REEF REPORT

REAL ESTATE & ECONOMIC FORECAST

UNITED STATES

SUMMARY

Labor Market Trends:
The unemployment rate rose to 4.3% in July 2024, up from 4.1% in June, marking the fourth consecutive month of increase. Year-over-year, the unemployment rate has risen significantly by 22.86%. The Sahm Rule, an indicator of recession, has been triggered, suggesting potential broader economic challenges.

Housing Market Indicators:
The housing market continues to show mixed signals. Building permit authorizations increased month-over-month to 1,396,000 in July but declined 7.0% year-over-year. Housing starts decreased to 1,238,000, down 16.0% from the previous year. The supply of new housing increased to 9.3 months in June, a 20.8% year-over-year increase, while the supply of existing housing rose to 4.1 months, 32.3% higher than last year.

Affordability and Construction:
The Fair Value Variable (FVV) decreased to -27.3%, suggesting continued overvaluation relative to historical income trends. The portion of median household income spent on mortgage payments decreased to 35.4% in August, but remains 72.3% higher than five years ago. Residential construction employment slightly decreased to 950,000 in July but is up 3.3% year-over-year.

Mortgage Rates and Housing Costs:
Mortgage rates dropped to 6.73% in August, down 6.9% from the previous year. The nominal monthly mortgage payment decreased to $2,208, down 1.9% year-over-year, but still 87.2% higher than five years ago.

Inflation and Consumer Debt:
Headline CPI inflation decreased to 2.92% in July, while core inflation stood at 3.21%. The CPI for average rent increased by 5.09% year-over-year, outpacing overall inflation. Credit card debt slightly decreased month-over-month to $1,058.95 billion but remains 6.16% higher year-over-year.

KEY DEVELOPMENTS

The August Reef Report highlights three key developments: a significant rise in unemployment triggering the Sahm Rule, a notable increase in housing supply, and a continued decline in inflation rates. These factors collectively point to evolving conditions that could have substantial implications for monetary policy, the housing market, and overall economic health.

I

Rising Unemployment and Sahm Rule Trigger

The U.S. unemployment rate increased to 4.3% in July 2024, marking the fourth consecutive month of increase. This rise has triggered the Sahm Rule, which identifies a recession when the three-month moving average of the national unemployment rate rises by at least 0.5 percentage points from its low during the previous 12 months. While still relatively low historically, this trend suggests a potential cooling in the labor market and may indicate broader economic challenges.

II

Substantial Increase in Housing Supply

The supply of both new and existing housing has seen significant increases. The supply of new housing remained at 9.3 months in June, representing a 20.8% year-over-year increase. More notably, the supply of existing housing rose to 4.1 months, a 32.3% increase from the previous year and above the 10-year historical average of 3.6 months. This growing inventory could have implications for home prices and construction activity in the coming months.

III

Continued Decline in Inflation Rates

Inflation rates continue their downward trajectory. Headline CPI inflation decreased to 2.92% in July, while core inflation stood at 3.21%. This consistent decline in inflationary pressures over recent months brings rates closer to the Federal Reserve's target. With core inflation approaching 2%, the Fed may shift its focus more towards addressing the rising unemployment rate, potentially influencing future monetary policy decisions.

FORECAST

Unemployment Will Continue to Rise

In our June report, we forecasted that the unemployment rate would rise to 4.2 percent by September. Like our previous forecasts on unemployment, this came earlier than expected, with the unemployment rate in July coming in at 4.3 percent. With interest rates remaining elevated, businesses are facing higher financing costs, which pressures management to cut expenses. Interest rate relief will be delayed until the FOMC meeting in September, and we believe this will not be enough to prevent a further rise in unemployment. We expect the unemployment rate to rise to 4.6 percent by October.

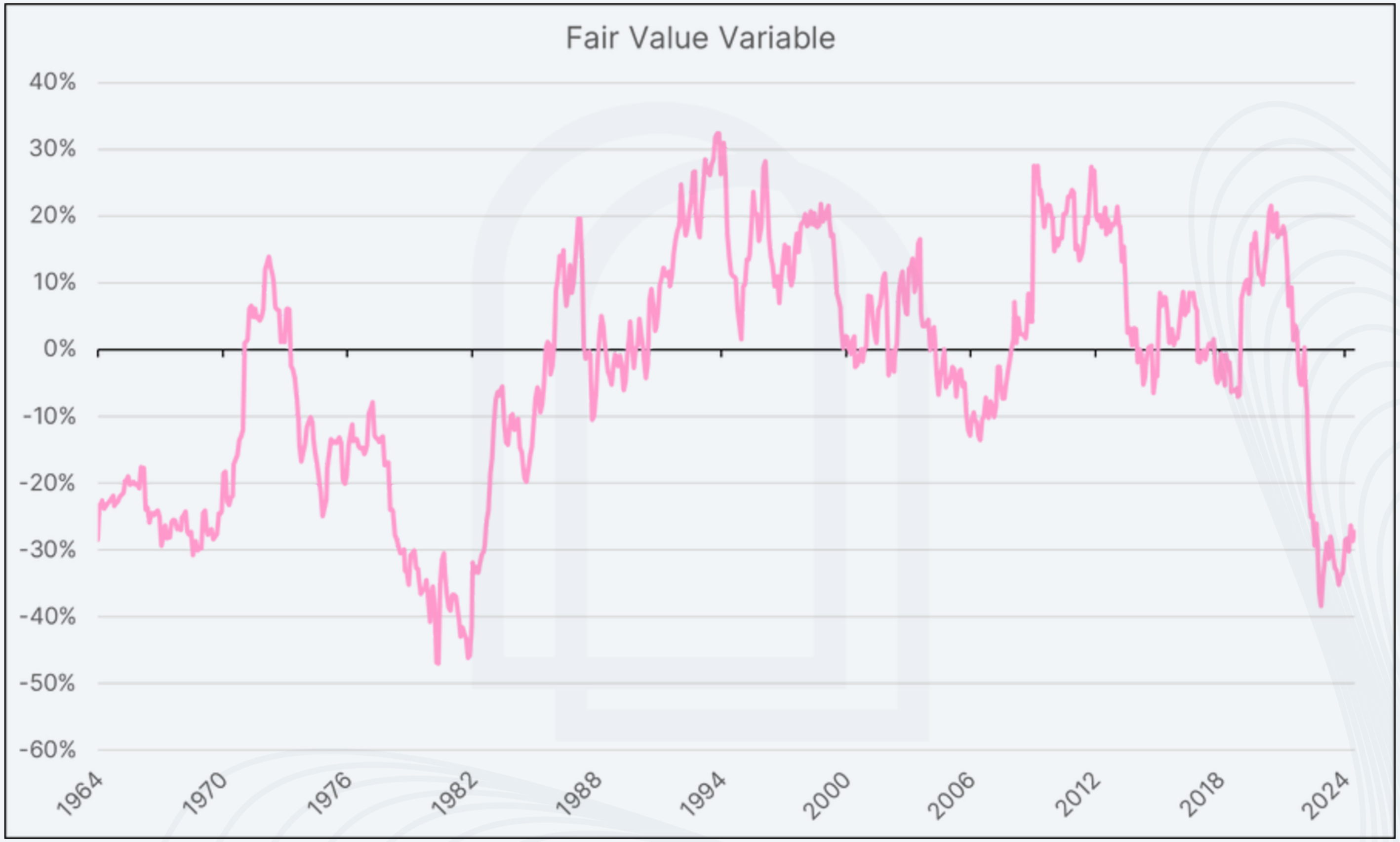
Given recent significant revisions to employment data released this week, it has become clear that the job market is not performing as strongly as previously thought. We anticipate that this trend will persist in the coming months. The labor market, akin to a cargo ship rather than a jet ski, does not change direction easily once it starts moving.

Construction Employees Will Decline

On a year-over-year basis, housing starts have declined 16.0 percent. However, the number of construction employees has increased by 3.3 percent over the same time period. Typically, there is a lag between the decline of housing starts and the decline in construction employees. The months' supply of new homes is 9.1, and this level was last seen during the Great Financial Crisis. During this period, the number of construction employees saw a substantial decline.

As homebuilders slow their rate of home construction, there will be a lower demand for employees, and this will lead to layoffs. Unless there is a spur in demand for new homes, we anticipate that the number of construction employees will decline on a year-over-year basis by the end of 2024.

FAIR VALUE VARIABLE (FVV)



Source: Reef Insights LLC

Our proprietary Fair Value Variable methodology evaluates housing affordability by calculating rolling 5, 10, and 15-year averages of the percentage of median income spent on mortgage payments. Dividing these averages by current income-to-payment ratios yields premiums/discounts which are then averaged and applied to median home prices.

In May, the FVV decreased month-over-month to negative 27.3 percent, suggesting a continued potential overvaluation relative to historical income trends.

HOUSING SUPPLY

Source: U.S. Census Bureau, U.S. Department of Housing and Urban Development

The supply of new housing is measured in months by comparing the number of new houses available for sale to those actually sold. In June, the supply increased to 9.3 months, indicating that if no new houses were added, it would take 9.3 months to sell all the available houses at the current sales pace. This is a month-over-month increase, and compared to the same time last year, there has been a 20.8 percent rise in the months' supply of new housing.

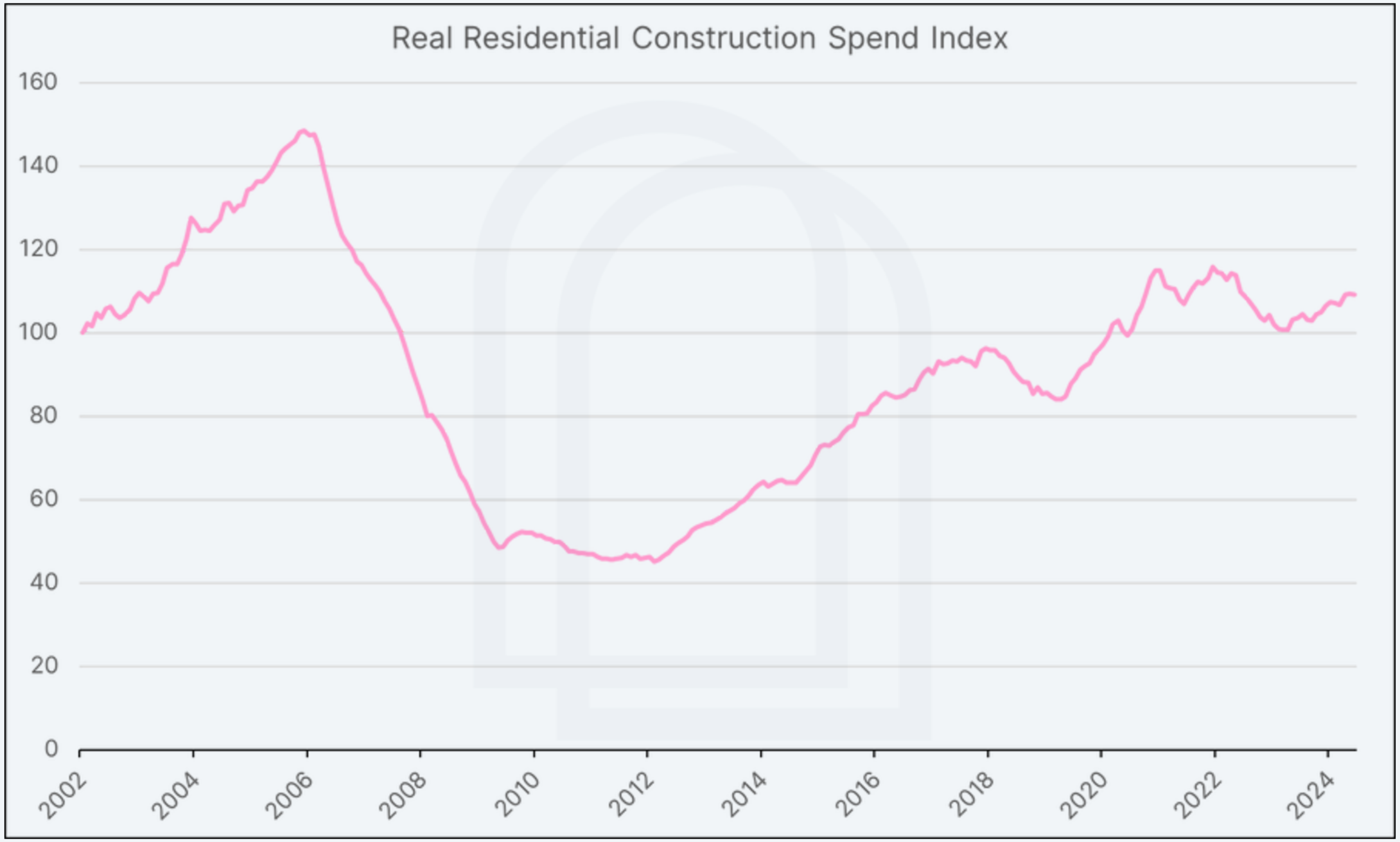
Although new housing is an important part of the overall housing market, it only makes up about 10 percent of total home sales.

Source: National Association of Realtors

The supply of existing housing is measured in months by comparing the number of existing homes available for sale to those that have been sold. In June, the supply increased to 4.1 months, meaning it would take 4.1 months to sell all the available homes at the current sales pace if no new homes were added.

This is an increase compared to the previous month. Compared to the same time last year, there has been a 32.3 percent rise in the months' supply of existing housing. Existing homes make up about 90 percent of the total housing market. The current supply of 4.1 is higher than the 10-year historical average, which stands at 3.6.

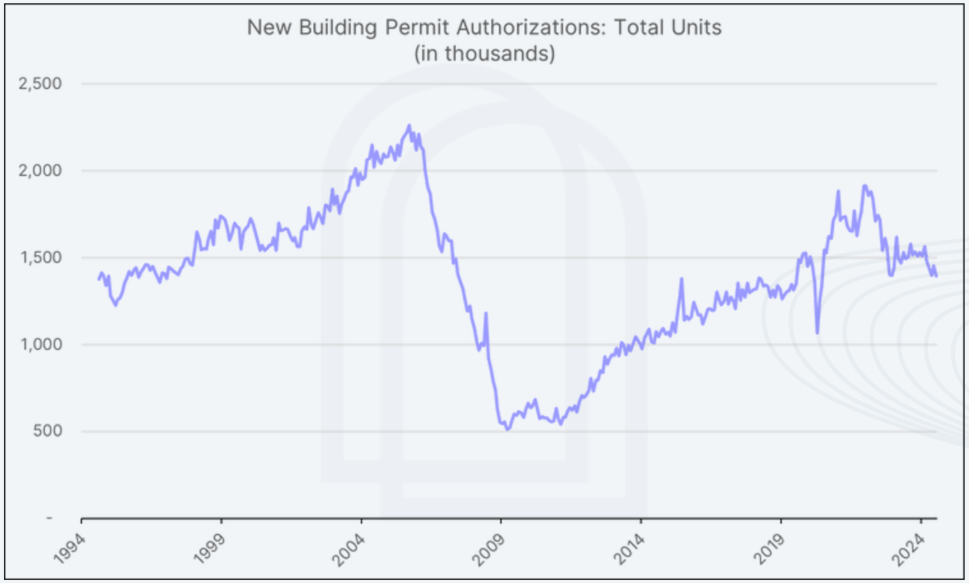
REAL RESIDENTIAL CONSTRUCTION SPENDING



Source: Reef Insights

The Real Residential Construction Spend Index is calculated by dividing the total residential construction spending by the Producer Price Index (PPI) for residential construction. During the Great Recession, this index experienced a significant decline. In June, the index decreased slightly from the previous month to 109.2. Additionally, compared to the same time last year, the index has risen by 5.4 percent.

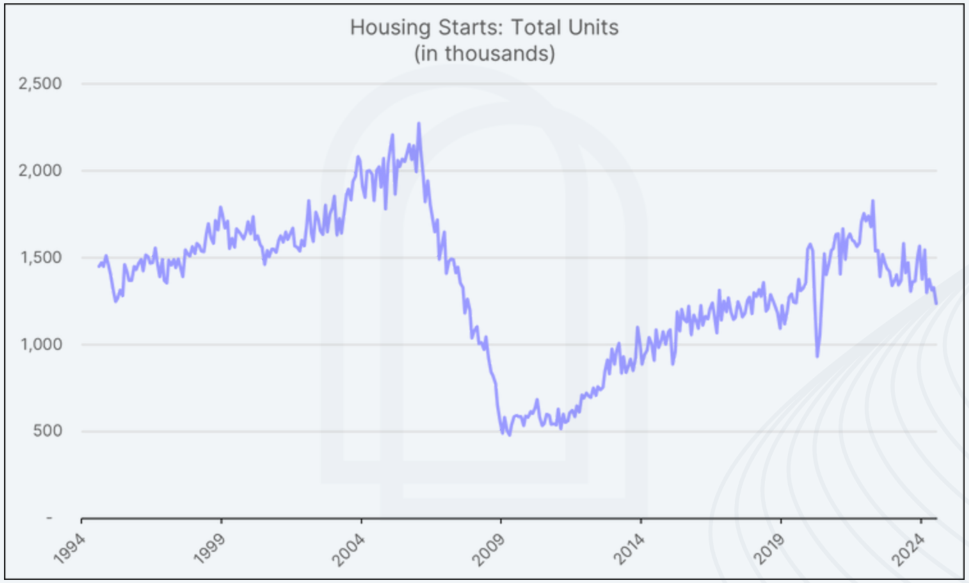
BUILDING ACTIVITY



Source: U.S. Census Bureau, U.S. Department of Housing and Urban Development

The number of new building permit authorizations is an important indicator of forthcoming construction activity. In July, we observed a month-over-month increase, with 1,396,000 new permits authorized. On a year-over-year basis, the number of total new building permit authorizations declined by 7.0 percent.

It's worth noting that the current level of 1,396,000 new permits is approaching the 30-year historical average of 1,387,000.

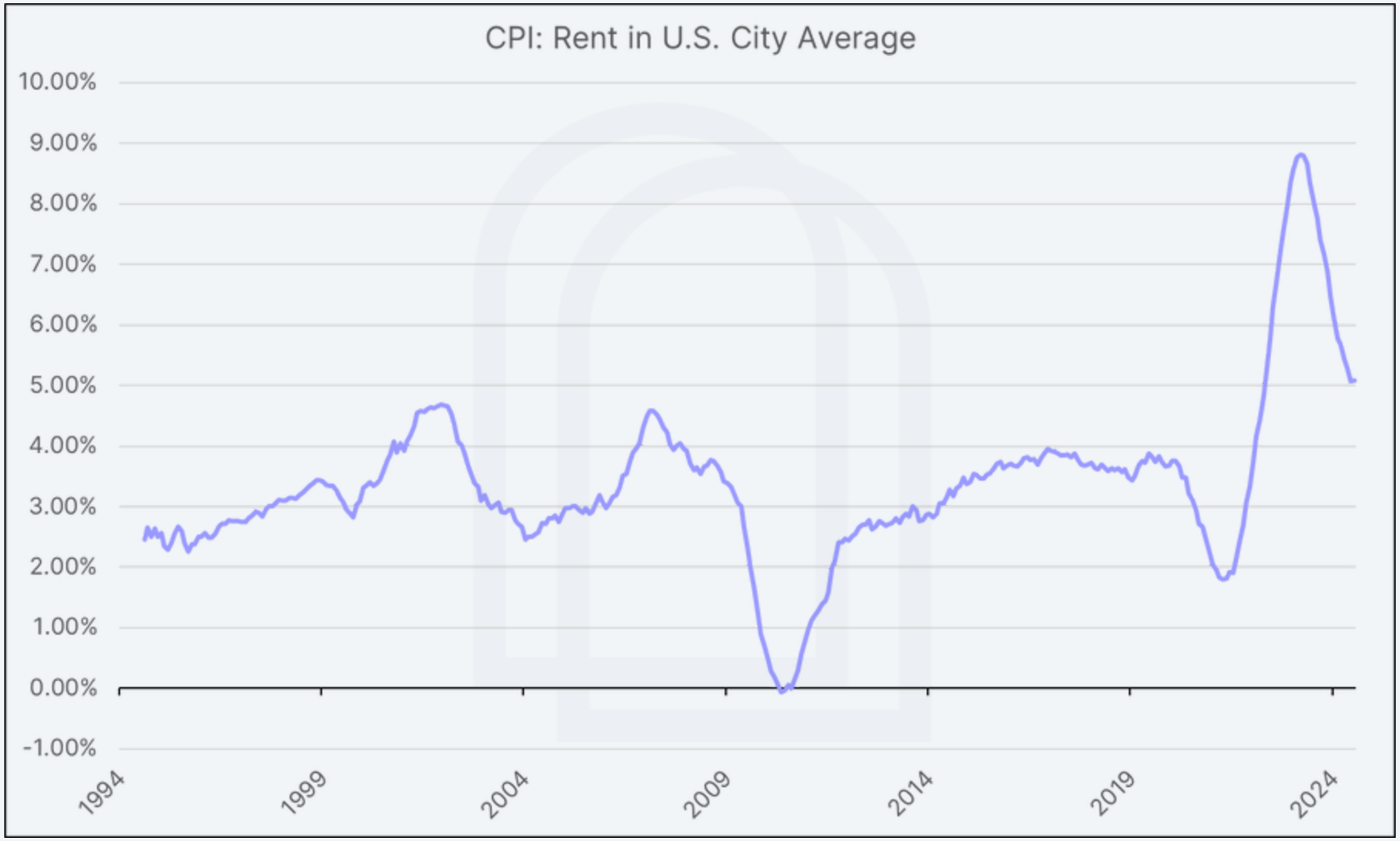


Source: U.S. Census Bureau, U.S. Department of Housing and Urban Development

Typically, housing starts tend to decline during a recession. In July, there was a month-over-month decline in the number of housing starts, with a total of 1,238,000 reported. Compared to the same time last year, this number is down by 16.0 percent. There were also revisions down of previous months reported figures.

Permits and starts have been declining in tandem, so these will be important to monitor as the year progresses.

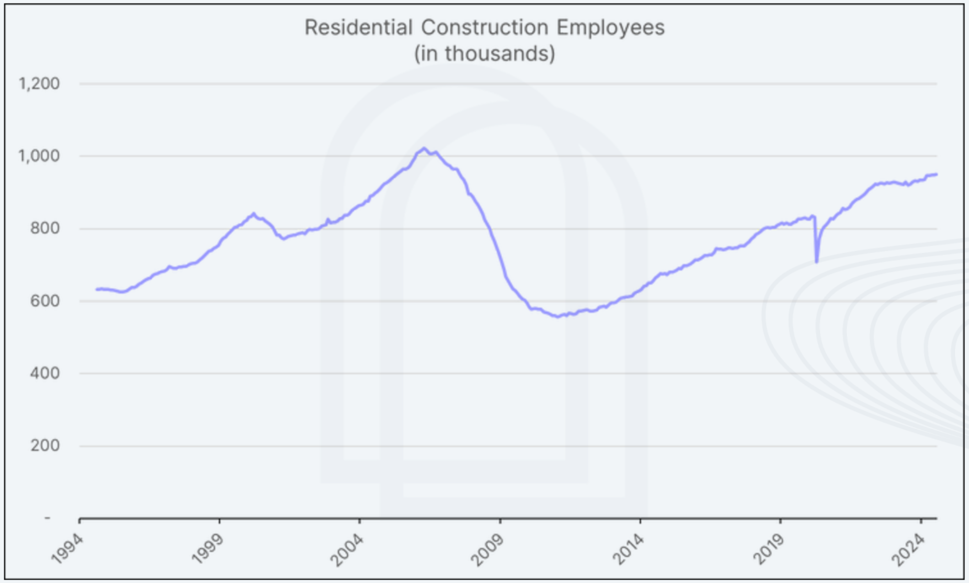
CPI: RENT IN U.S. CITY AVERAGE



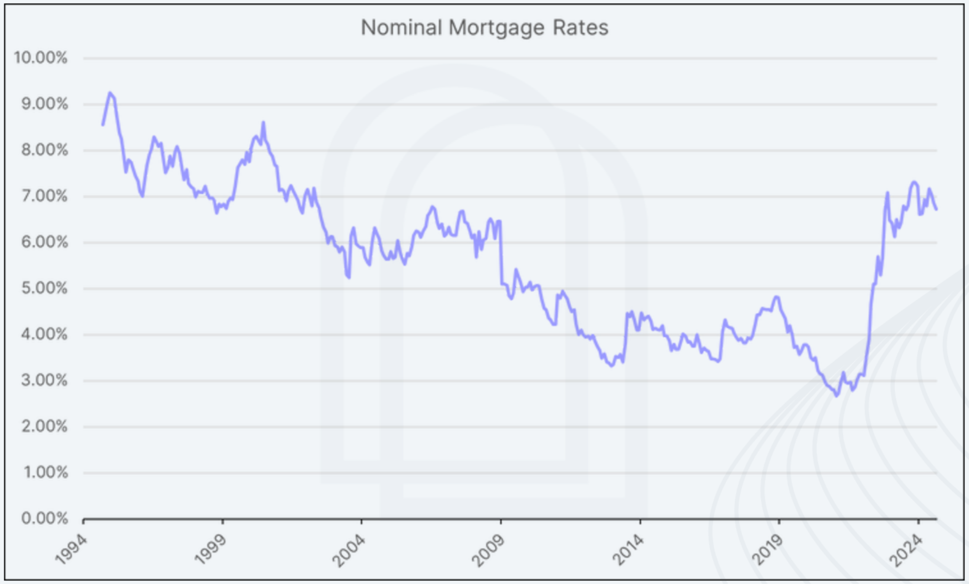
Source: U.S. Bureau of Labor Statistics

In July, the Consumer Price Index (CPI) for average rent in U.S. cities increased to 420.58. This marks a month-over-month rise. Compared to last year, the CPI for average rent is up by 5.09 percent. The current level remains above the average year-over-year in the CPI for rent the past decade, which has been 4.24 percent. The persistent rise in rent prices continues to outpace the long-term average, indicating ongoing pressure on housing affordability. This trend suggests that despite broader economic fluctuations, housing costs remain a significant concern for many Americans.

CONSTRUCTION EMPLOYEES AND MORTGAGE RATES



Source: U.S. Bureau of Labor Statistics



Source: Freddie Mac

The number of residential construction employees serves as a leading indicator, often exhibiting declines before housing prices experience a downturn. In July, we witnessed a slight month-over-month decrease, with 950,000 residential construction employees reported. On a year-over-year basis, the number of residential construction employees grew by 3.3 percent.

Historically, a reduction in the residential construction workforce has preceded softening in housing market conditions. Interestingly, housing starts have been declining, so an uptick in construction employees is surprising as it often moves correlatively with housing starts. This could be due to the lag between housing starts and employment as timelines to complete construction plays a factor in employment.

The current average mortgage rate, based on loan applications submitted to Freddie Mac by lenders nationwide, has dropped month-over-month, reaching 6.73 percent in August. Additionally, compared to the same time last year, this rate has declined by 6.9 percent.

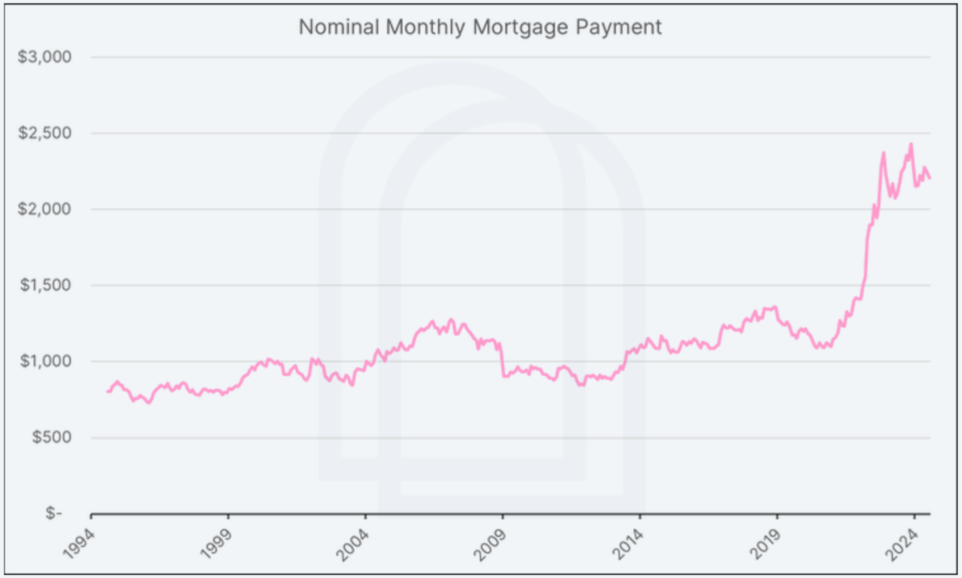
Demand for housing has been suppressed due to heightened rates and home values. The Fed has signaled that rate cuts would see further delays, so relief on this front may continue to be in the distant future.

As of August 15th, the rate has moved down to 6.49 percent.

HOUSING COSTS

The nominal monthly mortgage payment is calculated assuming a 20 percent down payment, a 30-year mortgage term, and a fixed interest rate. This calculation uses the current mortgage rate and the median sales price of houses. In July, the estimated monthly mortgage payment decreased to $2,208. Additionally, compared to last year, the monthly payment is down 1.9 percent.

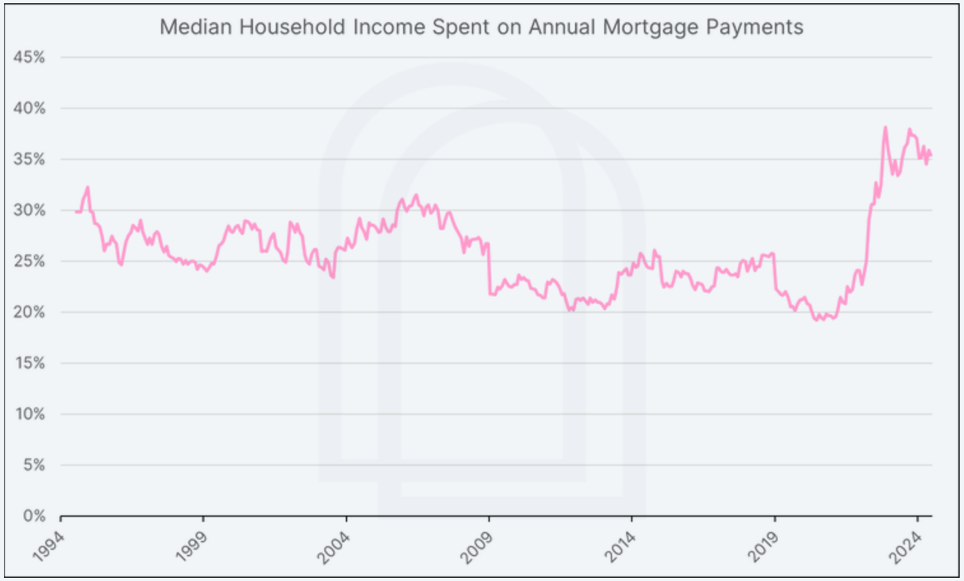
Over the past five years, the monthly mortgage payment has surged by 87.2 percent, reflecting rapidly declining affordability as more household income goes towards mortgage costs amidst higher interest rates and home prices. The recent decrease in monthly payments can be attributed to declining yields, which have led to a small reduction in mortgage rates.



Source: Reef Insights LLC

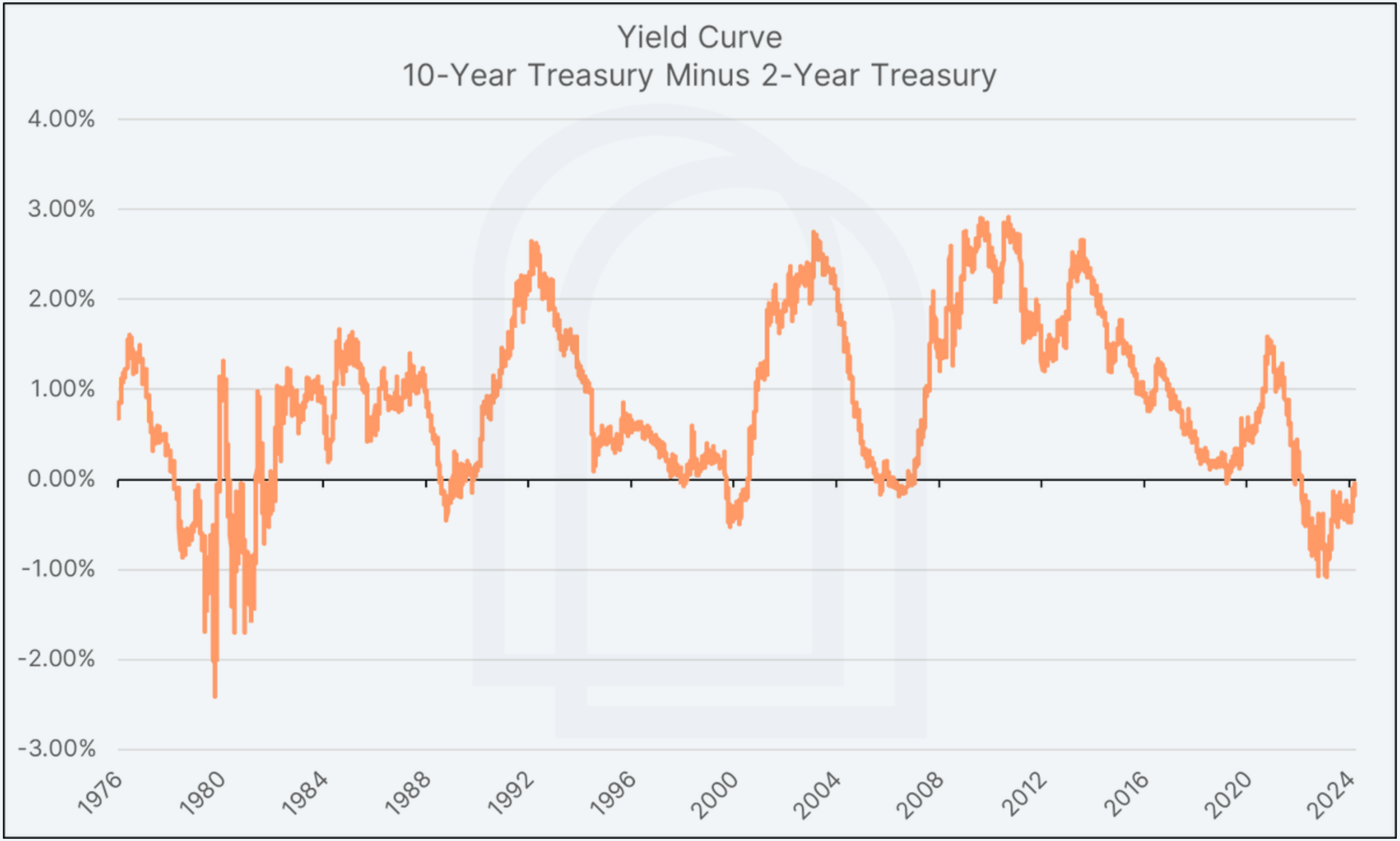
To calculate the median household income spent on annual mortgage payments, we annualized the current monthly mortgage payment and compared it to last year's median household income.

In August, the portion of median household income spent on mortgage payments decreased to 35.4 percent, down from 36.7 percent in July. Year-over-year, it increased by 0.9 percent, a significant moderation from July's 8.4 percent annual increase. Over the past five years, this figure has surged by 72.3 percent.



Source: Reef Insights LLC

YIELD CURVE: 10Y - 2Y TREASURY RATE



Source: Federal Reserve Bank of St. Louis

YIELD CURVE: 10Y - 2Y TREASURY RATE

The yield curve, specifically the spread between the 10-year and 2-year U.S. Treasury yields, has remained inverted since July 2022, continuing its record-breaking streak. This persistent negative spread has historically been viewed as a reliable predictor of recessions.

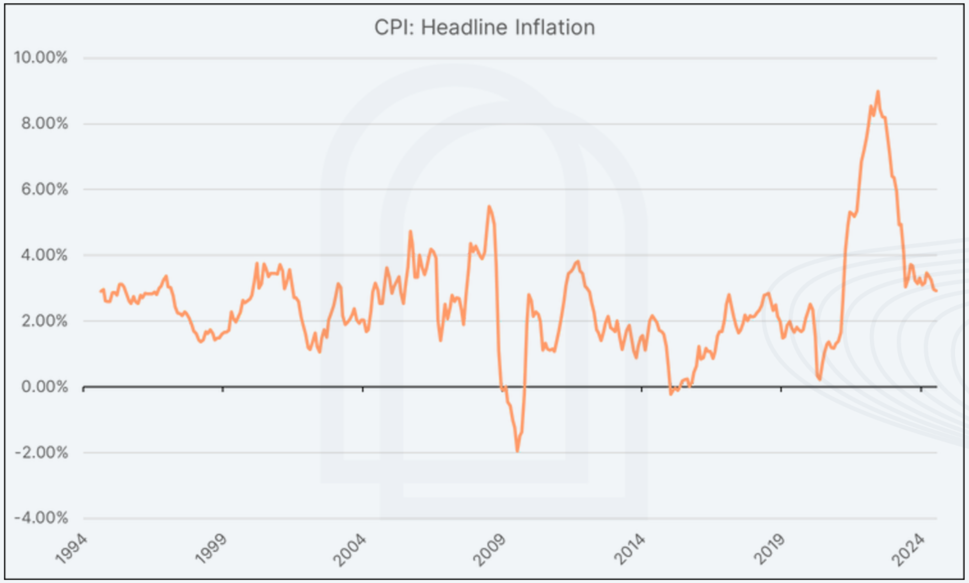
In July 2024, the yield curve saw a month-over-month increase, with the spread between the 10-year and 2-year Treasury yields standing at -0.25 percent, up from -0.43 percent in June. On a year-over-year basis, the yield curve has decreased by 73.38 percent.

The inversion of the yield curve occurs when short-term interest rates exceed long-term rates, suggesting that investors anticipate economic weakness and potential interest rate cuts in the future. While the spread is still negative, the recent increase might indicate a gradual move towards normalization.

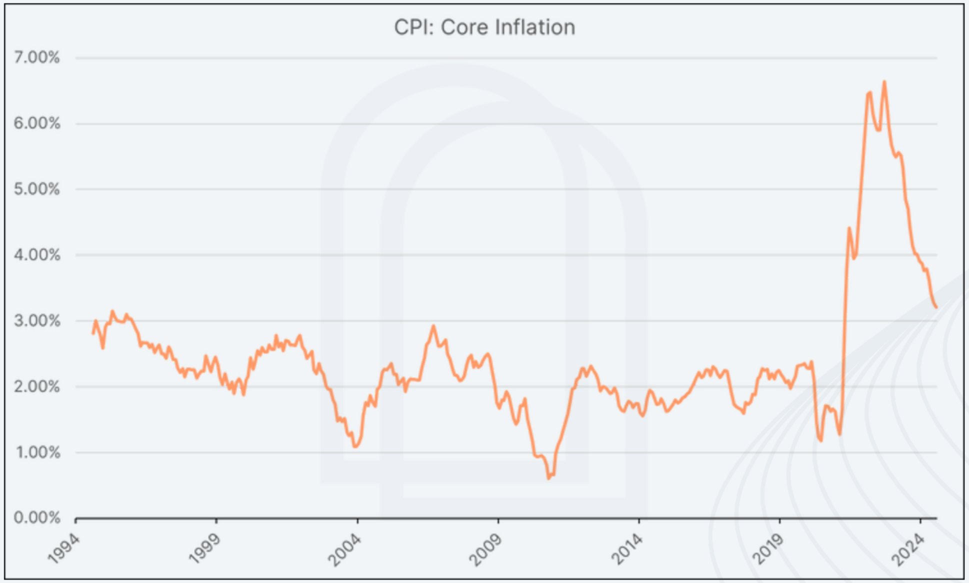
Notably, the short end of the yield curve is now extremely inverted, with the 1-month rate at 5.34 percent and the 1-year at 4.49 percent. This extreme short-end inversion was last observed leading into March 2020, adding another layer of complexity to the current economic landscape.

Furthermore, we've started to see the 2-year to 30-year portion of the curve begin to flatten. This phenomenon, often referred to as "un-inverting," is thought by some analysts to be a shorter-term indicator of recession risk.

CPI INFLATION



Source: U.S Bureau of Labor Statistics



Source: U.S Bureau of Labor Statistics

The Consumer Price Index (CPI) for headline inflation, which measures the overall increase in prices for goods and services, provides insights into broader inflationary pressures faced by consumers. Headline inflation continued its downward trend, with the year-over-year percent change decreasing to 2.92 percent in July 2024, down from 2.98 percent in June.

This marks a consistent decline in inflationary pressures over recent months with a moderate decline over the past year when comparing to July 2023 at 3.27 percent.

Core inflation, which excludes volatile food and energy prices, continued its downward trajectory in July 2024. The year-over-year percent change decreased to 3.21 percent, down from 3.28 percent in June, and down from the year prior at 4.71 percent in July 2023.

With Core inflation continuing its move towards 2.00 percent, the Fed will likely turn its attention towards unemployment, which has been rising for the past several months.

UNEMPLOYMENT RATE

Source: U.S. Bureau of Labor Statistics

UNEMPLOYMENT RATE

The U.S. unemployment rate increased to 4.3 percent in July 2024, up from 4.1 percent in June. This marks the fourth consecutive month of increase, continuing the upward trend observed earlier this year. Year-over-year, the unemployment rate has risen significantly by 22.86 percent.

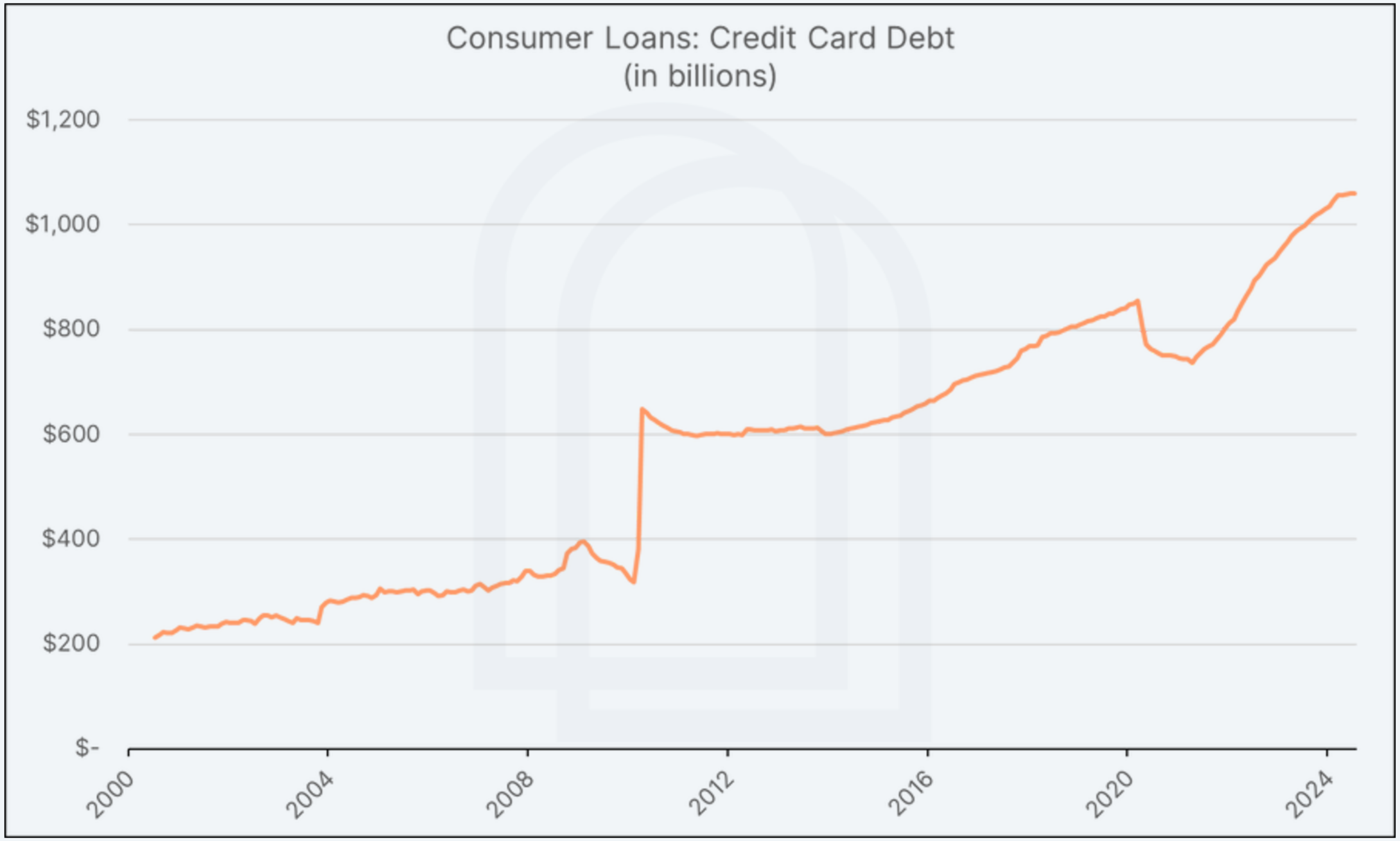
Recent unemployment rate trends:

Feb 2024: 3.9 percent
Mar 2024: 3.8 percent (-10bps)
Apr 2024: 3.9 percent (+10bps)
May 2024: 4.0 percent (+10bps)
June 2024: 4.1 percent (+10bps)
July 2024: 4.3 percent (+20bps)

While still relatively low by historical standards, the consistent rise in unemployment over the past several months suggests a potential cooling in the labor market. This trend, coupled with the substantial year-over-year increase, may indicate broader economic challenges.

Additionally, with this latest unemployment data, the Sahm Rule has been triggered. The Sahm Rule identifies a recession when the three-month moving average of the national unemployment rate rises by at least 0.5 percentage points from its low during the previous 12 months. While we are still at historical low levels, this is a notable occurrence.

CREDIT CARD DEBT



Source: Board of Governors of the Federal Reserve System

Credit card debt saw a decrease month-over-month, with a total amount of $1058.95 billion in credit card debt being reported in July. Year-over-year, credit card debt was up 6.16 percent. While credit card debt saw a month-over-month decrease, the year-over-year change highlights a persistent climb in credit card balances, which suggests ongoing financial pressure on consumers. This trend may indicate that households are still relying heavily on credit to manage expenses in the face of economic challenges.

DATA TABLE

Metric	This Period	Last Period	Year Ago	Latest Release
Housing Starts: Total Units	1,238	1,329	1,473	Jul-24
New Housing Supply	9.30	9.10	7.70	Jun-24
Existing Housing Supply	4.10	3.70	3.10	Jun-24
Nominal Median Sales Price of Houses Sold	$ 412,300	$ 426,800	$ 418,500	Apr-24
New Building Permit Authorizations: Total Units	1,396	1,454	1,501	Jul-24
Case-Shiller Index	323.48	320.72	305.34	May-24
Residential Construction Employees	950	949	920	Jul-24
Nominal Mortgage Rates	6.73	6.86	6.81	Aug-24
Deliquency Rates: Single-Family	1.71	1.70	1.72	Jan-24
Deliquency Rates: Commercial	1.18	1.16	0.77	Jan-24
PPI: Residential Construction	319	318	309	Jul-24
Construction Spending: Residential	$ 940	$ 943	$ 876	Jun-24
Housing Inventory: Median Days on Market	50	45	46	Jul-24
Nominal Monthly Mortgage Payment	$ 2,135	$ 2,164	$ 2,273	Aug-24
Real Mortgage Payment Index	7.16	7.26	7.17	Jun-24
Median Household Income Spent on Annual Mortgage Payments	35.42	35.92	35.08	Jun-24
Fair Value Variable	(27.29)	(28.67)	(30.85)	Jun-24

DATA TABLE

Metric	This Period	Last Period	Year Ago	Latest Release
Housing Expense Change	42.56	43.00	41.96	Jun-24
Nominal Median Household Income	$ 74,580	$ 70,780	$ 70,780	2022
Headline Inflation	2.92	2.98	3.27	Jul-24
Core Inflation	3.21	3.28	4.71	Jul-24
Unemployment Rate	4.30	4.10	3.50	Jul-24
Federal Funds Rate	5.33	5.33	5.12	Jul-24
Personal Savings Rate	3.40	3.50	4.80	Jun-24
Jobless Claims	227,000	234,000	248,000	Aug-24
10-Year U.S. Treasury Yield Minus 2-Year U.S. Treasury	(0.34)	(0.26)	(0.93)	Aug-24
Residential Rental Vacancy Rate	6.60	6.60	6.30	Apr-24
Real Residential Construction Spend Index	109.20	109.29	103.57	Jun-24
Household Savings	$ 807	$ 2,207	$ 2,207	2022
Bank Credit: All Commercial Banks	$ 17,746	$ 17,728	$ 17,273	Jul-24
Delinquency Rates: Credit Card	3.16	3.08	2.45	Jan-24
Gross Domestic Product (GDP)	$ 28,629	$ 28,269	$ 27,063	Apr-24
M2 (Money Supply)	$ 21,025	$ 20,952	$ 20,820	Jun-24
Federal Reserve's Balance Sheet	$ 7,178	$ 7,175	$ 8,146	Aug-24

DATA TABLE

Metric	This Period	Last Period	Year Ago	Latest Release
PCE: Headline Inflation	2.51	2.60	3.20	Jun-24
PCE: Core Inflation	2.63	2.62	4.28	Jun-24
Debt-to-GDP	122.35	121.62	117.32	Jan-24
Real GDP	$ 22,919	$ 22,759	$ 22,225	Apr-24
Trucking Employees	1,545	1,547	1,575	Jul-24
Industrial Production	103	104	103	Jul-24
Credit Card Interest Rates	21.51	21.59	20.84	May-24
Charge-Off Rate: Credit Card Loans	4.65	4.07	3.02	Jan-24
Charge-Off Rate: Business Loans	0.43	0.41	0.28	Jan-24
Charge-Off Rate: Commercial Real Estate Loans	0.23	0.24	0.10	Jan-24
Yield Curve	(0.43)	(0.37)	(0.89)	Jul-24
Total Assets: Money Market Funds	$ 6,440,699	$ 6,357,551	$ 5,692,567	Jan-24
Federal Government Interest Payments	$ 1,089	$ 1,059	$ 910	Apr-24
CPI: Rent in U.S. City Average	421	419	400	Jul-24
Consumer Loans: Credit Card Debt	$ 1,059	$ 1,059	$ 997	Jul-24

SOURCES

Metric	Frequency	Sources	Notes
Housing Starts: Total Units	Monthly	U.S. Census Bureau, U.S. Department of Housing and Urban Development	As provided by the Census, start occurs when excavation begins for the footings or foundation of a building. All housing units in a multifamily building are defined as being started when this excavation begins. Beginning with data for September 1992, estimates of housing starts include units in structures being totally rebuilt on an existing foundation.
New Housing Supply	Monthly	U.S. Census Bureau, U.S. Department of Housing and Urban Development	The months' supply is the ratio of new houses for sale to new houses sold. This statistic provides an indication of the size of the new for-sale inventory in relation to the number of new houses currently being sold. The months' supply indicates how long the current new for-sale inventory would last given the current sales rate if no additional new houses were built.
Existing Housing Supply	Monthly	National Association of Realtors	The National Association of Realtors monthly housing indicators are based on a representative sample of local boards and multiple listing services. Sales volume, inventory, and price levels for existing homes are measured for the US in aggregate and by census region. Existing homes, unlike new homes, are homes that are owned and occupied before coming onto the market. Inventory indicates the number of properties marked as "active" on the market or those pending sales. When a seller lists a property, it becomes counted as inventory.
Nominal Median Sales Price of Houses Sold	Quarterly	U.S. Census Bureau, U.S. Department of Housing and Urban Development	The purpose of the Survey of Construction (SOC) is to provide national and regional statistics on starts and completions of new single-family and multifamily housing units and statistics on sales of new single-family houses in the United States. The United States Code, Title 13, authorizes this survey and provides for voluntary responses. The Department of Housing and Urban Development partially funds this survey. The SOC also provides statistics on characteristics of new privately-owned residential structures in the United States. Data included are various characteristics of new single-family houses completed, new multifamily housing completed, new single-family houses sold, and new contractor-built houses started.
New Building Permit Authorizations: Total Units	Monthly	U.S. Census Bureau, U.S. Department of Housing and Urban Development	Starting with the 2005-02-16 release, the series reflects an increase in the universe of permit-issuing places from 19,000 to 20,000 places.
Case-Shiller Index	Monthly	S&P Dow Jones Indices LLC	The S&P CoreLogic Case-Shiller Home Price Indices measure the price level of existing single-family homes in the U.S.
Residential Construction Employees	Monthly	U.S. Bureau of Labor Statistics	Construction employees in the construction sector include: Working supervisors, qualified craft workers, mechanics, apprentices, helpers, laborers, and so forth, engaged in new work, alterations, demolition, repair, maintenance, and the like, whether working at the site of construction or in shops or yards at jobs (such as precutting and preassembling) ordinarily performed by members of the construction trades.
Nominal Mortgage Rates	Weekly	Freddie Mac	On November 17, 2022, Freddie Mac changed the methodology of the Primary Mortgage Market Survey® (PMMS®). The weekly mortgage rate is now based on applications submitted to Freddie Mac from lenders across the country. For more information regarding Freddie Mac's enhancement, see their research note.
Deliquency Rates: Single-Family	Quarterly	Board of Governors of the Federal Reserve System	The charge-off rates are annualized and are calculated net of recoveries. Delinquent loans and leases encompass those that are past due by thirty days or more and are still accruing interest, as well as those in nonaccrual status. This comprehensive approach provides insight into the financial health and performance metrics of these major banks, considering both charge-offs and delinquencies in their loan portfolios.

SOURCES

Metric	Frequency	Sources	Notes
Deliquency Rates: Commercial Real Estate	Quarterly	Board of Governors of the Federal Reserve System	The charge-off rates are annualized and are calculated net of recoveries. Delinquent loans and leases encompass those that are past due by thirty days or more and are still accruing interest, as well as those in nonaccrual status. This comprehensive approach provides insight into the financial health and performance metrics of these major banks, considering both charge-offs and delinquencies in their loan portfolios.
PPI: Residential Construction	Monthly	U.S. Bureau of Labor Statistics	The Producer Price Index (PPI) program measures the average change over time in the selling prices received by domestic producers for their output. The prices included in the PPI are from the first commercial transaction for many products and some services.
Construction Spending: Residential	Monthly	U.S. Census Bureau	Construction work done each month on new structures or improvements to existing structures for private and public sectors (in 50 states and the District of Columbia).
Housing Inventory: Median Days on Market	Monthly	Realtor.com	With the release of its September 2022 housing trends report, Realtor.com® incorporated a new and improved methodology for capturing and reporting housing inventory trends and metrics. The new methodology updates and improves the calculation of time on market and improves handling of duplicate listings. Most areas across the country will see minor changes with a smaller handful of areas seeing larger updates. As a result of these changes, the data released since October 2022 will not be directly.
Nominal Monthly Mortgage Payment	Monthly	Reef Insights LLC	The nominal monthly mortgage payment is determined based on the current prevailing mortgage rate and the median sales price of houses sold. Our calculations are grounded in the following assumptions: a 20 percent down payment, a 30-year maturity period, and a fixed interest rate.
Real Mortgage Payment Index	Monthly	Reef Insights LLC	The real mortgage payment index is calculated by dividing the nominal monthly mortgage payment by the prevailing CPI index value.
Median Household Income Spent on Annual Mortgage Payments	Monthly	Reef Insights LLC	To determine the median household income spent on annual mortgage payments, we have annualized the prevailing nominal monthly mortgage payment and divided that payment by the prior years' median household income.
Fair Value Variable	Monthly	Reef Insights LLC	The analysis incorporates three distinct rolling averages signifying the percentage of median household income allocated to annual mortgage payments. These averages span 5 years, 10 years, and 15 years, respectively. In the determination of a 'fair value' premium or discount for each period, the established averages are divided by the prevailing percentage of median household income dedicated to annual mortgage payments. The resultant values are subsequently averaged to ascertain a premium or discount, which is applicable to the prevailing median sales price of houses sold.
Housing Expense Change	Monthly	Reef Insights LLC	The computed values have been obtained through the division of the rolling 1-year average for the percentage of median household income allocated to annual mortgage payments by the rolling 10-year average.
Nominal Median Household Income	Annually	U.S. Census Bureau	The median divides the income distribution into two equal parts: one-half of the cases falling below the median income and one-half above the median. For households and families, the median income is based on the distribution of the total number of households and families including those with no income. The median income for individuals is based on individuals 15 years old and over with income. Median income for households, families, and individuals is computed on the basis of a standard distribution.

SOURCES

Metric	Frequency	Sources	Notes
CPI: Headline Inflation	Monthly	U.S. Bureau of Labor Statistics	The CPIs are based on prices for food, clothing, shelter, and fuels; transportation fares; service fees (e.g., water and sewer service); and sales taxes. Prices are collected monthly from about 4,000 housing units and approximately 26,000 retail establishments across 87 urban areas. To calculate the index, price changes are averaged with weights representing their importance in the spending of the particular group. The index measures price changes (as a percent change) from a predetermined reference date. In addition to the original unadjusted index distributed, the Bureau of Labor Statistics also releases a seasonally adjusted index. The unadjusted series reflects all factors that may influence a change in prices. However, it can be very useful to look at the seasonally adjusted CPI, which removes the effects of seasonal changes, such as weather, school year, production cycles, and holidays.
CPI: Core Inflation	Monthly	U.S. Bureau of Labor Statistics	The "Consumer Price Index for All Urban Consumers: All Items Less Food & Energy" is an aggregate of prices paid by urban consumers for a typical basket of goods, excluding food and energy. This measurement, known as "Core CPI," is widely used by economists because food and energy have very volatile prices.
Unemployment Rate	Monthly	U.S. Bureau of Labor Statistics	The unemployment rate represents the number of unemployed as a percentage of the labor force. Labor force data are restricted to people 16 years of age and older, who currently reside in 1 of the 50 states or the District of Columbia, who do not reside in institutions (e.g., penal and mental facilities, homes for the aged), and who are not on active duty in the Armed Forces.
Federal Funds Rate	Monthly	Board of Governors of the Federal Reserve System	The federal funds market consists of domestic unsecured borrowings in U.S. dollars by depository institutions from other depository institutions and certain other entities, primarily government-sponsored enterprises.
Personal Savings Rate	Monthly	U.S. Bureau of Economic Analysis	Personal saving as a percentage of disposable personal income (DPI), frequently referred to as "the personal saving rate," is calculated as the ratio of personal saving to DPI. Personal saving is equal to personal income less personal outlays and personal taxes; it may generally be viewed as the portion of personal income that is used either to provide funds to capital markets or to invest in real assets such as residences.
Jobless Claims	Weekly	U.S. Employment and Training Administration	An initial claim is a claim filed by an unemployed individual after a separation from an employer. The claim requests a determination of basic eligibility for the Unemployment Insurance program.
10-Year U.S. Treasury Yield Minus 2-Year U.S. Treasury	Weekly	Board of Governors of the Federal Reserve System	This particular yield curve is derived by subtracting the 10-year U.S. Treasury by the 2-Year U.S. Treasury.
Residential Rental Vacancy Rate	Quarterly	U.S. Census Bureau	The rental vacancy rate is the proportion of the rental inventory that is vacant for rent.
Real Residential Construction Spend Index	Monthly	Reef Insights LLC	This index is constructed by dividing the Total Construction Spending: Residential by the CPI: Residential Construction.
Household Savings	Annually	U.S. Bureau of Economic Analysis	To calculate the amount of household savings, the BEA starts with personal income, and then subtracts from that personal taxes to derive disposable personal income. Then, personal outlays are subtracted from disposable income. This results in an estimate of household savings.

SOURCES

Metric	Frequency	Sources	Notes
Bank Credit: All Commercial Banks	Weekly	Board of Governors of the Federal Reserve System	The H.8 release provides an estimated weekly aggregate balance sheet for all commercial banks in the United States. The release also includes separate balance sheet aggregations for several bank groups: domestically chartered commercial banks; large domestically chartered commercial banks; small domestically chartered commercial banks; and foreign-related institutions in the United States
Delinquency Rates: Credit Card	Quarterly	Board of Governors of the Federal Reserve System	For more information, check out the Charge-Off and Delinquency Rates on Loans and Leases at Commercial Banks release.
Gross Domestic Product (GDP)	Quarterly	U.S. Bureau of Economic Analysis	Gross domestic product (GDP), the featured measure of U.S. output, is the market value of the goods and services produced by labor and property located in the United States.
M2 (Money Supply)	Monthly	Board of Governors of the Federal Reserve System	Beginning May 2020, M2 consists of M1 plus (1) small-denomination time deposits (time deposits in amounts of less than $100,000) less IRA and Keogh balances at depository institutions; and (2) balances in retail MMFs less IRA and Keogh balances at MMFs. Seasonally adjusted M2 is constructed by summing savings deposits (before May 2020), small-denomination time deposits, and retail MMFs, each seasonally adjusted separately, and adding this result to seasonally adjusted M1.
Federal Reserve's Balance Sheet	Weekly	Board of Governors of the Federal Reserve System	For more information, check out the H.4.1 release.
PCE: Headline Inflation	Monthly	U.S. Bureau of Economic Analysis	Table 9.1U - Comparison of the PCE Price Index with the CPI reconciles the changes in the personal consumption expenditures (PCE) chain-type price index, prepared by the Bureau of Economic Analysis (BEA), with changes in the consumer price index for all urban consumers (CPI), prepared by the Bureau of Labor Statistics (BLS).
PCE: Core Inflation	Monthly	U.S. Bureau of Economic Analysis	Table 9.1U - Comparison of the PCE Price Index with the CPI reconciles the changes in the personal consumption expenditures (PCE) chain-type price index, prepared by the Bureau of Economic Analysis (BEA), with changes in the consumer price index for all urban consumers (CPI), prepared by the Bureau of Labor Statistics (BLS).
Debt-to-GDP	Quarterly	U.S. Office of Management and Budget	Federal Debt: Total Public Debt as Percent of Gross Domestic Product (GFDEGDQ188S) was first constructed by the Federal Reserve Bank of St. Louis in October 2012.
Real GDP	Quarterly	U.S. Bureau of Economic Analysis	Real gross domestic product is the inflation adjusted value of the goods and services produced by labor and property located in the United States.
Trucking Employees	Monthly	U.S. Bureau of Labor Statistics	Each month, CES surveys approximately 119,000 businesses and government agencies, representing approximately 629,000 individual worksites.
Industrial Production	Monthly	Board of Governors of the Federal Reserve System	The industrial production (IP) index measures the real output of all relevant establishments located in the United States, regardless of their ownership, but not those located in U.S. territories.

SOURCES

Metric	Frequency	Sources	Notes
Credit Card Interest Rates	Monthly	Board of Governors of the Federal Reserve System	This release is generally issued on the fifth business day of each month.
Charge-Off Rate: Credit Card Loans	Quarterly	Board of Governors of the Federal Reserve System	The 100 largest banks are measured by consolidated foreign and domestic assets. Charge-offs are the value of loans and leases removed from the books and charged against loss reserves. Charge-off rates are annualized, net of recoveries. Delinquent loans and leases are those past due thirty days or more and still accruing interest as well as those in nonaccrual status.
Charge-Off Rate: Business Loans	Quarterly	Board of Governors of the Federal Reserve System	The 100 largest banks are measured by consolidated foreign and domestic assets. Charge-offs are the value of loans and leases removed from the books and charged against loss reserves. Charge-off rates are annualized, net of recoveries. Delinquent loans and leases are those past due thirty days or more and still accruing interest as well as those in nonaccrual status.
Charge-Off Rate: Commercial Real Estate Loans	Quarterly	Board of Governors of the Federal Reserve System	The 100 largest banks are measured by consolidated foreign and domestic assets. Charge-offs are the value of loans and leases removed from the books and charged against loss reserves. Charge-off rates are annualized, net of recoveries. Delinquent loans and leases are those past due thirty days or more and still accruing interest as well as those in nonaccrual status.
Yield Curve	Daily	Federal Reserve Bank of St. Louis	Starting with the update on June 21, 2019, the Treasury bond data used in calculating interest rate spreads is obtained directly from the U.S. Treasury Department. Series is calculated as the spread between 10-Year Treasury Constant Maturity (BC_10YEAR) and 2-Year Treasury Constant Maturity (BC_2YEAR). Both underlying series are published at the U.S. Treasury Department.
Total Assets: Money Market Funds	Quarterly	Board of Governors of the Federal Reserve System	For more information about the Flow of Funds tables, see the Financial Accounts Guide.
Federal Government Interest Payments	Quarterly	U.S. Bureau of Economic Analysis	For more information about this series, please see http://www.bea.gov/national/.
CPI: Rent in U.S. City Average	Monthly	U.S. Bureau of Labor Statistics	The Consumer Price Index (CPI) is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services. Indexes are available for the U.S. and various geographic areas. Average price data for select utility, automotive fuel, and food items are also available.
Consumer Loans: Credit Card Debt	Monthly	Board of Governors of the Federal Reserve System	For further information, please refer to the Board of Governors of the Federal Reserve System's H.8 release.
New Homes: Median Square Footage	Quarterly	U.S. Census Bureau, U.S. Department of Housing and Urban Development	For further information, please refer to the Quarterly Starts and Completions by Purpose of Design release.

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Real Estate Economic Forecast - Monthly
Forecast Evaluation - Semi-Annual

On a semi-annual basis, we will be releasing a report that evaluates our past forecasts. We believe it's important to gauge our performance, and we intend to do it publicly so that you can determine if our forecasts are worth your consideration.

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