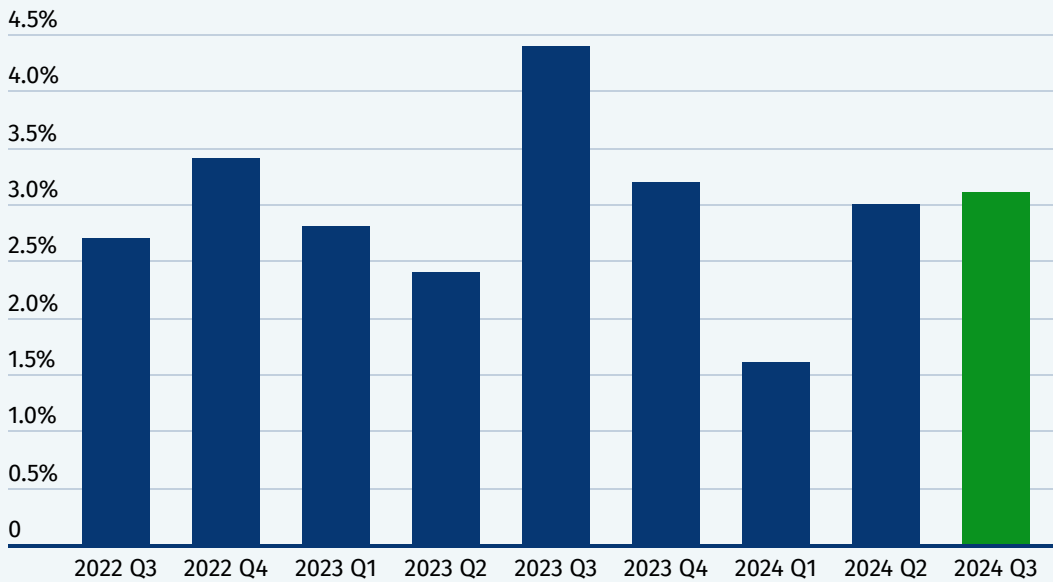




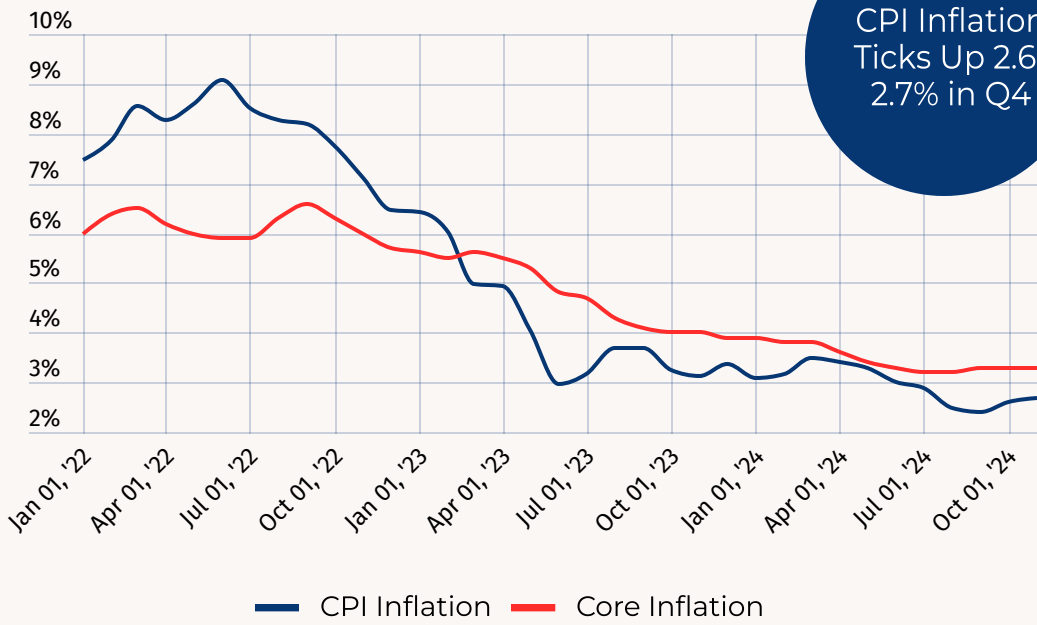
Macroeconomics

Aryaman Bhatnagar, Ph.D. | Assistant Professor of Economics



GDP Growth Rate

Despite high borrowing costs and rising prices, the US economy continued to remain strong and recorded a steady 3.1% growth in the third quarter of 2024. This is now the eight time in the last nine quarters that the economy has registered a growth rate in excess of 2%, a number that is widely considered to be the long-term growth rate for the US economy. The growth was largely powered by robust consumer spending which accelerated by 3.7% and a sharp rebound in exports which grew by 9.6% compared to a meager 1% in the preceding quarter.

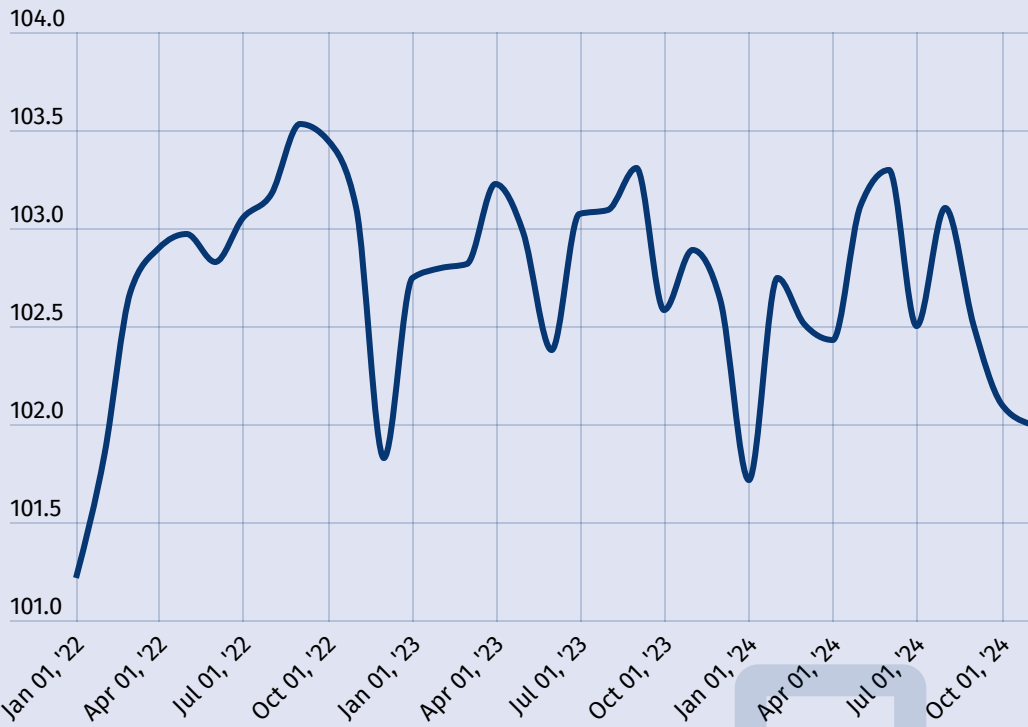


CPI Inflation Ticks Up 2.6-2.7% in Q4

Inflation

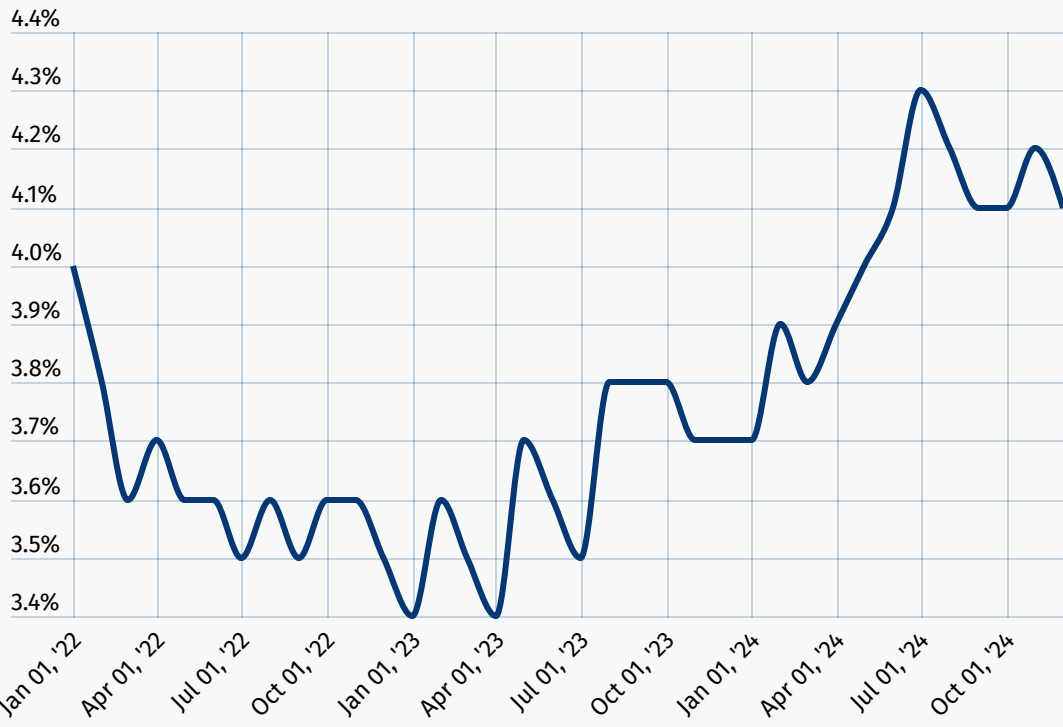
CPI Inflation ticked up in the months of October and November by 2.6% and 2.7% respectively, signaling that the economy has not yet cooled down. The primary concern for the policymakers would be that this uptick in inflation has happened despite a sustained decline in energy prices over the last four months. Core inflation, which excludes food and energy costs, remained steady around the 3.3% mark and could prove to be a challenge for the Federal Reserve. Within the core component, shelter costs continued to remain elevated and could play a key role in the coming months. According to BLS estimates, 40% of the increase in CPI in November was due to shelter costs alone.

Index 2017=100



Industrial Production

The industrial production index slumped by 0.1% in the month of November, following contractions in September (-0.5%) and October (-0.4%). The slump was along expected lines as mentioned in the previous edition of this newsletter, given that the economy had faced two major hurricanes and labor strikes at Boeing. According to estimates by the Federal Reserve, the hurricanes may have depressed industrial production by around 0.3% in September and 0.1% in October. The machinists strike at Boeing on the other hand resulted in a steep decline of around 16% in production of aerospace equipment. Given the aberrational nature of these episodes, one would expect industrial production to bounce back in the coming months.



Unemployment Rate

The labor market continued to show resilience towards the end of 2024, with unemployment rate inching down to 4.1% and total non-farm employment increasing by 256,000 in December. This recovery comes at the back of a dramatic decline in October where the economy added only 43,000 jobs due to the two hurricanes and a strike by workers at Boeing. Most of the job growth in December was seen in healthcare, retail, leisure and hospitality, and government. Aside from employment, wage growth also held steady at 3.9%, marking the 45th consecutive month of record pay for workers.



Summary

The US economy posted a solid performance in 2024 and appears to be on a healthy growth trajectory for 2025. GDP growth has consistently been above the long-term potential rate, employment appears to be close to the maximum-employment objective, inflation seems under control (although slightly elevated), and the consumer/business confidence has returned to pre-pandemic highs. However, the future growth path would depend critically on the policies of the incoming administration. Four key policy areas could play a crucial role: Taxes, tariffs, government spending, and immigration. Each of these policies could have wide-ranging impacts and would decide the fate of the US economy in the upcoming year.

# Appalachian Highlands Economic Update

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HOUSING



## Financial Markets

William J. Trainor Jr., Ph.D. | CFA Director, Center for the Study of Finance

### Financial Market Overview

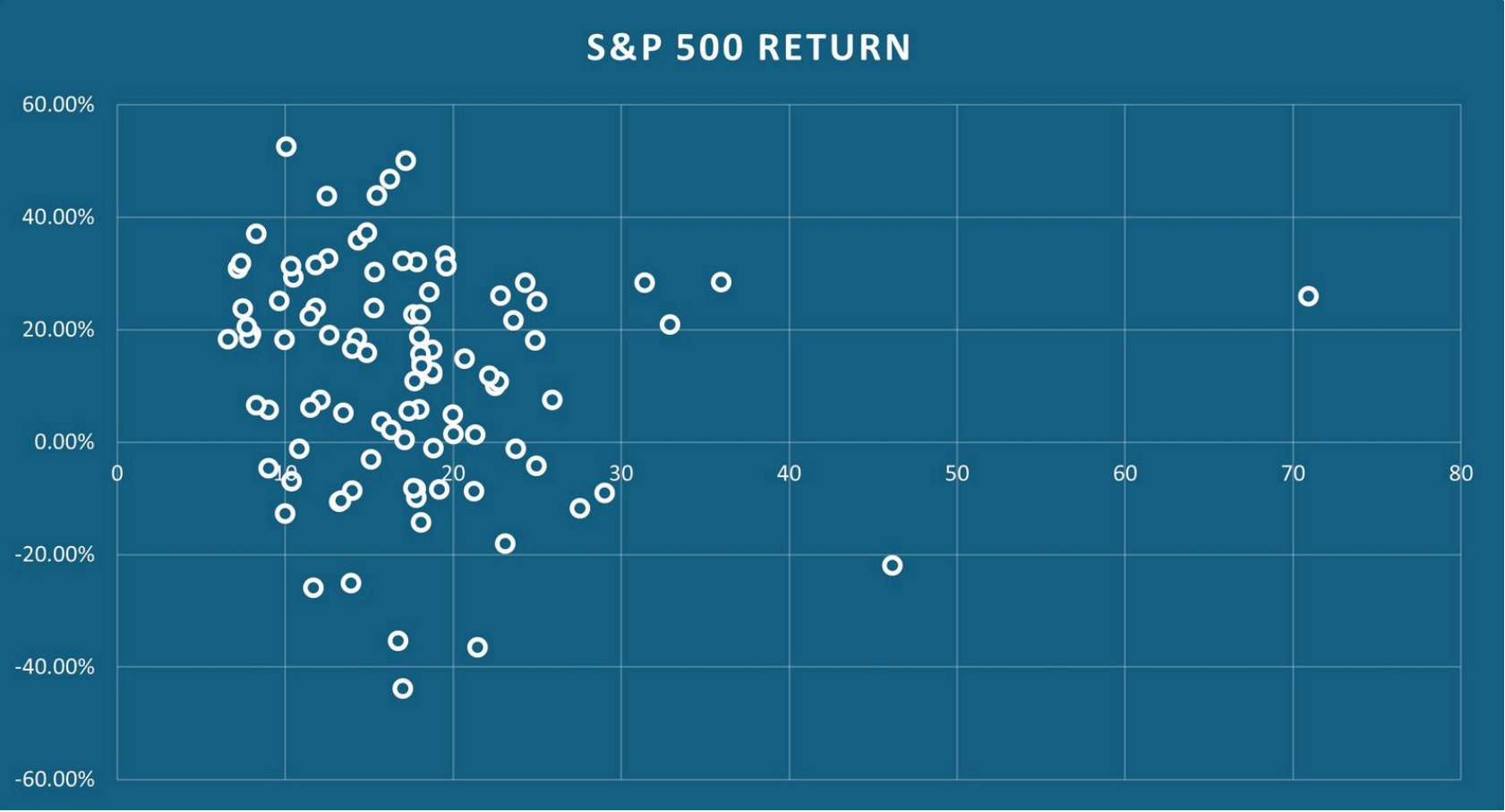
The more things change, the more they stay the same. It is the Appalachian Highlands Economic Update one year anniversary and I could virtually use last year's post by just changing the date. This is the second year in a row that the S&P 500 has returned 25% while the magnificent seven (Amazon, Apple, Alphabet, Meta, Microsoft, Nvidia, and Tesla) once again had a banner year gaining 63% after a 70% gain in 2023. This increases their market share of the S&P 500 from 29% to 34%!

As predicted, the Fed lowered short-term interest rates, but this was ignored by investors at the longer end of the yield curve with 30-year mortgage rates virtually unchanged from a year ago hovering around 7%.

Although this is not an advice column and every investor is different, the classic 60/40 stock/bond portfolio is often recommended due to its stability and the fact bonds tend to do well if equity markets decline. In today's world, this can be created at its core with two exchange traded funds (SPY and AGG as an example or Vanguard's VOO and BND) with absolute percentages adjusted based on age, liquidity needs, and risk tolerances.

Just a few years ago, the term TINA (there is no alternative) was bandied about to rationalize investing mostly in equities as the alternative was earning near zero interest in bonds. Even the 10-year Treasury yield had fallen to less than 1% and the rationale of continuing to hold 40% in bonds was seriously questioned and rightly so. Soon thereafter, long-term bond losses exceeded equity losses in 2022 when rates increased back to more normal levels. With 10-year Treasury yields now exceeding 4.5%, 40% in bonds looks much more attractive, especially considering equity valuations.

The Fed Model (not created or marketed by the Fed!) is the relationship between the S&P 500 earnings yield and 10-year treasury bonds. The earnings yield is simply the inverse of the price/earnings ratio and when this yield is high relative to the bond yield, equities are predicted to do well and vice versa. Unfortunately, it generally does not do well in terms of predicting returns, but extreme values suggest caution. Below is the relationship between earnings yield minus the bond yield and the following annual S&P 500 return since 1928.



With the current S&P 500 PE at 30 resulting in a 3.3% earnings yield, 10-year treasury yields of 4.5% are more enticing, relatively speaking. With that said, corporate earnings are expected to increase 15% in 2025 (long term average earnings growth is 7%) and assuming a stable PE despite the current lofty value (historical average is 16) would result in a 15% return to equities. The graph also shows multiple positive returns even when the earnings yield minus the bond yield is negative.



### Summary

Last year I concluded with the following projection: "In summary, if/when the Federal reserve starts cutting short-term interest rates projected by some to start in March 2024, it is likely the market will go on a sustained bull run and surpass all time market highs." This indeed came to pass but I expect this year will be more muted but also reusing my last sentence from a year ago: "As with all stock market forecasts, the only certainty is the market will fluctuate."

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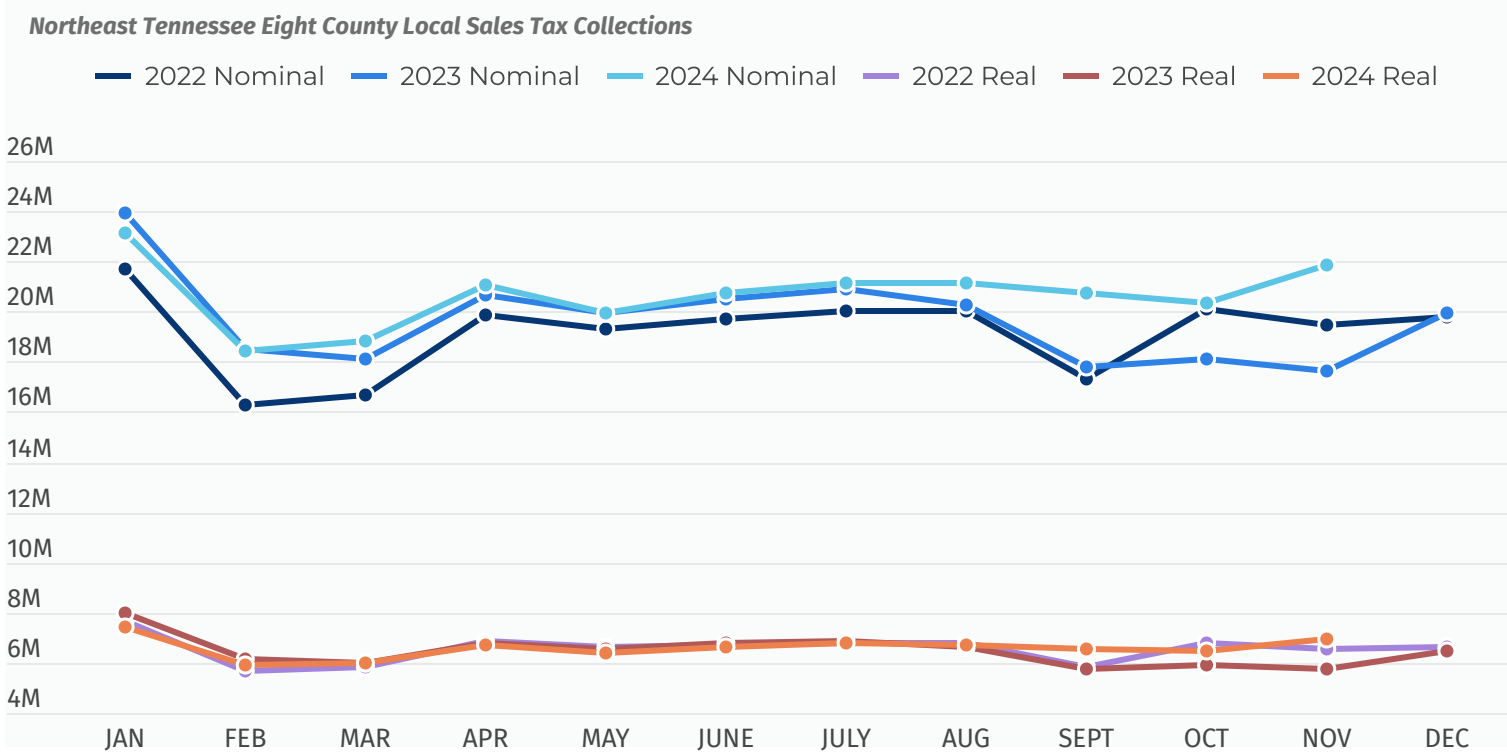
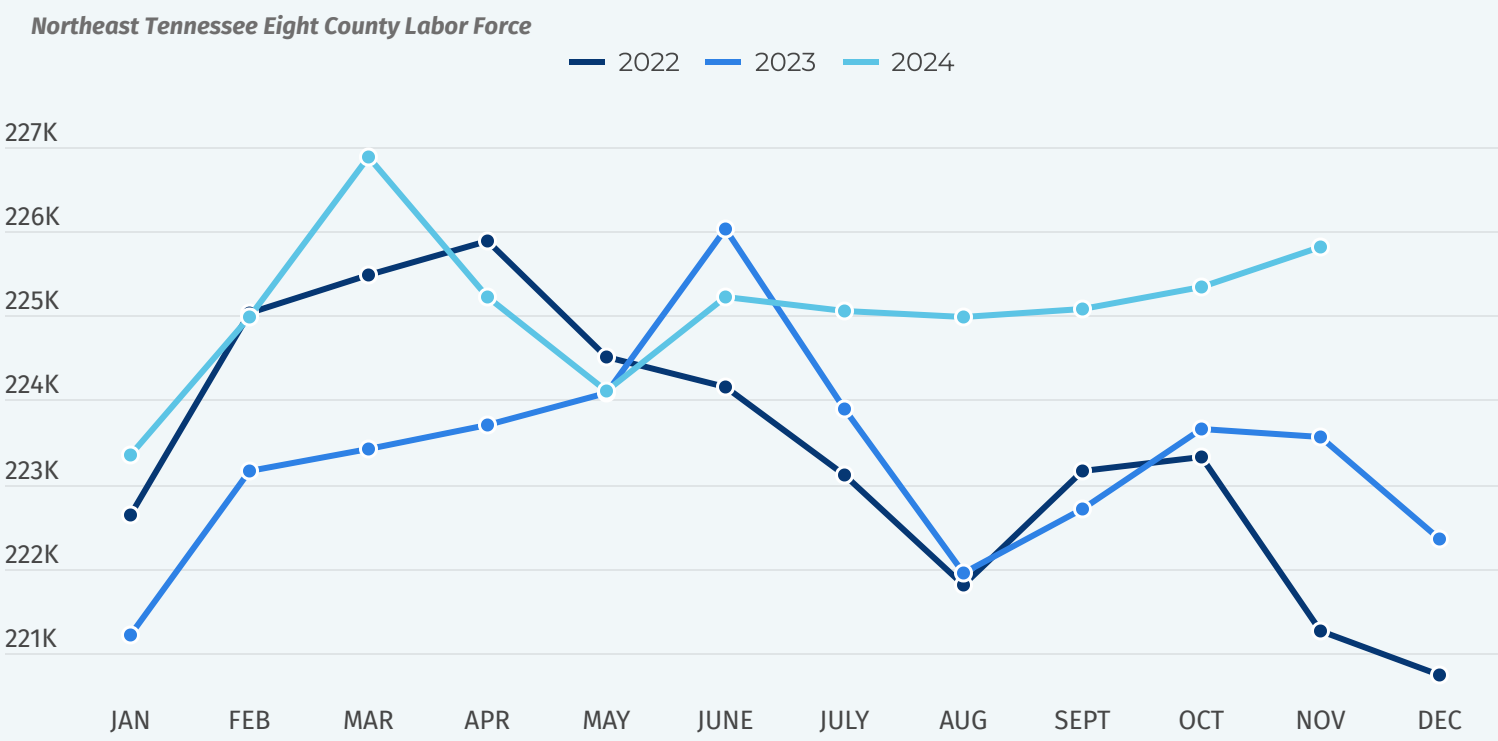
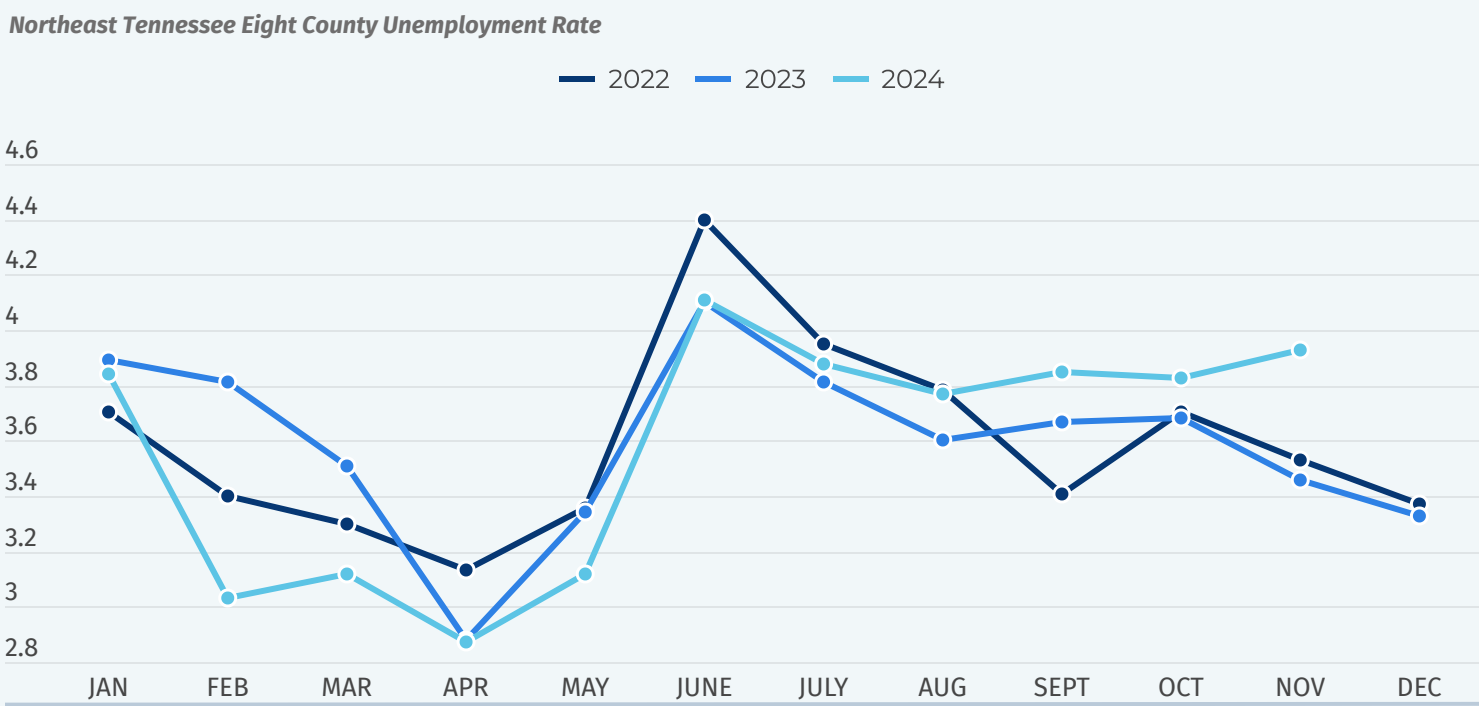
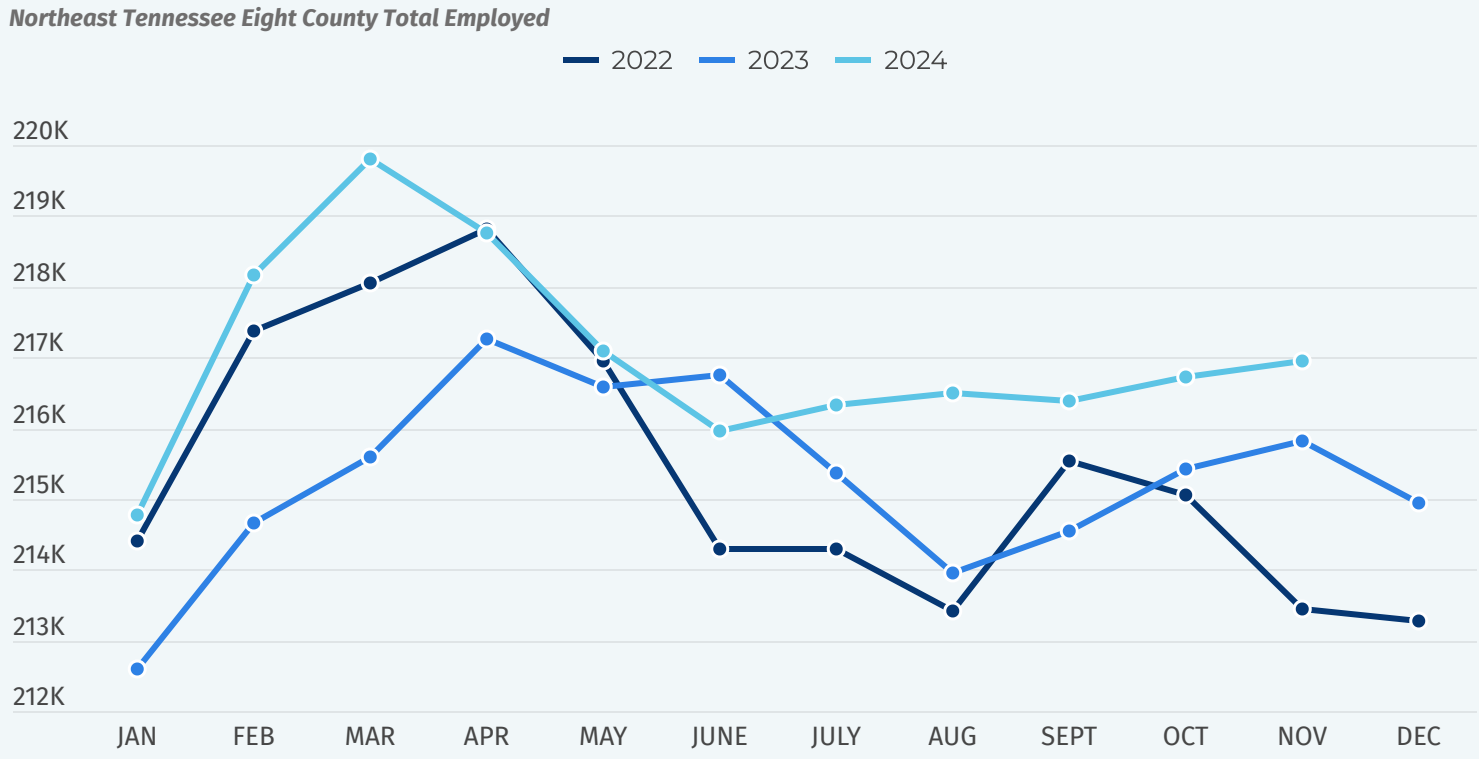
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## Labor & Unemployment

Jon L. Smith, Ph.D. | Director, Bureau for Business & Economic Research

The impact of hurricane Helene continues to affect labor markets within the 8 county Appalachian Highlands region. However, the \$100 billion in disaster relief funding for affected communities, including those in East Tennessee, passed by the U.S. Congress on December 21 will become increasingly available for long-term recovery efforts that will yield long-term benefits.



## Employment & Labor Force

One immediate impact of the storm was an increase in the number of unemployed persons in the region. Data from the U.S. Bureau of Labor Statistics' (BLS) Local Area Unemployment Statistics program indicate that the number of unemployed persons rose by 252 persons from October, 2024 to November, 2024. Year over Year, unemployment increased from 7,734 in November of 2023 to 8,872 in November of 2024. This increased the region's unemployment rate from 3.46% in November of 2023 to 3.93% in November of 2024.

Paradoxically, although the year over year unemployment rate rose, the employment levels unadjusted for seasonality within the eight-county region increased from 215,823 in November of 2023 to 216,950 in November of 2024, a modest increase of approximately 0.52%.

The regional labor force showed similar increases year over year from 223,557 in November of 2023 to 225,822 in November of 2024. As the chart below indicates, labor force numbers have been higher than in previous years. Year over year November labor force numbers showed an increase of just over 1% as workers involved in recovery work began to enter the labor force in November.

## Sales Tax

The eight county region's nominal local sales tax collections have shown a modest, positive trend over the past six months. The region's November nominal local sales tax collections were \$21,873,551, approximately 24.1% above collections for November of last year. Total year to date nominal local sales tax collections for 2024 were \$75,772,000, 4.68% higher than total collections as of November 2023. The chart below shows a rise in collections from October to November 2024. This is quite probably a result of hurricane related spending.

Increases in local spending are not atypical in areas impacted by affected by natural disasters. Indeed, in the long-run regions receiving significant governmental aid often experience extended periods of increases in consumption and increasing GDP in the disaster's aftermath as residents rebuild.



## Summary

The region is rebounding from Hurricane Helene. Although unemployment rates showed slight increases in the near term, there are positive indications for a long-term recovery as governmental resources begin to flow into the region. Employment and labor force numbers show increases. This trend is expected to continue as the full effect of recovery spending becomes manifests itself. However, if there are significant increases in the labor force, there may be increasing pressures on the supply of rental housing.



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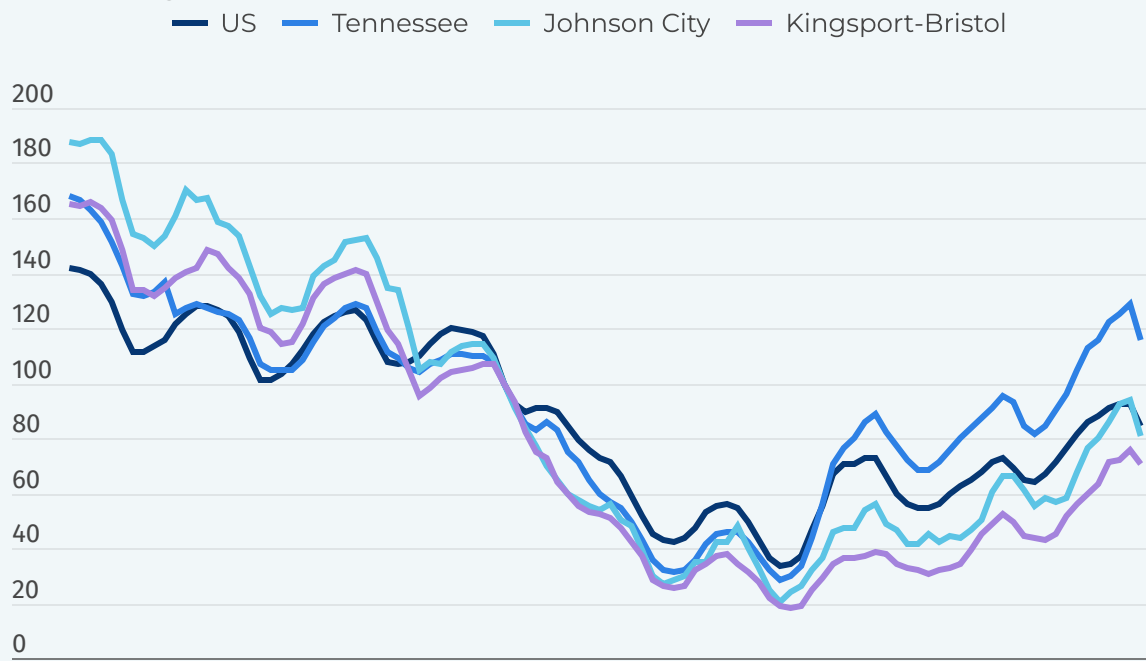
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## Housing Market

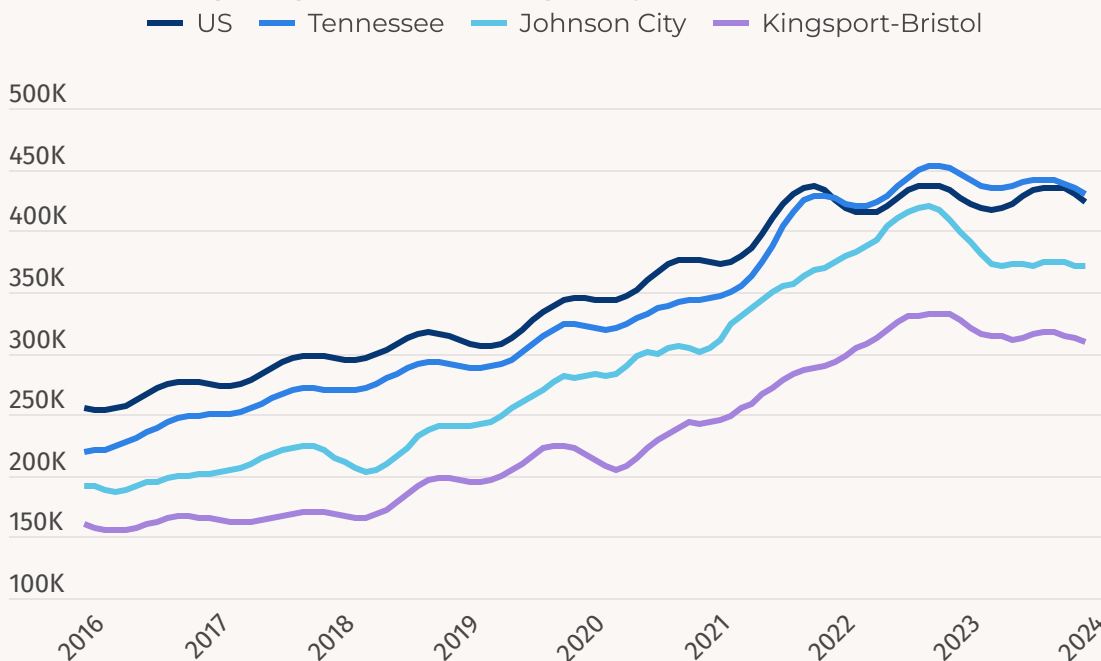
Joseph Newhard, Ph.D. | Associate Professor of Economics

Active Listing Count Relative to December 2019



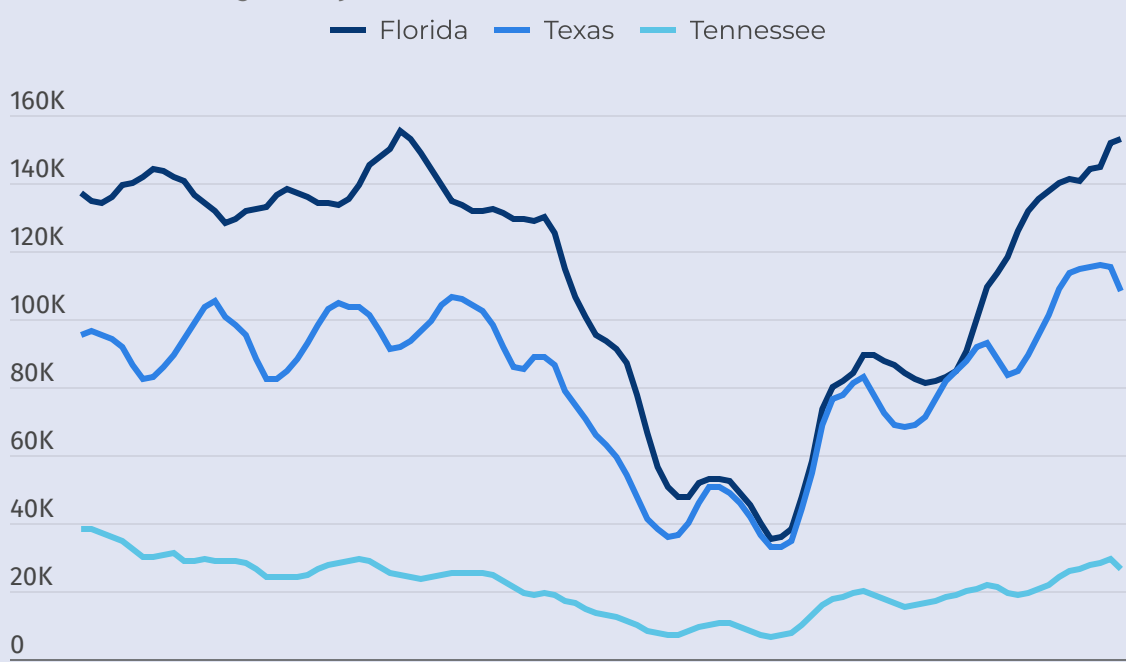
As of 2024, Tennessee has the highest December home listing count since 2018. The United States at large is also back to pre-pandemic inventory levels with the highest December listing count since 2019. The same goes for the Johnson City and Kingsport-Bristol metro areas although the recovery here is more subdued as population growth seems to outpace new home construction. The Johnson City MSA listing count is down 19% from December 2019 despite the count being up 16% statewide since then. Inventories were already considered somewhat low in 2019, having been on a downward trend for years. Our region last saw a balanced market in 2018. Given that prices are inexorably tied to supply and demand, anyone interested in the future direction of prices should be monitoring not prices but inventory.

Six-Month Moving Average: Median Home Listing Price by Month



It is now clear that the increase in home prices locally and nationwide was concentrated in the window from around Fall 2020 to Fall 2021. This corresponds to the changes to interest rates and the money supply orchestrated by the Federal Reserve which brought a 40% increase in US dollars in two years. Despite month-to-month volatility, home prices have been relatively stable since then. This fact becomes clear upon viewing the 6-month moving average of listing prices. Also consider that the median home sold price in Johnson City was \$285,000 at the end of 2024, only \$5,000 above November 2021. It is no coincidence that the money supply of the United States has also been stable since then as the Fed draws down its balance sheet.

Active Home Listing Count by State



Don Fenley of the Northeast Tennessee Association of Realtors (NETAR) writes that despite rising 87% in six years, local prices remain stable with Sullivan and Washington counties among the least vulnerable in the US to any potential price correction. This assessment comes from the ATTOM Special Housing Risk Report which looks at foreclosure risk, underwater mortgages, and wages. Another report notes that 60.2% of local homeowners are equity rich versus 48.3% in the US. However, I would add that our region closely follows national price changes. Current prices in Northeast Tennessee would be unsustainable in the face of significant price corrections elsewhere. Rising inventories in Middle Tennessee and in states like Florida and Texas--both of which are now seeing price declines year-over-year--suggest to me that the Northeast Tennessee labor force could stall within a few years due to a relative lack of workforce home ownership options as inventories rise and prices fall elsewhere. The higher than average age and lower than average lifespan of the region also suggests higher turnover in future years.

Active Home Listing Count of the Nashville MSA



Despite aggressive home building throughout much of the state, Tennessee has lost its relative advantage in affordability in the past few years. As of the end of 2024, the median home listing price in Tennessee is higher than in every adjacent state except Virginia and surpasses every other state in the South except for Florida. In 2016 when the data begins, Tennessee prices were below North Carolina, Georgia, and the United States. Tennessee home prices now exceed the national median. Since purchasing power is the main driver of migration, high prices locally and statewide serve to deter some workers who may find homeownership more attainable elsewhere.

Concordantly, the rate of population growth in Tennessee peaked at 1.2% in 2022 and slid to 0.8% last year, below the 0.9% average seen in the past 15 years. Michelle Davis at NETAR writes that the growth rate of local jobs has slowed down, and most jobs are low paying. As for affordability, she notes that recovering from inflation "is typically driven by wage increases, not price cuts." This is true, but homes do not behave like typical consumer goods and they appreciated much faster than the price level. It seems to me that for the remainder of the decade, price reductions as inventories rise are more likely than a 50% jump in local wages. The alternatives are a slow, generation-long return to affordability or a new normal where working class households are reduced to lifelong renters.