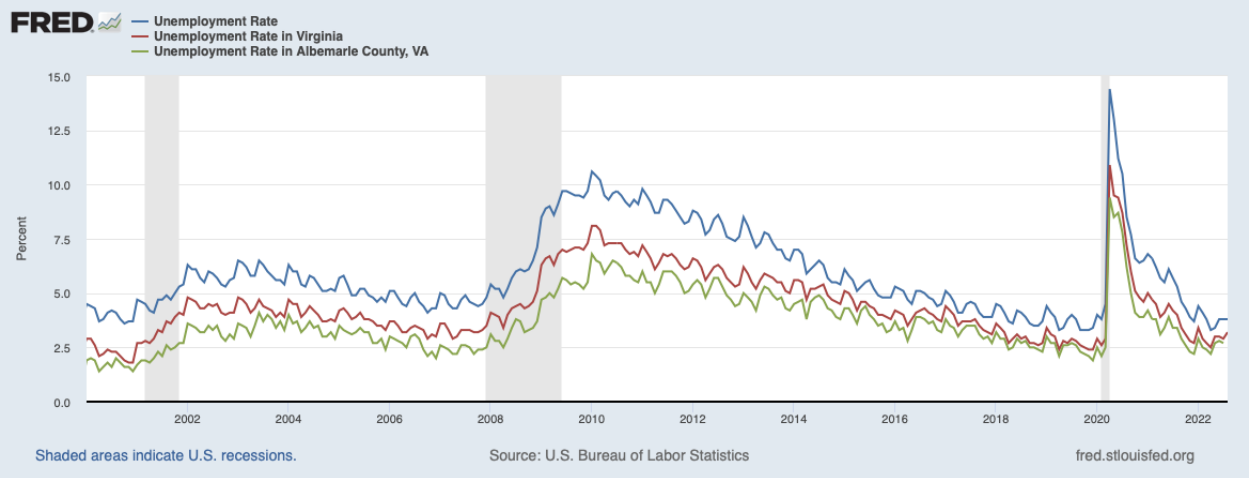
Figure 51. Employed Persons: Virginia and Albemarle County, Virginia, January 2019 – July 2022 (%y/y)



Source: Bureau of Labor Statistics and Virginia Employment Commission; household survey; not seasonally adjusted

Similarly, Albemarle County's unemployment rate (U-3 official rate) has consistently registered below both the national and state unemployment rates since 2002, a pattern that continued through the Great Financial Crisis and the recent pandemic. Only non-seasonally adjusted data is available for counties and comparable data was used for consistent comparison with the state and nation. In July 2022, Albemarle County's official unemployment rate was 2.7% as compared to 2.9% for Virginia and 3.8% for the U.S. (BLS household survey; not seasonally adjusted; Figure 52). Notably, the difference between Albemarle County's U-3 unemployment rate and those of the nation and state have narrowed in recent years. Also, the unemployment rates for Virginia and the U.S. increased slightly in August 2022, however, county unemployment data for that month had not yet been released as of this writing.

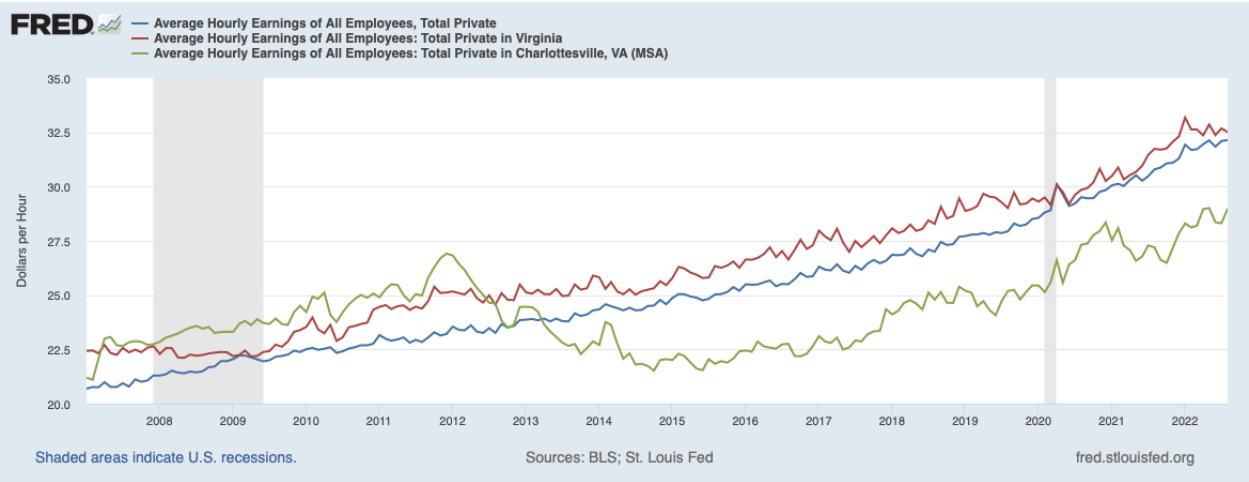
Figure 52. Unemployment Rate: U.S., Virginia, and Albemarle County, Virginia, January 2000 – August 2022



Household survey; not seasonally adjusted

BLS average hourly earnings data for the Charlottesville, Virginia Metropolitan Statistical Area (MSA) paint a slightly different picture in comparison to the state and nation (see Table 15 in the Appendix for the counties and cities within selected Virginia MSAs as delineated by the U.S. Office of Management and Budget and reported by the U.S. Census Bureau). While hourly wages in Virginia were consistently higher than those nationally during 2007 – 2021, hourly wages for the Charlottesville, Virginia MSA switched from posting equal to or higher than both state and national levels during 2007 – 2012 to posting distinctly below both levels during 2013 – 2021. After falling consistently during 2012 – 2015, hourly wages in the Charlottesville, Virginia MSA began steady annual increases in 2016 – 2021 but still remained below the hourly wages for both Virginia and the U.S. in 2021 (BLS establishment survey; Figure 53)

Figure 53. Average Hourly Earnings: U.S., Virginia, and Charlottesville, Virginia MSA, January 2007 – August 2021



Establishment survey; not seasonally adjusted

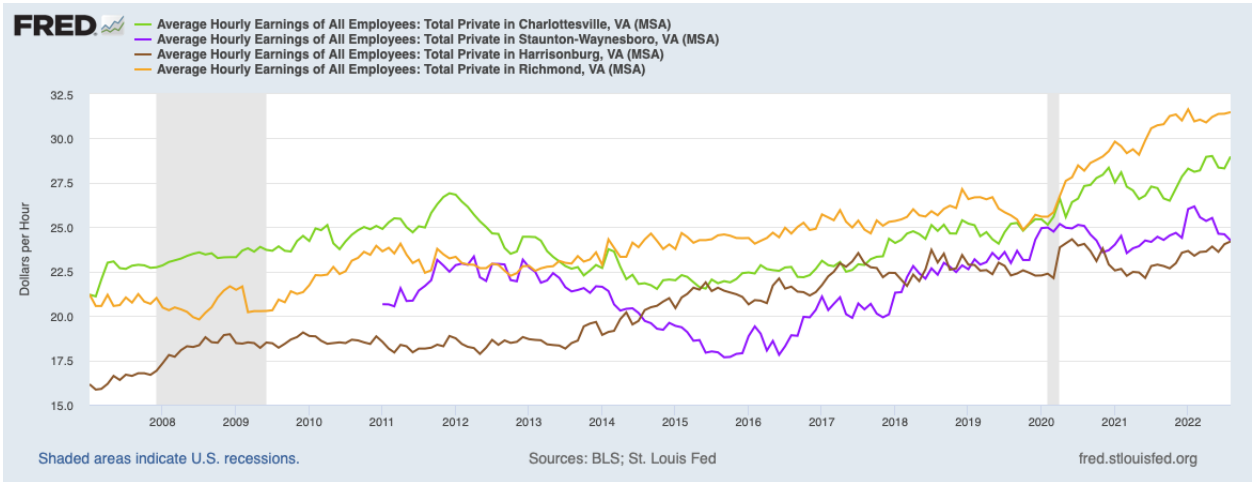
From a regional perspective, different historical and recent patterns in hourly wages are revealed for the Charlottesville, Staunton, Harrisonburg, and Richmond MSAs as reported by BLS (BLS establishment survey; Figure 54). During 2000 – early 2013, the hourly wages in the Charlottesville MSA generally trended above those of the Staunton, Harrisonburg, and Richmond MSA's, after which the hourly wages in the Richmond MSA registered the highest among these four MSAs with the Charlottesville MSA ranking second.

A deeper look reveals that the hourly wages in the Charlottesville and Staunton MSAs turned downward in 2012 and declined through 2015 after which both hourly wages began increasing again and continued through 2019. With the pandemic's appearance in early 2020, the hourly wages of the Charlottesville and Staunton MSAs have generally fluctuated up and down with those of the Charlottesville MSA experiencing longer and higher upswings (BLS establishment survey; Figure 54).

Before the pandemic the hourly wage patterns of the Harrisonburg and Richmond MSAs did not experience a dip in 2012 – 2015 and maintained an upward trajectory during that period and beyond until stalling just before the pandemic in 2019. During 2015 – 2019, the hourly wages in the Harrisonburg MSA consistently exceeded those in the Staunton MSA and exceeded those in the Charlottesville MSA in a few months. In 2019 the Staunton MSA hourly wages overtook those in the Harrisonburg MSA and have remained higher through August 2022 (BLS establishment survey; Figure 54).

After dipping in 2019 – early 2020, the Richmond MSA's hourly wages experienced a generally upward path through August 2022 (BLS establishment survey; Figure 54).

Figure 54. Average Hourly Earnings: Charlottesville, Staunton-Waynesboro, Harrisonburg, and Richmond, Virginia MSAs, January 2007 – August 2021

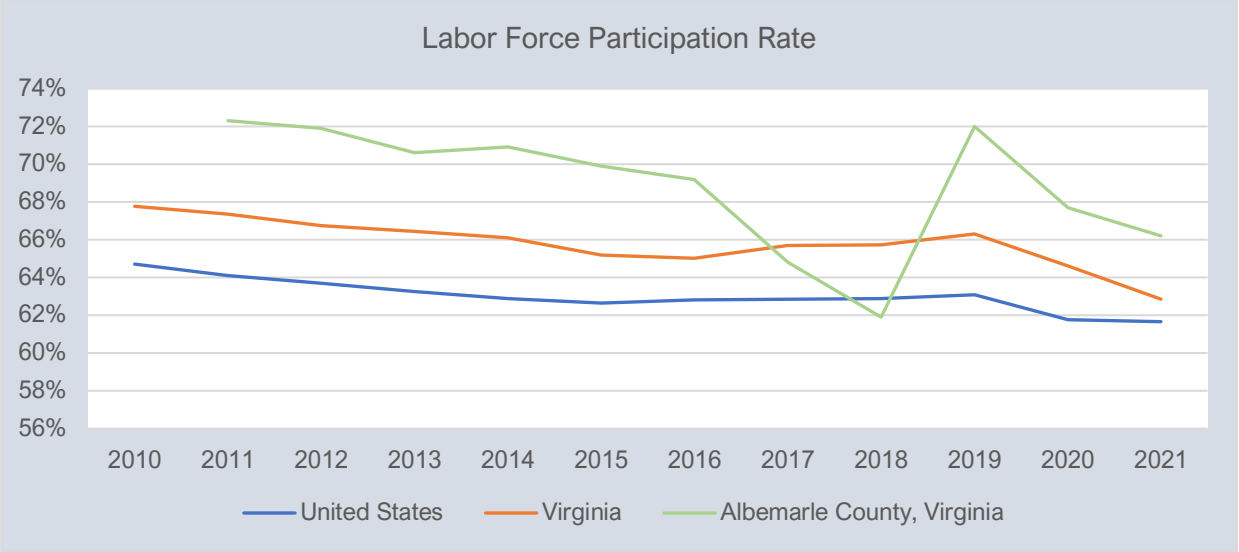


Establishment survey; not seasonally adjusted

During 2011 – 2021, Albemarle County's labor force participation rate was distinctly higher than the corresponding rates for Virginia and the U.S., except for the period of 2017 – 2018 (BLS household survey, Virginia Employment Commission (VEC); Figure 55). The labor force

participation rate reflects the percentage of the population that is either employed or unemployed. Albemarle County's higher labor force participation rate indicates the County had a greater portion of its population in the labor force than the state or nation for all but two years during 2011 – 2021. The BLS labor force calculation is comprised of those employed and those officially classified as unemployed. The BLS classifies persons as unemployed if they are laid off and awaiting recall or have actively looked for work in the last four weeks. The BLS labor force calculation excludes those persons that are not employed or officially classified as unemployed.

Figure 55. Labor Force Participation Rate: U.S., Virginia and Albemarle County, Virginia, 2010 – 2021



Source: Bureau of Labor Statistics and Virginia Employment Commission; household survey; seasonally adjusted/

The U.S. Census Bureau annually issues the American Community Survey (ACS) with 1-year and 5-year estimates of numerous social, economic, housing, and demographic data for geographic areas with populations over 65,000 (only 5-year estimates are issued for smaller geographic areas). The ACS is based on extensive address-based (household) surveys and the 5-year estimates have higher statistical reliability since they include data collected over a longer period (60 months). The annual ACS 5-year estimates contain overlapping periods, and the latest 5-year estimates are for the period of 2016-2020 (Census).

The ACS reports employment status information as part of its rich suite of data. In 2016-2020 the ACS indicated that 59.4% of Albemarle County's residents were employed, 38.2% were not in the labor force, 2.1% were unemployed and 0.3% were in the Armed Forces. During this five-year period, Albemarle County had a lower unemployment rate among its residents as compared to the state and nation, a lower proportion of its residents in the labor force as compared to the state and nation, and the proportion of its residents employed was on par with the nation but below that for the state (Census; Table 4).

Albemarle County's higher percentage of persons 65 and older in its population (19.7%) in 2020 as compared to the state (16.3%) and nation (16.8%) is one possible explanation for its lower proportion of residents in the labor force Albemarle County in 2016-2020 (Census). Additional demographic analysis could shed further insight on this finding.

Table 4. Employment Status as a Percent of Population 16 and Older, U.S., Virginia, and Albemarle County, Virginia, 2016-2020

Employment Status as a Percent of Population 16 and Older			
	United States	Virginia	Albemarle County, VA
Population 16 years and over	261,649,873	6,849,454	89,459
In labor force	63.4%	65.8%	61.8%
Civilian labor force	63.0%	64.0%	61.5%
Employed	59.6%	61.0%	59.4%
Unemployed	3.4%	3.0%	2.1%
Armed Forces	0.4%	1.8%	0.3%
Not in labor force	36.6%	34.2%	38.2%

Source: U.S. Census Bureau, ACS 5-year estimates 2016-2020

The ACS also looks at employment in broad industry groups based on the North American Industry Classification System (NAICS), combining some NAICS 2-digit industry codes together. Based on the ACS data for 2016-2020, the top five industries of employment for Albemarle County's civilian residents (16 and over) were: educational services, and health care and social assistance (34.7%); professional, scientific, and management, and administrative and waste management services (15.2%); arts, entertainment, and recreation, and accommodation and food services, (9.4%); retail trade (8.1%), and finance and insurance, and real estate and rental and leasing (6.1%) (Census; Table 5).

In reviewing comparable Virginia ACS data, two industries had notably higher proportions of Albemarle County's resident employment as compared to the state: educational services, and health care and social assistance (34.7% vs. 22.2% for Virginia); and agriculture, forestry, fishing and hunting, and mining (1.6% vs. 0.8% for Virginia). Moreover, four industries had notably lower proportions of Albemarle County's resident employment as compared to the state: public administration (5.1% vs. 8.8% for Virginia); manufacturing (4.0% vs. 7.1% for Virginia); retail trade (8.1% vs. 10.1% for Virginia); and transportation and warehousing, and utilities (2.6% vs. 4.5% for Virginia) (Census; Table 5).

Table 5. Employment by Industry: U.S., Virginia, and Albemarle County, Virginia, 2016-2020

Industry	United States (%)	Virginia (%)	Albemarle County, Virginia (%)
Civilian employed population 16 years and over	155,888,980	4,179,739	53,176
Agriculture, forestry, fishing and hunting, and mining	1.7%	0.8%	1.6%
Construction	6.7%	6.6%	5.3%
Manufacturing	10.0%	7.1%	4.0%
Wholesale trade	2.5%	1.8%	1.1%
Retail trade	11.0%	10.1%	8.1%
Transportation and warehousing, and utilities	5.5%	4.5%	2.6%
Information	2.0%	1.9%	1.2%
Finance and insurance, and real estate and rental and leasing	6.6%	6.3%	6.1%
Professional, scientific, and management, and administrative and waste management services	11.7%	15.9%	15.2%
Educational services, and health care and social assistance	23.3%	22.2%	34.7%
Arts, entertainment, and recreation, and accommodation and food services	9.4%	8.7%	9.4%
Other services, except public administration	4.8%	5.3%	5.5%
Public administration	4.7%	8.8%	5.1%

Source: U.S. Census Bureau, ACS 5-year estimates 2016-2020.

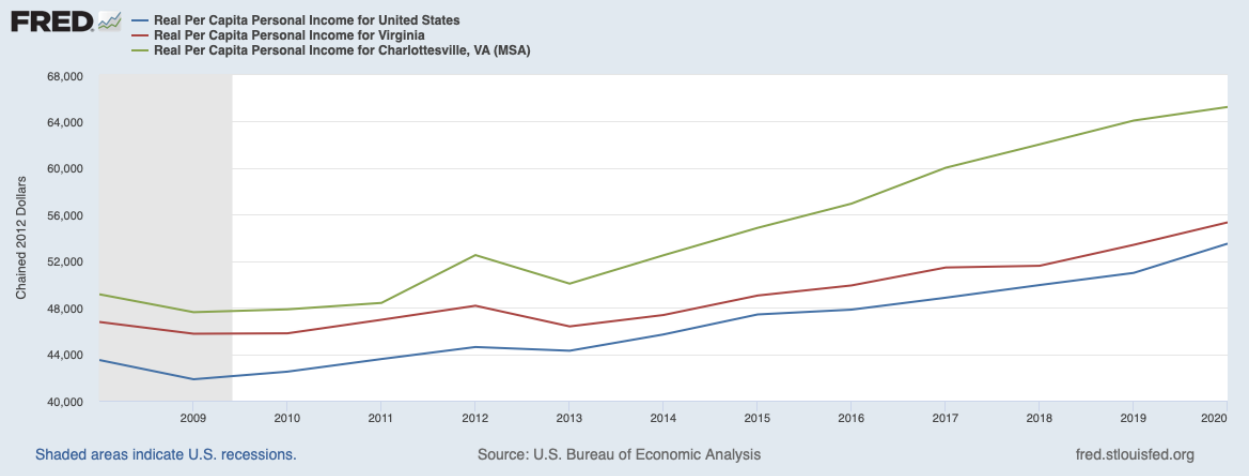
C. Consumer Activity in Albemarle County, Virginia

Real per capita personal income is defined as the total personal income of the residents of a given area divided by its total population (BEA) and can be used to generally gauge the standard of living in an area. It is important to note that real per capita personal income does not consider the distribution of income across members or income inequality within a geographic area since it is based only on total real personal income and total population (aggregate figures). Yet, as a per

person metric, real per capita personal income can be compared across geographic areas at a given point in time.

The real per capita personal income in the Charlottesville, Virginia MSA trended above that for Virginia and the U.S. in 2008 – 2020, indicating an overall higher standard of living in the Charlottesville MSA (BEA; Figure 56). The indicator increased steadily since 2013 for the Charlottesville MSA, and the state and nation. Notably, while Virginia's real per capita personal income has exceeded that for the U.S. by a relatively constant amount since 2013, the Charlottesville MSA's real per capita personal income increased more sharply to $65,256 in 2020, as compared to $55,333 for Virginia and $53,504 for the U.S. that year.

Figure 56. Real Per Capital Personal Income: U.S., Virginia, and Albemarle County, Virginia, 2008 – 2020

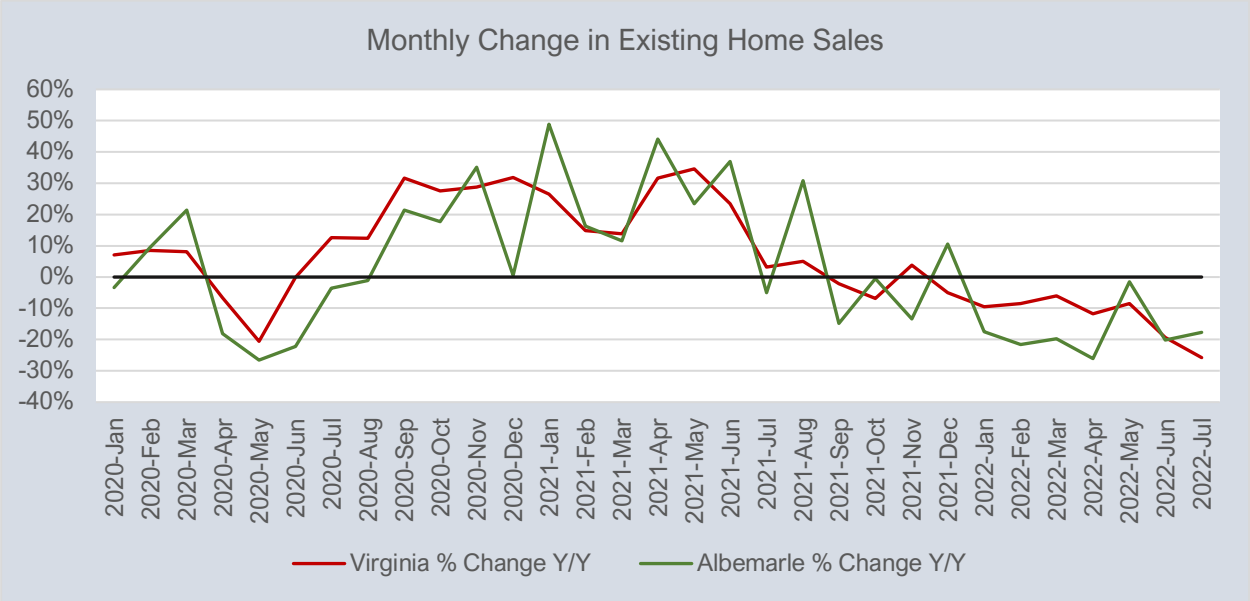


Not seasonally adjusted

D. Housing Activity in Albemarle County, Virginia

Housing market activity in Albemarle County has cooled in 2022 as compared to the high activity of mid-2020 through 2021 just as it has in the state and nation. Monthly changes in existing home sales in Albemarle County have generally followed Virginia's overall pattern. After dropping during the early months of the pandemic, Albemarle County's monthly home sales generally increased at an increasing pace through June 2021 (except for the winter months) after which the monthly sales growth slowed and then turned negative as compared to the prior year (Virginia Association of Realtors; Figure 57).

Figure 57. Monthly Change in Existing Home Sales: Virginia and Albemarle County, Virginia January 2020 to July 2022 (%y/y)

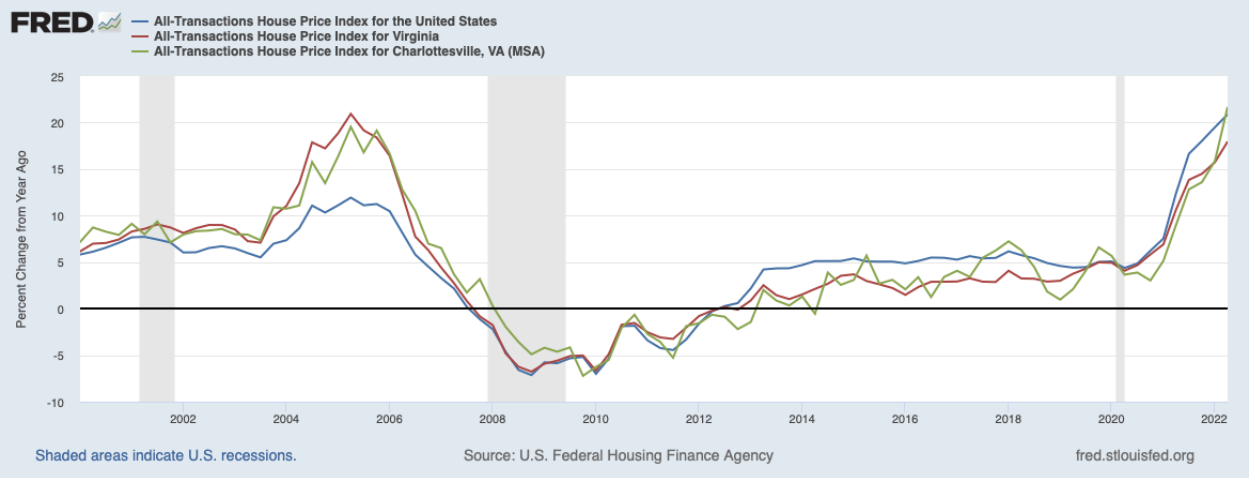


Source: Virginia Association of Realtors

To examine home prices, the relationship between the House Price Index (HPI) for Albemarle County and the Charlottesville MSA were examined to gain access to more recent data published for the MSAs. Since changes in the HPI for Albemarle County and the Charlottesville MSA tracked closely during 2000 – 2021, the Charlottesville MSA is used for comparisons with the state, nation, and regional communities in order to examine data through June 2022 (see Figure 73 in the Appendix).

Despite declining home sales thus far in 2022 (year-over-year), the House Price Index (HPI) for all single-family transactions continued to strongly increase through Q2:2022 in the Charlottesville, Virginia MSA after beginning a sharp ascent in mid-2020, similar to the state and nation (FHFA; Figure 58). In Q2:2022 the HPI for the Charlottesville MSA increased 21.7% (y/y), noticeably steeper than Virginia's 18.0% (y/y) increase in the same quarter.

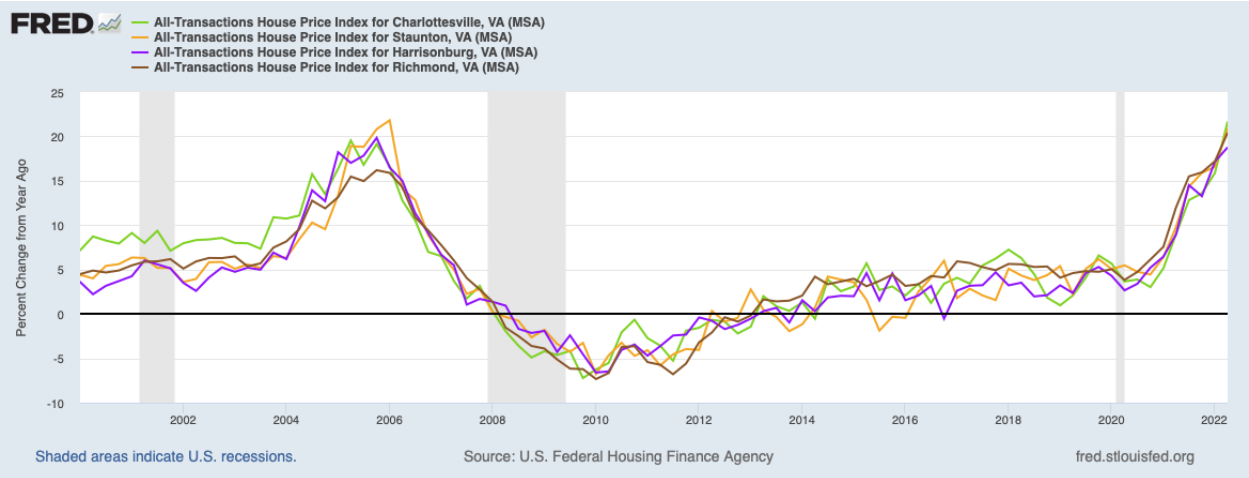
Figure 58. House Price Index (Single-Family): U.S., Virginia, and Charlottesville, Virginia MSA, Q1:2000 – Q2:2022 (%y/y)



Not seasonally adjusted

Looking regionally, changes in the House Price Index in the Staunton, Harrisonburg and Richmond MSAs followed similar patterns to that of the Charlottesville, Virginia MSA, likewise experiencing steady and sharp increases from mid-2020 to mid-2022. Again, the steep HPI increase in Q2:2022 for the Charlottesville MSA (21.7% y/y) outranked those for the Staunton MSA (20.9%), Harrisonburg MSA (18.8%), and Richmond MSA (20.4%) during that quarter (FHFA; Figure 59).

Figure 59. House Price Index (Single-Family): Charlottesville, Staunton, Harrisonburg, and Richmond, Virginia MSAs, Q1:2000 – Q2:2022 (%y/y)

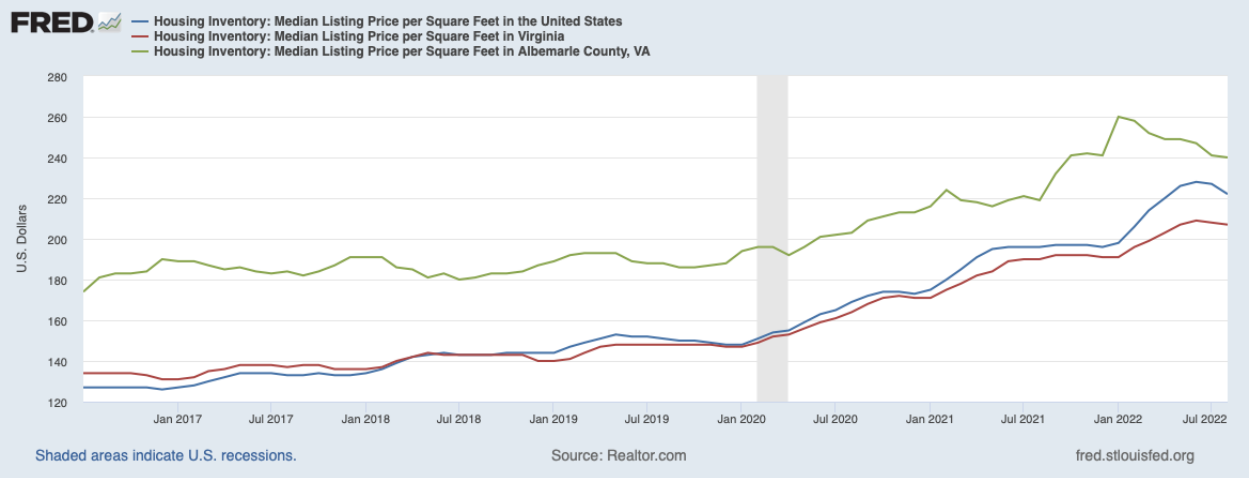


As another barometer of housing activity, there are two main observations regarding the median listing price per square feet in Albemarle County, Virginia. This metric has been consistently higher in Albemarle County than those for the state, nation and surrounding MSAs since 2016,

and this metric began to decline in Spring 2022 companion with declining home sales, after sharply rising in Spring 2020 – Spring 2022 (Realtor.com; Figures 60 and 61).

The median listing price per square feet for homes in Albemarle County has been distinctly above those for the state and nation since 2016, rising sharply between May 2020 to March 2022 (Realtor.com; Figure 60). Although final prices for all single-family transactions continued to increase through mid-2022, the median listing price per square feet began declining in Albemarle County in April 2022 through August 2022. While remaining below the median listing price per square feet for Albemarle County, the corresponding metrics for the state and nation also rose sharply starting in May 2020, peaking in June 2022, and then declining in July - August 2022. In August 2022 Realtor.com reported Albemarle County's median listing price per square feet as $240, as compared to $207 for Virginia and $222 for the U.S.

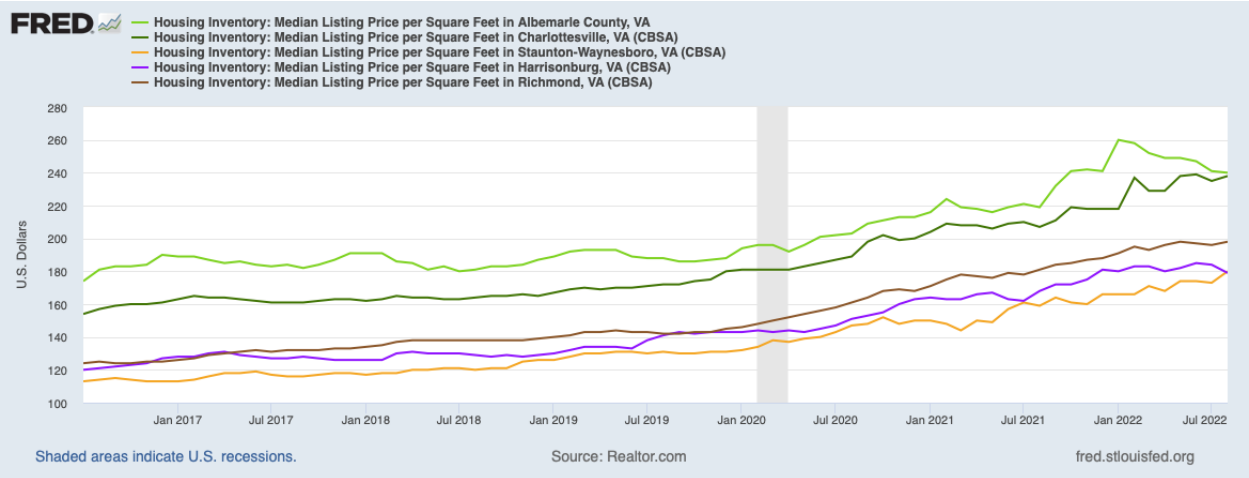
Figure 60. Median Listing Price per Square Foot: U.S., Virginia, and Albemarle County, Virginia, July 2016 – August 2022



Not seasonally adjusted

Looking at the surrounding MSAs (equivalent to Core-Based Statistical Areas (CBSAs) for the selected MSAs), the median listing price per square feet in Albemarle County was recorded by Realtor.com as higher than those for the Charlottesville, Staunton, Harrisonburg, and Richmond MSAs from 2016 through August 2022 (Realtor.com; Figure 61). Despite declining after April 2022, Albemarle County's median listing price per square feet ($240) in August 2022 was still slightly higher than that for the Charlottesville MSA ($238) and exceeded the comparable metrics for the Staunton MSA ($180), Harrisonburg MSA ($179) and Richmond MSA ($198) at that time.

Figure 61. Median Listing Price per Square Foot: Albemarle County, Virginia, and Charlottesville, Staunton, Harrisonburg, and Richmond, Virginia MSAs, July 2016 – August 2022



E. Business Activity in Albemarle County, Virginia

County Business Patterns

Through its County Business Patterns (CBP) program, the U.S. Census Bureau provides annual economic data by industry for the U.S., states, counties, MSAs, zip codes and Congressional Districts. The annual CBP series provides the number of establishments, industry classification, employment during the week of March 12th, and first quarter and annual payroll amounts, and is released approximately 16 months after the reference year (Census). This establishment-based data provides a useful profile of the businesses and people who work in a community, which adds an additional perspective beyond the U.S. Census Bureau's household-based ACS survey of the people who reside in a community.

Albemarle County's business community profile was examined in terms of establishments, employees and payroll for each industry sector. Industry 2-digit level NAICS classifications were used for the analysis whereas the ACS (household survey) combined some industry sectors.

Based on the CBP data for 2020, the top five 2-digit NAICS industries with the largest proportion of establishments in Albemarle County were: professional, scientific, and technical services (14.4%), health care and social assistance (13.3%), retail trade (12.1%), construction (10.0%), and other services (except public administration) (9.0%). These five industries accounted for 59% of the total business establishments in Albemarle County (Census; Table 6).

In terms of payroll jobs, the CBP 2020 reports that the top five 2-digit NAICS industries with the largest proportion of payroll employees in Albemarle County were: health care and social assistance (21.4%), retail trade (15.5%), accommodation and food service (11.7%), professional,

scientific, and technical services (11.1%), and manufacturing (6.5%). These five industries accounted for 66% of the total jobs in Albemarle County in 2020 (Census; Table 6).

In terms of annual payroll, the CBP 2020 reports that the top six 2-digit NAICS industries with the largest total annual payrolls were: (1) health care and social assistance, (2) professional, scientific, and technical services, (3) finance and insurance, (4) retail trade, (5) manufacturing, and (6) construction. These six industries accounted for 78% of the aggregate total annual payrolls in Albemarle County in 2020 (Census; Table 6).

As compared to Virginia CBP 2020 data, a few key differences emerge in Albemarle County's business profile in 2020:

- Health care and social assistance accounted for a higher proportion of total business establishments, payroll jobs, and annual payroll in Albemarle County as compared to the state.
- Despite providing the second largest annual payroll in the county in 2020, professional, scientific, and technical services accounted for a lower proportion of total business establishments, payroll jobs, and annual payroll in Albemarle County as compared to the state.
- Finance and insurance accounted for a higher proportion of total business establishments, payroll jobs, and annual payroll in Albemarle County as compared to the state.
- Retail trade accounted for a higher proportion of payroll jobs and annual payroll in Albemarle County as compared to the state, while accounting for about the same proportion of business establishments in the county in 2020 (Census; Table 6).

Table 6. Establishments, Employees and Annual Payroll by Industry: Virginia and Albemarle County, Virginia 2020

2017 NAICS code	Meaning of NAICS code	Virginia					Albemarle County, Virginia				
		Establishments		Employees		Annual payroll ($1,000)	Establishments		Employees		Annual payroll ($1,000)
		Number	Percent	Number	Percent		Number	Percent	Number	Percent	
00	Total for all sectors	204,131	100.0%	3,483,867	100.0%	202,239,454	2,838	100.0%	42,631	100.0%	2,203,782
11	Agriculture, forestry, fishing and hunting	624	0.3%	4,298	0.1%	258,760	20	0.7%	126	0.3%	4,098
21	Mining, quarrying, and oil and gas extraction	227	0.1%	5,182	0.1%	356,682	6	0.2%	57	0.1%	4,152
22	Utilities	373	0.2%	14,471	0.4%	1,734,759	-	-	-	-	-
23	Construction	20,200	9.9%	197,430	5.7%	11,856,724	284	10.0%	2,324	5.5%	114,695
31-33	Manufacturing	4,906	2.4%	241,221	6.9%	14,231,854	86	3.0%	2,780	6.5%	160,789
42	Wholesale trade	6,695	3.3%	104,750	3.0%	7,800,469	64	2.3%	412	1.0%	24,206
44-45	Retail trade	26,064	12.8%	428,644	12.3%	12,394,350	343	12.1%	6,617	15.5%	223,214
48-49	Transportation and warehousing	5,477	2.7%	120,952	3.5%	6,013,120	51	1.8%	787	1.8%	25,992
51	Information	3,964	1.9%	97,012	2.8%	10,929,830	65	2.3%	907	2.1%	61,361
52	Finance and insurance	11,311	5.5%	168,520	4.8%	17,988,347	192	6.8%	2,273	5.3%	228,091
53	Real estate and rental and leasing	10,752	5.3%	56,906	1.6%	3,463,901	187	6.6%	962	2.3%	47,673
54	Professional, scientific, and technical services	31,659	15.5%	509,368	14.6%	50,900,558	410	14.4%	4,746	11.1%	363,774
55	Management of companies and enterprises	1,292	0.6%	82,124	2.4%	8,446,036	21	0.7%	433	1.0%	30,527

56	Administrative and support and waste management and remediation services	11,235	5.5%	280,701	8.1%	12,629,029	145	5.1%	1,933	4.5%	57,875
61	Educational services	3,189	1.6%	82,412	2.4%	3,305,656	67	2.4%	952	2.2%	41,882
62	Health care and social assistance	21,606	10.6%	478,490	13.7%	25,753,193	378	13.3%	9,143	21.4%	638,001
71	Arts, entertainment, and recreation	3,139	1.5%	66,686	1.9%	1,441,252	53	1.9%	1,552	3.6%	35,266
72	Accommodation and food services	18,419	9.0%	372,701	10.7%	5,909,440	208	7.3%	5,000	11.7%	84,979
81	Other services (except public administration)	22,584	11.1%	171,523	4.9%	6,810,131	255	9.0%	1,622	3.8%	57,095

Source: U.S. Census Bureau, County Business Patterns, 2020

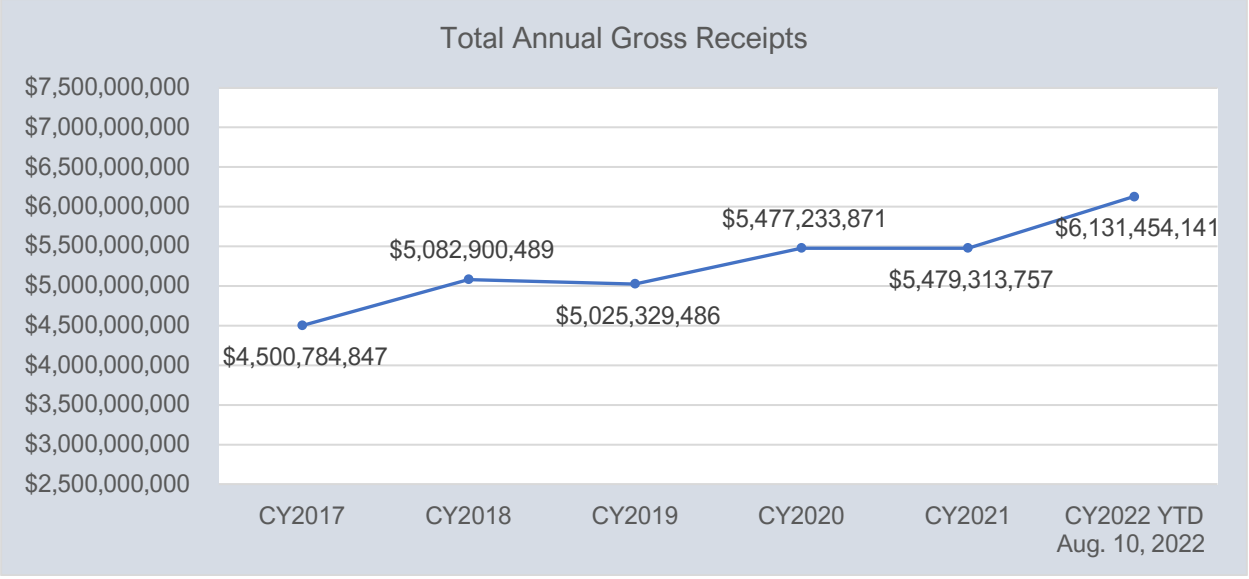
Gross Receipts by Category

Albemarle County's gross receipts broken down into individual categories provide another view of business activity in the County as depicted in Figures 62 – 70 below.

Total gross receipts exhibited an overall upward trend during CY2017 – CY2021, with slight decreases in CY2019 and CY2021. The categories that contributed to the dips in gross receipts in both CY2019 and CY2021 were contractors; repair, personal and business services; and all other categories; with research and development only contributing to the dip in CY2019 and wholesale only contributing to the dip in CY2021. Financial, real estate and professional services; rental and leasing; and retail sales made positive contributions to total gross receipts each year during the five-year period of CY2017 – CY2021. Total gross receipts in CY2022:Year-to-Date (YTD) as of August 10, 2022 (60% of the year) were already exceeding the total for CY2021 (Albemarle County Division of Finance and Budget; Figures 62-70).

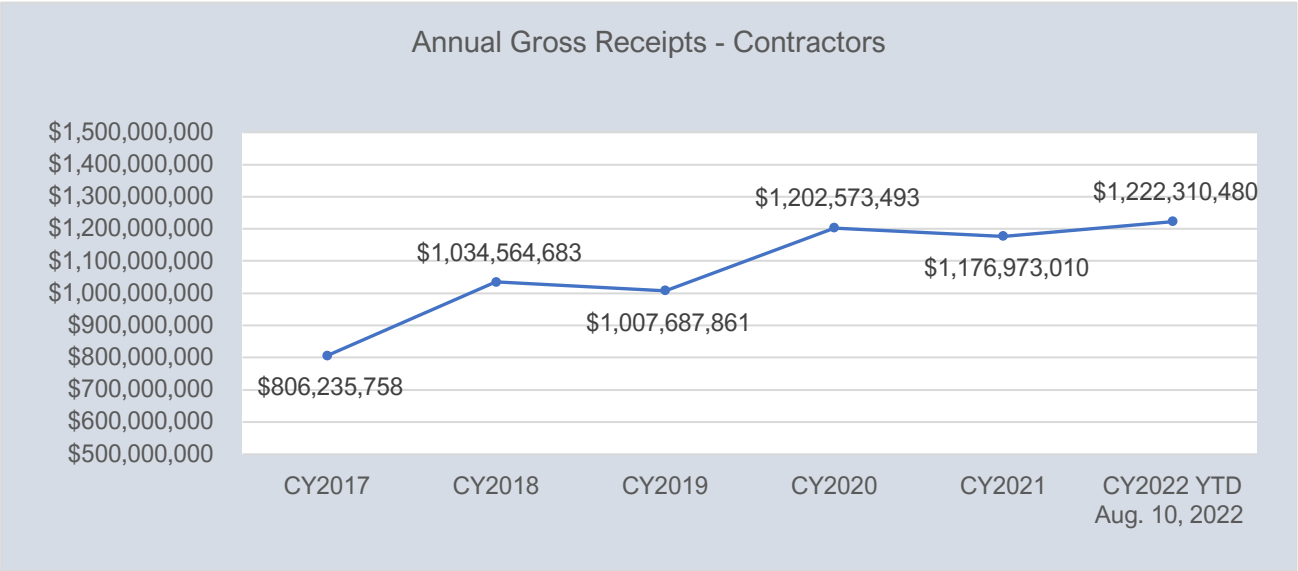
Four categories together comprised 87% of total gross receipts in CY2021: retail sales (35%), contractors (21%), repair, personal and business services (19%), and finance, real estate and professional services (11%) (Albemarle County Division of Finance and Budget; Figures 62-70).

Figure 62. Total Annual Gross Receipts Albemarle County, Virginia, CY2017 - CY2022:YTD as of August 10, 2022



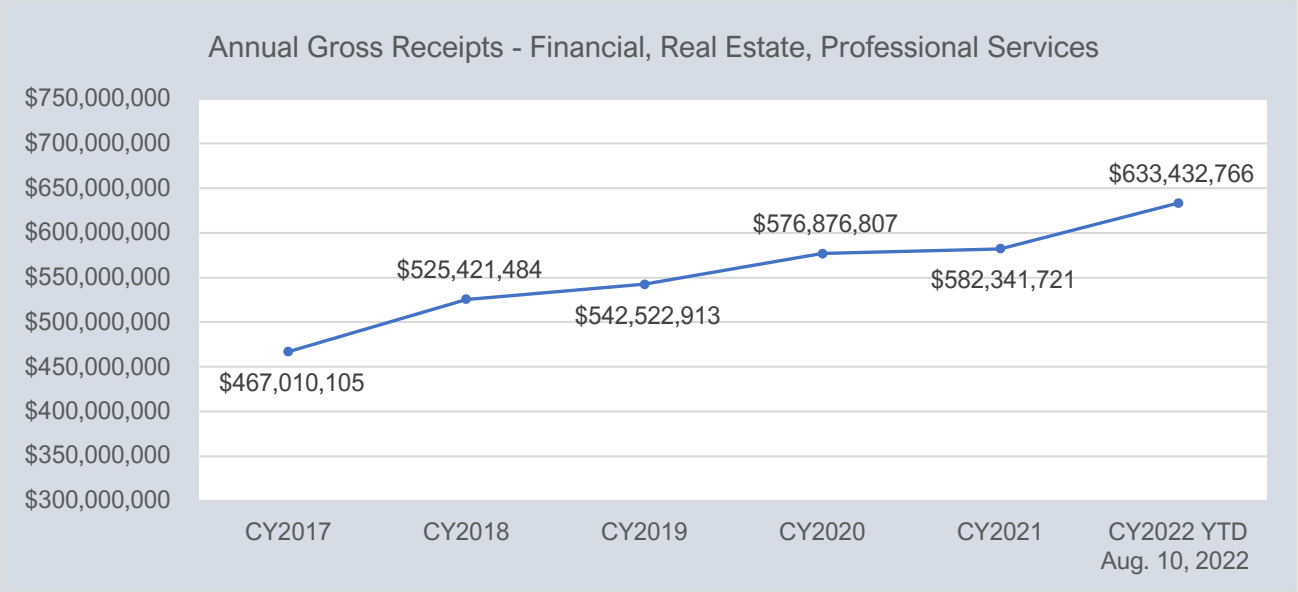
Source: Albemarle County, Virginia, Division of Finance and Budget

Figure 63. Annual Gross Receipts – Contractors, Albemarle County, Virginia, CY2017 - CY2022:YTD as of August 10, 2022



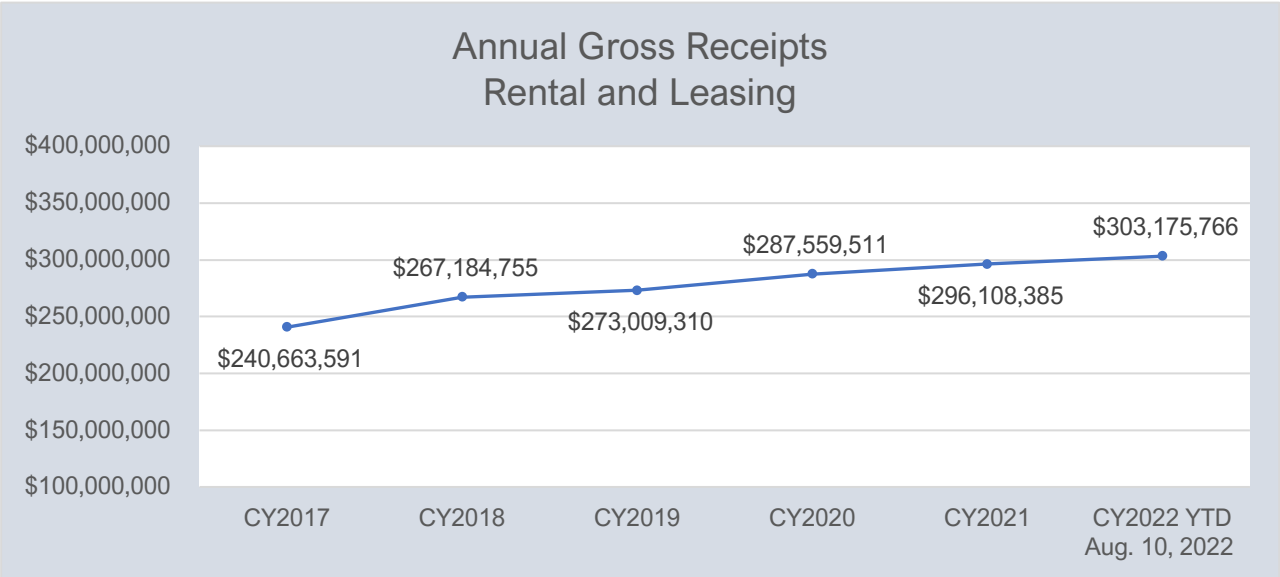
Source: Albemarle County, Virginia, Division of Finance and Budget

Figure 64. Annual Gross Receipts – Financial, Real Estate, Professional Services, Albemarle County, Virginia, CY2017 -CY2022:YTD as of August 10, 2022



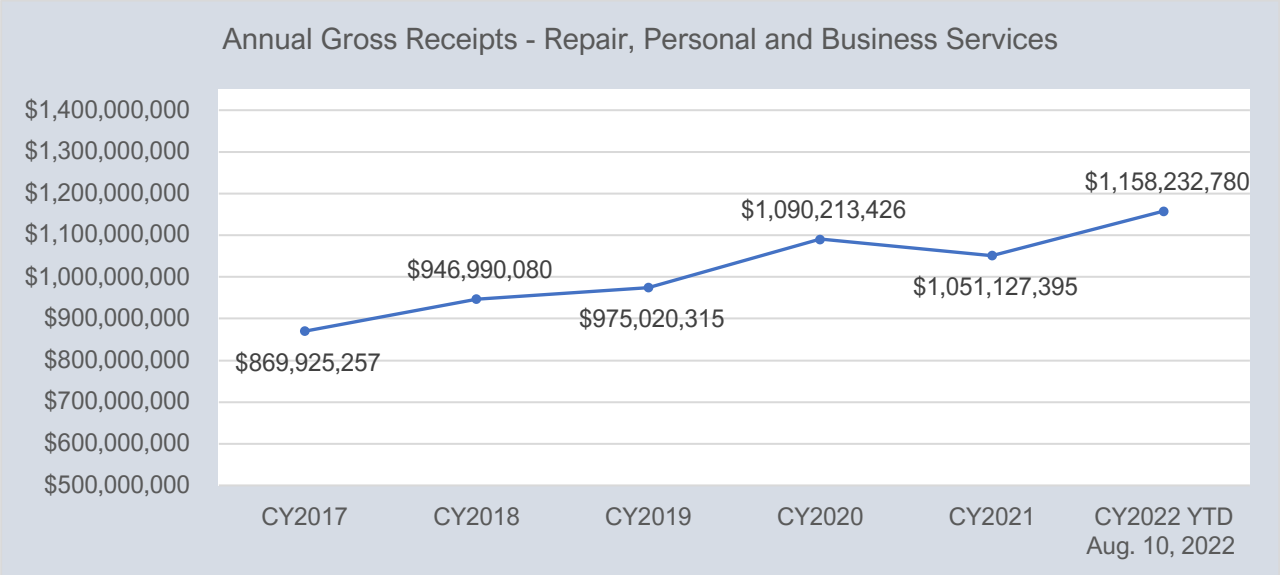
Source: Albemarle County, Virginia, Division of Finance and Budget

Figure 65. Annual Gross Receipts – Rental by Owner, Albemarle County, Virginia, CY2017 -CY2022:YTD as of August 10, 2022



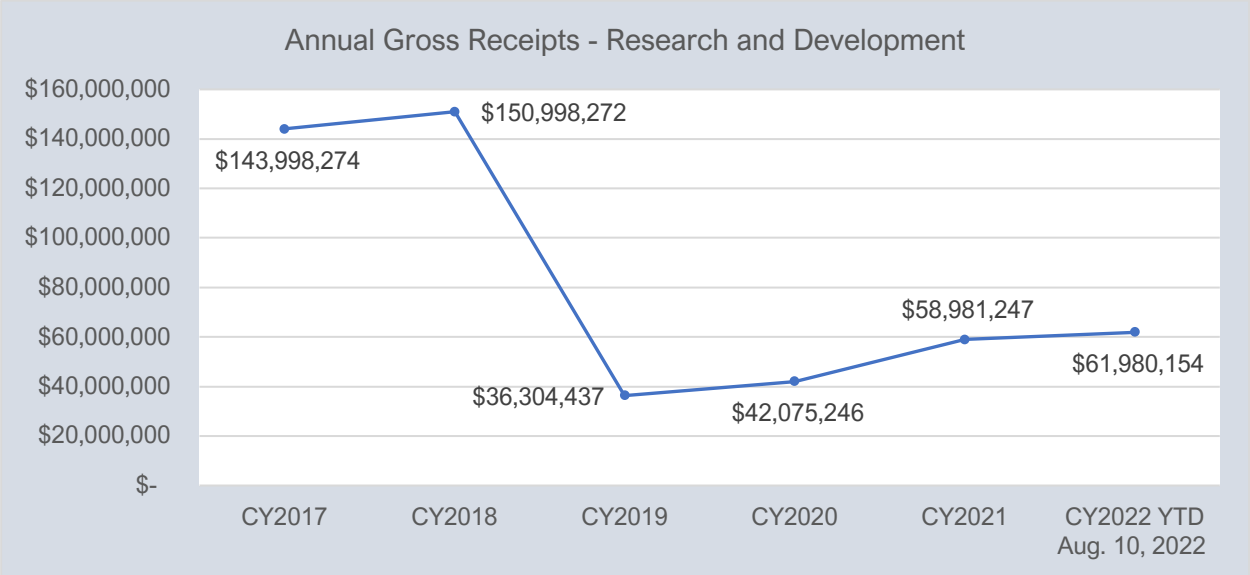
Source: Albemarle County, Virginia, Division of Finance and Budget

Figure 66. Annual Gross Receipts – Repair, Personal and Business Services, Albemarle County, Virginia, CY2017 -CY2022:YTD as of August 10, 2022



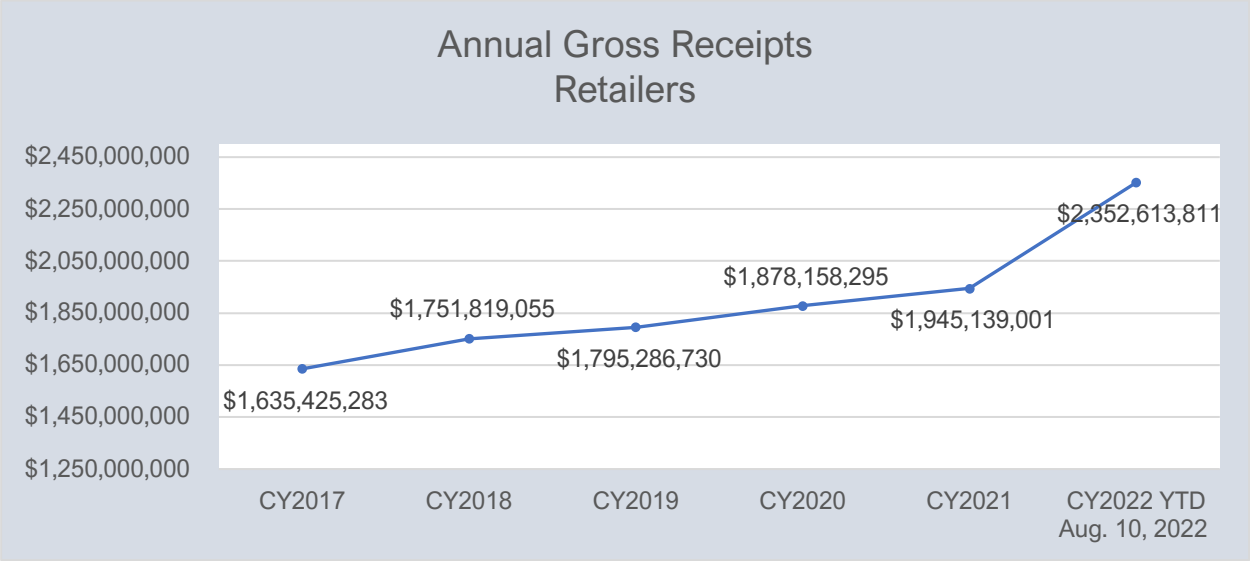
Source: Albemarle County, Virginia, Division of Finance and Budget

Figure 67. Annual Gross Receipts – Research and Development, Albemarle County, Virginia, CY2017 – CY2022:YTD as of August 10, 2022



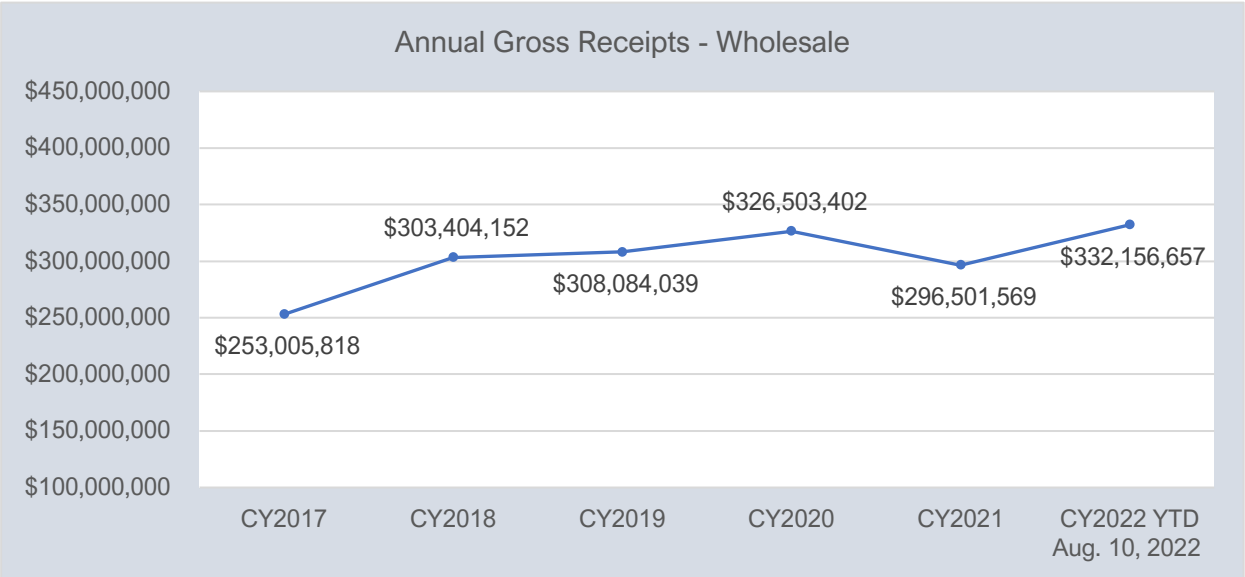
Source: Albemarle County, Virginia, Division of Finance and Budget

Figure 68. Annual Gross Receipts – Retailers, Albemarle County, Virginia, CY2017 - CY2022:YTD as of August 10, 2022



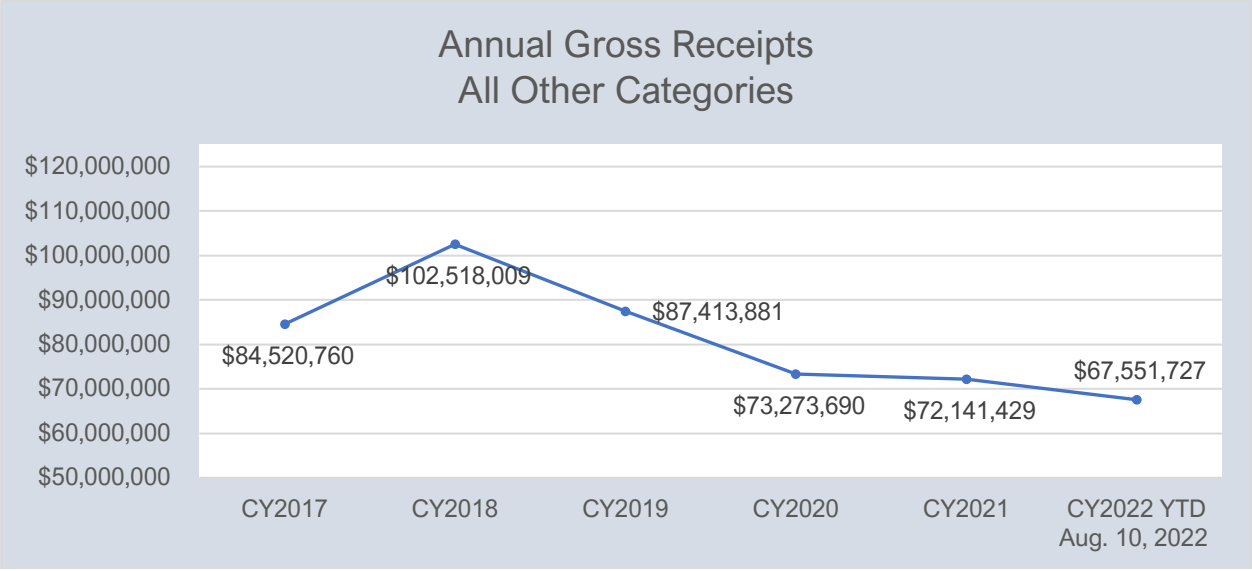
Source: Albemarle County, Virginia, Division of Finance and Budget

Figure 69. Annual Gross Receipts – Wholesale - Other, Albemarle County, Virginia, CY2017 -CY2022:YTD as of August 10, 2022



Source: Albemarle County, Virginia, Division of Finance and Budget

Figure 70. Annual Gross Receipts – All Other Categories, Albemarle County, Virginia, CY2017 -CY2022: YTD as of August 10, 2022



Source: Albemarle County, Virginia, Division of Finance and Budget

Key Takeaways from County Business Patterns, Gross Receipts by Category and the American Community Survey 2016-2020.

While the gross receipts categories in the Commonwealth of Virginia combine various 2-digit NAICS codes and therefore report in broader categories than the CBP, the two sources correspond regarding the overall profile of business activity in Albemarle County. In terms of payroll jobs, annual payroll, and gross receipts overall, key industries for Albemarle County include health care and other repair, personal and business services; retail trade; construction; and financial, real estate and other professional, technical, and scientific services.

As noted earlier this report, the ACS 5-year estimates for 2016-2020 also combined certain 2-digit NAICS codes and reported the employment of county residents in broader categories. Again, there is overlap with the primary business categories for payroll jobs, annual payroll, and gross receipts. Based on the ACS 2-16-2020 data, the top five industries of employment for Albemarle County's civilian residents (16 and over) were: educational services, and health care and social assistance; professional, scientific, and management, and administrative and waste management services; arts, entertainment, and recreation, and accommodation and food services; retail trade; and finance and insurance, and real estate and rental and leasing.

Leisure and Hospitality Industry Spotlight

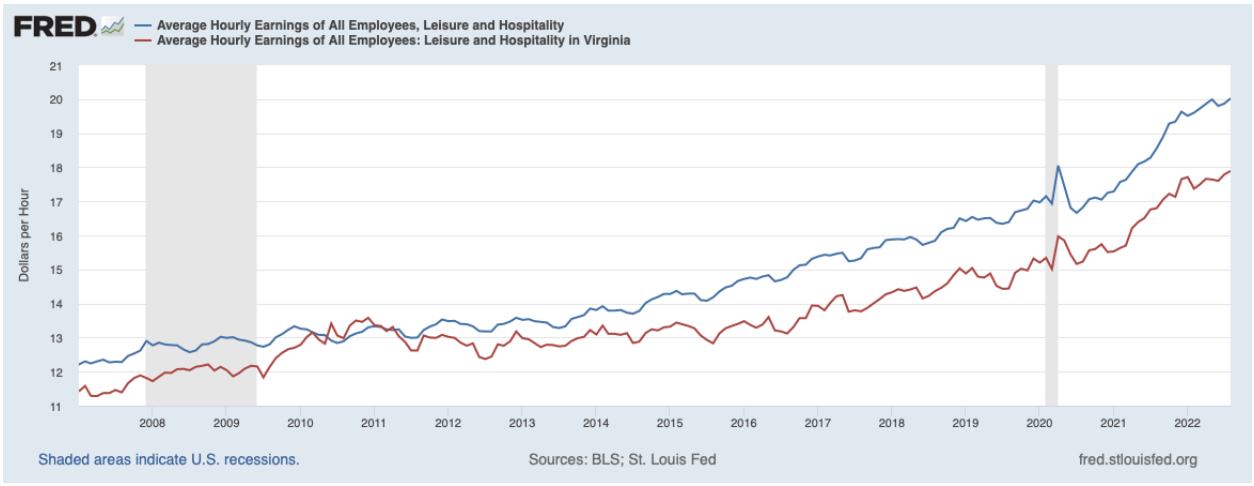
An additional spotlight on the leisure and hospitality industry is provided as requested by the County. For the purposes of this analysis, the term leisure and hospitality will be used to refer to the combination of two, 2-digit NAICS codes, namely arts, entertainment, and recreation; and accommodation and food services.

As a recap, the ACS 2016-2020 reported that 9.4% of Albemarle County's civilian residents (16 or over) were employed in the leisure and hospitality industry (arts, entertainment, and recreation, and accommodation and food services). In terms of payroll jobs, the leisure and hospital industry comprised 9.2% of the establishments in Albemarle County in 2020, 15.4% of total payroll jobs, and 5.46% of total annual payrolls, based on the CBP 2020 data. Also, the gross receipts of the leisure and hospitality industry is included in the third largest category of Albemarle County's gross receipts, repair, personal and business services, which as an overall category accounted for 19% of total gross receipts in the county in CY2021. Thus, the leisure and hospitality industry is a significant contributor of jobs for both county residents and the region, but not annual payroll, and is a significant component of the third largest gross receipt category for the County.

Tourism brings visitors that enjoy the arts, entertainment, recreation, accommodation, and food services in the community and infuses dollars into the economy without a concomitant commitment to provide a range of constituent services, thereby positively contributing to economic activity. The Virginia Tourism Corporation reports that as of August 2022, year-to-date lodging occupancy, average daily rate, revenue per available room, and room revenue were all greater than the same period last year in the Charlottesville, Virginia area (Virginia Tourism Corporation).

In terms of employees, labor market tightness has fueled a continued upward path in the average hourly earnings in the leisure and hospitality industry through August 2022 for both Virginia and the U.S. after dropping during the early months of the pandemic in 2020 (BLS, St. Louis Fed; Figure 71)..

Figure 71. Average Hourly Earnings Leisure and Hospitality: U.S. and Virginia, January 2007 – August 2022



Not seasonally adjusted

Looking forward, as noted earlier in the report, U.S. consumer spending significantly shifted to services in Spring 2022, including leisure and hospitality services, after two years of cloistered living with the pandemic. With rising interest rates, declining personal savings, and slowing consumer spending since Spring 2022, close monitoring is prudent for this and all industry sectors to detect emerging trends to facilitate agile analysis and adaptive action.

F. Economic Outlook for Albemarle County, Virginia

Albemarle County has a strong economy with a history of mostly solid economic and job growth, high real per capita personal income, low unemployment, strong hourly wages regionally, significant employment in relatively higher-income industries, and strong local business activity.

Also, this report has identified that Albemarle County's economic indicators have generally followed the overall patterns of the related state and national indicators, albeit sometimes at different levels. Thus, the national and state economic outlooks are relevant barometers in framing Albemarle County's economic outlook.

As noted in Sections IV.I. and V.E. above, the national and state economic outlooks anticipate an economic slowdown by late 2022 or early 2023, with significant headwinds and downside risks to the forecasts and wide bands of uncertainty. Thus, it is prudent to likewise expect an economic slowdown for the County in late 2022 or early 2023 with higher interest rates, continued inflation until tight monetary policy can dampen inflation, higher unemployment,

cooling consumer demand and spending, slower growth in real personal income, continued softness in the real estate market, and slower business activity due to higher interest rates and lower real consumer spending (inflation-adjusted). The timing of different potential economic impacts will vary with those business sectors more sensitive to interest rates and consumer activity likely exhibiting impacts sooner.

Given the rapidly changing environment, close monitoring to support early detection of changing circumstances and agile adjustment are recommended going forward. Additional overall recommendations based on the County's economic outlook and other findings are provided in Section VIII below.

VII. Additional Community Factors for Albemarle County, Virginia

Beyond the economic analysis and outlook in the previous section, additional analysis is provided on community factors related to income and poverty, housing patterns and costs, and educational attainment based on the rich data released in the U.S. Census Bureau's most recent American Community Survey (ACS) 2016-2020. The examination of these additional community factors will highlight key characteristics and provide information to support effective policy analysis and decision-making for the community.

A. Income and Poverty

Household Income

As compared to Virginia, Albemarle County has a greater portion of high-income households ($150,000 and above) and a lower portion of very low-income households (under $15,000) than the state. Also note that the distribution of household incomes is not symmetrical and skews positive with values that are significantly higher than the rest of the data set, as reflected by the mean (average) household income ($116,914) being significantly higher than the median household income ($84,643) (Census; Table 7). (Since the mean (average) is influenced by positive or negative "outliers," observations significantly above or below the rest of the data set, the median is a more reliable measure of "central tendency.")

Regarding the components of household income, 77% of households in Albemarle County received earnings in 2016-2020, slightly behind the state's 80% rate, which can be expected given the County's proximity to a major university. In terms of benefits, the proportion of Albemarle County's households receiving Social Security income (32%) and retirement income (25%), were comparable to the state. However, the proportion of Albemarle County's households receiving Supplementary Security Income (3%), cash public assistance (1%), and Food Stamps/SNAP benefits in the past 12 months (3%), were below the companion figures for the state (Census; Table 7).

Table 7. Household Income and Benefits 2016-2020: U.S., Virginia, and Albemarle County, Virginia (in 2020 dollars)

HOUSEHOLD INCOME AND BENEFITS 2016-2020 (IN 2020 INFLATION-ADJUSTED DOLLARS)						
	United States		Virginia		Albemarle County, Virginia	
	Estimate	Percent	Estimate	Percent	Estimate	Percent
Total households	**122,354,219**	**122,354,219**	**3,184,121**	**3,184,121**	**42,381**	**42,381**
Less than $10,000	7,145,751	5.8%	151,739	4.8%	1,241	2.9%
$10,000 to $14,999	5,020,097	4.1%	103,516	3.3%	999	2.4%
$15,000 to $24,999	10,359,700	8.5%	221,834	7.0%	2,873	6.8%
$25,000 to $34,999	10,569,484	8.6%	227,036	7.1%	3,025	7.1%
$35,000 to $49,999	14,690,382	12.0%	342,619	10.8%	4,369	10.3%
$50,000 to $74,999	21,034,779	17.2%	518,677	16.3%	6,662	15.7%
$75,000 to $99,999	15,613,243	12.8%	411,580	12.9%	5,552	13.1%
$100,000 to $149,999	19,128,938	15.6%	548,694	17.2%	7,659	18.1%
$150,000 to $199,999	8,688,154	7.1%	287,495	9.0%	4,409	10.4%
$200,000 or more	10,103,691	8.3%	370,931	11.6%	5,592	13.2%
Median household income (dollars)	**64,994**	**(X)**	**76,398**	**(X)**	**84,643**	**(X)**
Mean household income (dollars)	91,547	(X)	106,023	(X)	116,914	(X)
With earnings	**95,088,085**	**77.7%**	**2,536,296**	**79.7%**	**32,493**	**76.7%**
Mean earnings (dollars)	93,265	(X)	105,064	(X)	114,452	(X)
With Social Security	38,442,718	31.4%	958,506	30.1%	13,544	32.0%
Mean Social Security income (dollars)	20,126	(X)	20,533	(X)	23,213	(X)
With retirement income	**25,872,444**	**21.1%**	**785,306**	**24.7%**	**10,718**	**25.3%**
Mean retirement income (dollars)	28,376	(X)	35,306	(X)	34,016	(X)
With Supplemental Security Income	**6,403,843**	**5.2%**	**135,199**	**4.2%**	**1,199**	**2.8%**
Mean Supplemental Security Income (dollars)	10,115	(X)	9,823	(X)	10,559	(X)
With cash public assistance income	**2,995,159**	**2.4%**	**62,122**	**2.0%**	**462**	**1.1%**
Mean cash public assistance income (dollars)	3,271	(X)	3,044	(X)	3,319	(X)
With Food Stamp/SNAP benefits in the past 12 months	**13,892,407**	**11.4%**	**251,747**	**7.9%**	**1,263**	**3.0%**

Source: U.S. Census Bureau, ACS 5-year estimates 2016-2020 (in 2020 dollars)

Poverty Rates and Trends

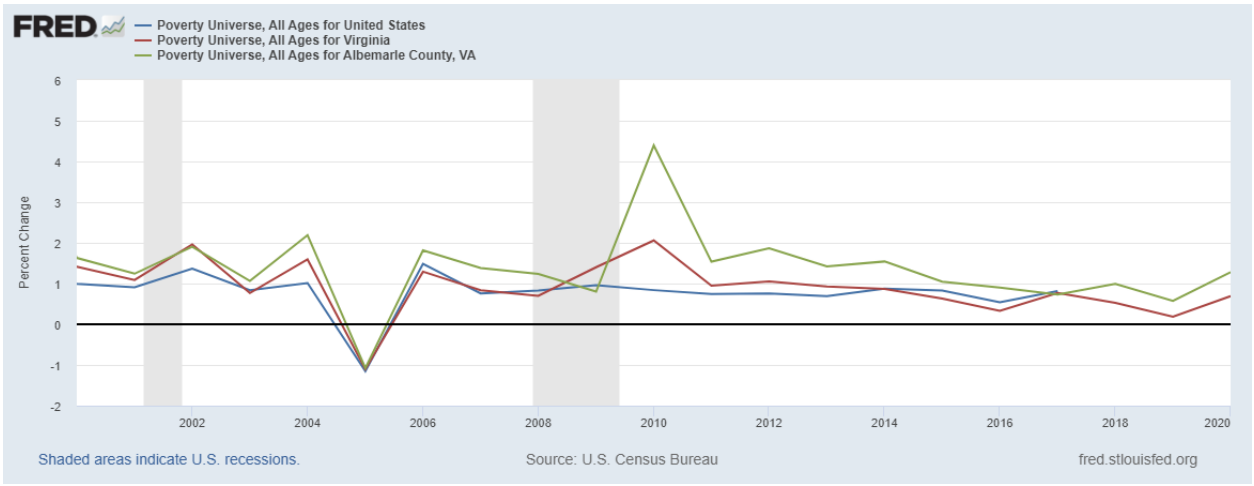
In 2016-2020, poverty rates in Albemarle County were significantly below the companion rates for Virginia and the U.S., both overall and in all sub-categories examined in the ACS 2016-2020 (Census; Table 8). Historically, the annual rate of change in the overall poverty rate was higher after the Great Financial Crisis in Albemarle County than in Virginia or the U.S. and trended back toward the annual rate of change for the state and nation during 2015-2020 (registering a slightly higher percent change during 2015-2020 with a lower base rate) (Figure 72).

Table 8. Percentage of Families Below the Poverty Level 2016-2020: U.S., Virginia, and Albemarle County, Virginia

PERCENTAGE OF FAMILIES AND PEOPLE WHOSE INCOME IN THE PAST 12 MONTHS IS BELOW THE POVERTY LEVEL 2016-2020			
	United States	**Virginia**	**Albemarle County, Virginia**
All families	**9.1%**	**6.8%**	**3.6%**
With related children of the householder under 18 years	14.3%	10.8%	6.2%
With related children of the householder under 5 years only	13.5%	10.1%	8.3%
Married couple families	**4.6%**	**3.2%**	**1.7%**
With related children of the householder under 18 years	6.2%	4.2%	3.1%
With related children of the householder under 5 years only	4.8%	3.4%	2.9%
Families with female householder, no spouse present	**25.1%**	**21.5%**	**14.3%**
With related children of the householder under 18 years	34.4%	30.3%	16.6%
With related children of the householder under 5 years only	38.8%	32.9%	24.6%
All people	**12.8%**	**10.0%**	**7.7%**
Under 18 years	**17.5%**	**13.1%**	**9.2%**
Related children of the householder under 18 years	17.2%	12.8%	9.0%
Related children of the householder under 5 years	19.1%	13.9%	13.6%
Related children of the householder 5 to 17 years	16.4%	12.4%	7.2%
18 years and over	**11.5%**	**9.1%**	**7.3%**
18 to 64 years	12.1%	9.5%	8.2%
65 years and over	9.3%	7.5%	4.5%
People in families	**10.1%**	**7.3%**	**5.0%**
Unrelated individuals 15 years and over	**24.2%**	**21.3%**	**17.1%**

Source: U. S. Census Bureau, ACS 5-year estimate 2016-2020 in 2020 dollars

Figure 72. Annual Changes in Poverty: U.S., Virginia, and Albemarle County, Virginia, 2000 – 2020



Not seasonally adjusted

B. Housing Patterns and Costs

In this section, five features of housing patterns and costs are examined using the ACS 2016-2020 data.

Albemarle County had a higher proportion of occupied housing units (92%) as compared to the state and nation in 2016-2020, a lower proportion of vacant housing, and lower homeowner and rental vacancy rates as compared to the state and nation (Census; Table 9). Regarding housing tenure, Albemarle County had a slightly lower proportion of owner-occupied housing and slightly lower proportion of renter-occupied housing as compared to the state, again which can be expected given the County's proximity to a major university. Both housing tenure metrics compared favorably to the nation in 2016-2020 (Table 9).

Table 9: Housing Occupancy and Tenure: U.S., Virginia and Albemarle County, Virginia 2016-2020

HOUSING OCCUPANCY AND TENURE 2016-2020						
	United States		Virginia		Albemarle County, Virginia	
	Estimate	Percent	Estimate	Percent	Estimate	Percent
HOUSING OCCUPANCY						
Total housing units	138,432,751	138,432,751	3,537,788	3,537,788	46,235	46,235
Occupied housing units	122,354,219	88.4%	3,184,121	90.0%	42,381	91.7%
Vacant housing units	16,078,532	11.6%	353,667	10.0%	3,854	8.3%
Homeowner vacancy rate	1.4	(X)	1.3	(X)	0.4	(X)
Rental vacancy rate	5.8	(X)	5.4	(X)	4.5	(X)
HOUSING TENURE						
Occupied housing units	122,354,219	122,354,219	3,184,121	3,184,121	42,381	42,381
Owner-occupied	78,801,376	64.4%	2,123,771	66.7%	27,625	65.2%
Renter-occupied	43,552,843	35.6%	1,060,350	33.3%	14,756	34.8%
Average household size of owner-occupied unit	2.69	(X)	2.66	(X)	2.49	(X)
Average household size of renter-occupied unit	2.45	(X)	2.46	(X)	2.18	(X)

Source: U.S. Census Bureau, ACS 5-year estimate 2016-2020

In 2016-2020, the median value of housing in Albemarle County ($376,000) was significantly higher than that for the state ($282,800), with a greater portion of its owner-occupied units being valued above $300,000 as compared to the state. Also fewer of the owner-occupied units in Albemarle Count held mortgages (62%) as compared to the state (68%) (Census; Table 10).

Table 10. Housing Value: U.S., Virginia and Albemarle County, Virginia 2016-2020

HOUSING VALUE 2016-2020 (IN 2020 DOLLARS)						
	United States		Virginia		Albemarle County, Virginia	
	Estimate	Percent	Estimate	Percent	Estimate	Percent
Owner-occupied units	78,801,376	78,801,376	2,123,771	2,123,771	27,625	27,625
Less than $50,000	5,172,474	6.6%	89,149	4.2%	746	2.7%
$50,000 to $99,999	8,698,428	11.0%	134,410	6.3%	279	1.0%
$100,000 to $149,999	9,730,077	12.3%	192,396	9.1%	1,209	4.4%
$150,000 to $199,999	10,727,302	13.6%	261,150	12.3%	2,112	7.6%
$200,000 to $299,999	15,730,458	20.0%	459,324	21.6%	5,732	20.7%
$300,000 to $499,999	16,173,336	20.5%	539,763	25.4%	9,046	32.7%
$500,000 to $999,999	9,682,662	12.3%	382,830	18.0%	6,835	24.7%
$1,000,000 or more	2,886,639	3.7%	64,749	3.0%	1,666	6.0%
Median (dollars)	**229,800**	**(X)**	**282,800**	**(X)**	**376,000**	**(X)**
MORTGAGE STATUS						
Owner-occupied units	78,801,376	78,801,376	2,123,771	2,123,771	27,625	27,625
Housing units with a mortgage	48,974,364	62.1%	1,448,673	68.2%	17,121	62.0%
Housing units without a mortgage	29,827,012	37.9%	675,098	31.8%	10,504	38.0%

Source: U.S. Census Bureau, ACS 5-year estimate 2016-2020 (in 2020 dollars)

In 2016-2020, median selected monthly owner costs (SMOC) for housing units with a mortgage was $1,875 in Albemarle County and the median SMOC was $565 for those units without a mortgage, both slightly higher than the state and nation, based on the ACS 2016-2020 data (Census; Table 11).

Table 11. Housing Selected Monthly Owner Costs (SMOC): U.S., Virginia, and Albemarle County, Virginia 2016-2020 (in 2020 dollars)

HOUSING SELECTED MONTHLY OWNER COSTS (SMOC) 2016-2020 (IN 2020 DOLLARS)						
	United States		Virginia		Albemarle County, Virginia	
Label	Estimate	Percent	Estimate	Percent	Estimate	Percent
Housing units with a mortgage	**48,974,364**	**48,974,364**	**1,448,673**	**1,448,673**	**17,121**	**17,121**
Less than $500	568,141	1.2%	16,459	1.1%	53	0.3%
$500 to $999	8,020,937	16.4%	172,745	11.9%	1,896	11.1%
$1,000 to $1,499	13,146,307	26.8%	330,707	22.8%	3,704	21.6%
$1,500 to $1,999	10,324,027	21.1%	305,949	21.1%	3,732	21.8%
$2,000 to $2,499	6,485,860	13.2%	222,122	15.3%	2,749	16.1%
$2,500 to $2,999	3,999,769	8.2%	154,586	10.7%	2,213	12.9%
$3,000 or more	6,429,323	13.1%	246,105	17.0%	2,774	16.2%
Median (dollars)	**1,621**	**(X)**	**1,822**	**(X)**	**1,875**	**(X)**
Housing units without a mortgage	**29,827,012**	**29,827,012**	**675,098**	**675,098**	**10,504**	**10,504**
Less than $250	3,317,647	11.1%	81,417	12.1%	543	5.2%
$250 to $399	6,680,713	22.4%	170,161	25.2%	1,967	18.7%
$400 to $599	8,428,059	28.3%	189,751	28.1%	3,323	31.6%
$600 to $799	5,014,006	16.8%	107,120	15.9%	2,164	20.6%
$800 to $999	2,660,659	8.9%	59,440	8.8%	925	8.8%
$1,000 or more	3,725,928	12.5%	67,209	10.0%	1,582	15.1%
Median (dollars)	**509**	**(X)**	**481**	**(X)**	**565**	**(X)**

Source: U.S. Census Bureau, ACS 5-year estimate 2016-2020 (in 2020 dollars)

In terms of the impact on household income, 30% is the threshold beyond which HUD defines a household as cost-burdened (HUD). Based on the ACS 2016-2020 data, 24% of Albemarle County's households with mortgages and 11% of its households in owner-occupied housing without mortgages exceeded the HUD 30% affordability threshold, both of which were lower than the related metrics for the state and nation (Census; Table 12).

Table 12. Housing Selected Monthly Owner Costs (SMOC) as a Percentage of Household Income: U.S., Virginia, and Albemarle County, Virginia, 2016-2020 (in 2020 dollars)

HOUSING SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME (SMOCAPI) 2016-2020 (IN 2020 DOLLARS)						
	United States		Virginia		Albemarle County, Virginia	
	Estimate	Percent	Estimate	Percent	Estimate	Percent
Housing units with a mortgage (excluding units where SMOCAPI cannot be computed)	48,744,731	48,744,731	1,443,066	1,443,066	17,045	17,045
Less than 20.0 percent	22,762,635	46.7%	680,359	47.1%	8,903	52.2%
20.0 to 24.9 percent	7,593,802	15.6%	239,501	16.6%	2,676	15.7%
25.0 to 29.9 percent	5,044,205	10.3%	155,882	10.8%	1,433	8.4%
30.0 to 34.9 percent	3,314,853	6.8%	101,093	7.0%	1,251	7.3%
35.0 percent or more	10,029,236	20.6%	266,231	18.4%	2,782	16.3%
Not computed	229,633	(X)	5,607	(X)	76	(X)
Housing unit without a mortgage (excluding units where SMOCAPI cannot be computed)	29,428,138	29,428,138	667,824	667,824	10,471	10,471
Less than 10.0 percent	13,449,955	45.7%	348,688	52.2%	5,777	55.2%
10.0 to 14.9 percent	5,686,876	19.3%	124,732	18.7%	1,647	15.7%
15.0 to 19.9 percent	3,208,798	10.9%	65,427	9.8%	999	9.5%
20.0 to 24.9 percent	1,935,622	6.6%	38,057	5.7%	511	4.9%
25.0 to 29.9 percent	1,248,280	4.2%	23,632	3.5%	349	3.3%
30.0 to 34.9 percent	834,409	2.8%	15,701	2.4%	235	2.2%
35.0 percent or more	3,064,198	10.4%	51,587	7.7%	953	9.1%
Not computed	398,874	(X)	7,274	(X)	33	(X)

Source: U.S. Census Bureau, ACS 5-year estimate 2016-2020

The median gross rent for occupied rental housing was $1,349 in Albemarle County in 2016-2020, higher than the companion figures for the state ($1,257) and nation ($1,096). Based on the ACS 2016-2020 data, 48% of renting households in Albemarle County exceeded the HUD 30% affordability threshold, as compared to 47% for the state and 49% for the nation (Census; Table 13).

Table 13. Gross Rent and Gross Rent as a Percentage of Household Income: U.S., Virginia, and Albemarle County, Virginia, 2016-2020 (in 2020 dollars)

GROSS RENT AND GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI) 2016-2020 (IN 2020 DOLLARS)						
	United States		Virginia		Albemarle County, Virginia	
Label	Estimate	Percent	Estimate	Percent	Estimate	Percent
GROSS RENT						
Occupied units paying rent	41,390,514	41,390,514	1,005,498	1,005,498	13,660	13,660
Less than $500	3,679,331	8.9%	71,678	7.1%	297	2.2%
$500 to $999	14,206,622	34.3%	261,701	26.0%	2,167	15.9%
$1,000 to $1,499	12,515,982	30.2%	302,400	30.1%	6,163	45.1%
$1,500 to $1,999	6,187,736	14.9%	209,112	20.8%	3,570	26.1%
$2,000 to $2,499	2,558,549	6.2%	92,383	9.2%	908	6.6%
$2,500 to $2,999	1,088,264	2.6%	37,000	3.7%	319	2.3%
$3,000 or more	1,154,030	2.8%	31,224	3.1%	236	1.7%
Median (dollars)	**1,096**	**(X)**	**1,257**	**(X)**	**1,349**	**(X)**
No rent paid	2,162,329	(X)	54,852	(X)	1,096	(X)
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI)						
Occupied units paying rent (excluding units where GRAPI cannot be computed)	40,484,226	40,484,226	986,357	986,357	13,414	13,414
Less than 15.0 percent	5,405,002	13.4%	128,963	13.1%	2,100	15.7%
15.0 to 19.9 percent	5,254,304	13.0%	136,725	13.9%	2,274	17.0%
20.0 to 24.9 percent	5,227,400	12.9%	136,906	13.9%	1,614	12.0%
25.0 to 29.9 percent	4,711,468	11.6%	119,332	12.1%	971	7.2%
30.0 to 34.9 percent	3,679,430	9.1%	90,156	9.1%	1,179	8.8%
35.0 percent or more	16,206,622	40.0%	374,275	37.9%	5,276	39.3%
Not computed	3,068,617	(X)	73,993	(X)	1,342	(X)

Source: U.S. Census Bureau, ACS 5-year estimate 2016-2020 (in 2020 dollars)

C. Educational Attainment

Regarding educational attainment, the proportion of Albemarle County's residents 25 years and over holding bachelor's (30%) and graduate or professional degrees (28%) significantly exceeded the companion figures for the state and nation in 2016-2020. As a result, 59% of Albemarle County residents 25 years an over held a bachelor's degree or higher as compared to 40% for Virginia and 33% for the U.S. in 2016-2020 (Census; Table 14).

Table 14. Educational Attainment 2016-2020: U.S., Virginia, and Albemarle County, Virginia

EDUCATIONAL ATTAINMENT 2016-2020						
	United States		Virginia		Albemarle County, Virginia	
	Estimate	Percent	Estimate	Percent	Estimate	Percent
Total households	**122,354,219**	**122,354,219**	**3,184,121**	**3,184,121**	**42,381**	**42,381**
Population 25 years and over	**222,836,834**	**222,836,834**	**5,831,949**	**5,831,949**	**73,818**	**73,818**
Less than 9th grade	10,923,030	4.9%	226,926	3.9%	2,098	2.8%
9th to 12th grade, no diploma	14,639,650	6.6%	336,675	5.8%	3,314	4.5%
High school graduate (includes equivalency)	59,421,419	26.7%	1,392,823	23.9%	10,736	14.5%
Some college, no degree	45,242,162	20.3%	1,111,802	19.1%	10,692	14.5%
Associate's degree	19,254,254	8.6%	459,233	7.9%	3,618	4.9%
Bachelor's degree	45,034,610	20.2%	1,304,079	22.4%	22,495	30.5%
Graduate or professional degree	28,321,709	12.7%	1,000,411	17.2%	20,865	28.3%
High school graduate or higher	197,274,154	88.5%	5,268,348	90.3%	68,406	92.7%
Bachelor's degree or higher	73,356,319	32.9%	2,304,490	39.5%	43,360	58.7%

Source: U.S. Census Bureau, ACS 5-year estimate 2016-2020

VIII. Conclusions and Recommendations

This report outlined the current intricate and unique economic circumstances globally and in the U.S. that provide the framework for assessing the economic conditions for Albemarle County and the Commonwealth of Virginia. Despite U.S. real GDP declining two consecutive quarters in early 2022, the U.S. economy had not entered a recession as of the first half of 2022, yet current economic indicators are mixed at this writing with slowing activity in some sectors along with resiliency in other sectors, including a continued strong job market. Inflation currently remains at record highs and the Federal Reserve has consistently raised the federal funds rate since early 2022 with a stated commitment to continuing rate increases to do what it takes to dampen inflation.

Based on growing signals, an economic slowdown appears likely to be unfolding in the U.S. and globally, with an anticipated arrival by late 2022 or early 2023. There are several headwinds and downside risks to economic forecasts with wide bands of uncertainty regarding inflation, interest rates, the housing market, declining real personal income, cooling consumer and business demand, continuing supply challenges, shifting trade flows, and continued geopolitical risks and impacts (such as supply and price shocks). The evolving circumstances and wide bands of uncertainty have led to repeated revisions (downward) to economic forecasts thus far in 2022 with more revisions expected.

With the accumulating signals of a likely economic slowdown in the U.S., state, and globally, it is prudent for Albemarle County to likewise anticipate an economic cooling given its history of generally following state and national economic trends, albeit sometimes at different levels.

Albemarle County has a strong economy with a history of mostly solid economic and job growth, high real per capita personal income, low unemployment, strong hourly wages regionally, significant employment in relatively higher-income industries, and strong local business activity. This overall solid economic base provides more scope within which to effectively plan and act defensively as compared to many other communities that face major, chronic economic issues.

To facilitate continued financial resiliency and agility in the face of the rapidly changing environment, this writer's enduring organizational recommendations include:

- Detailed assessment of the organization's financial foundation, including strengths, weaknesses, and vulnerabilities.
- Clearly-defined and refined strategic goals.
- Long-run financial planning and robust scenario planning to illuminate potential chokepoints and develop shopping lists of potential response options.
- Continued close monitoring to detect early warning signals and emerging trends.
- Staff engagement to advance early detection, scenario planning, and response.
- Adaptive decision-making practices and augmented communication.
- Agility in action.

Based on the economic and community factors review of Albemarle County, this report also identified some areas for additional consideration during policy reviews, including:

- Slower job recovery in the County as compared to the state during economic downturns (i.e., during the Great Financial Crisis and the pandemic).
- The narrowing distance between the County's and the state's unemployment rates, while noting that Albemarle County's unemployment rate remained slightly lower as of July 2022.
- Changes in hourly wages locally and as compared to surrounding MSAs.
- Higher growth in the County's poverty rate as compared to the state and nation during 2015-2020, albeit with a lower base rate.
- Housing affordability given the notably higher median price of homes in the County.
- Housing cost-burden for 48% of renters of occupied units, 24% of owner-occupied units with a mortgage, and 11% of owner-occupied units without a mortgage in 2016-2020, according to the U.S. Census ACS (notwithstanding the County's lower proportions of cost-burdened owner-occupied housing as compared to the state and nation).
- The County's labor force participation rate given the off trend drop in 2017-2018 according to the BLS, and the lower rate compared to the state in 2016-2020 according to the U.S. Census ACS.
- The portion of the County's population that is not included in official employment, unemployment, and labor force data (are they marginally attached to the labor force, disabled, retired, in school, or out of the labor force for other reasons).
- Differential impacts of a potential economic slowdown across industries in the county, especially those with lower hourly wages and/or sensitive to interest rates or consumer spending changes (e.g., retail trade and construction given their significant roles in the County's economy in terms of jobs, annual payroll, and business activity (gross receipts)).
- Housing market trends for potential softening in home prices and valuation.

Albemarle County's prudent financial management and overall solid economic base provide a foundation and community capacity for strategic initiatives. Many other communities struggle with strategic initiatives because their economic foundations are not solid and repeatedly require significant organizational resources to maintain effective operations.

As always is the case, we "have to run hard to break even and run even harder to get ahead." Thus, the County's strategic and methodical analysis, review, and policymaking are commended and will continue to advance the community toward its strategic objectives.

IX. References

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X. Appendix

Table 15. Selected Virginia Statistical Area Delineations, 2020

Selected Virginia Statistical Areas 2020	
CBSA/MSA Title*	**Counties and Cities**
Charlottesville, Virginia	Albemarle County, Fluvanna County, Greene County, Nelson County, Charlottesville City
Staunton, Virginia	Augusta County, Staunton City, Waynesboro City,
Harrisonburg, Virginia	Rockingham County, Harrisonburg City
Richmond, Virginia	Amelia County, Charles City County, Chesterfield County, Dinwiddie County, Goochland County, Hanover County, Henrico County, King and Queen County, King William County, New Kent County, Powhatan County, Prince George County, Sussex County, Colonial Heights City, Hopewell City, Petersburg City, Richmond City

Source: U.S. Census Bureau; *U.S. Census defines CBSA as the Core-Based Statistical Area and MSA as the Metropolitan Statistical Area which are the same for the selected statistical areas.

Figure 73. House Price Index (Single Family): Albemarle County, Virginia, and Charlottesville, Virginia MSA, 2000 - 2021