

Reef Report

Real Estate & Economic Forecast
United States

May 2025

Executive Summary

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The background of the slide features a series of white, wavy, concentric lines that create a sense of depth and movement. These lines are set against a solid blue background that has a subtle gradient, being slightly darker at the top and bottom. The overall effect is modern and minimalist.

Macro Context

Inflation Looms... Maybe?

Macro Context

Headline Inflation

- Month-over-month, headline inflation saw a decline to 2.33%.
- Last year, headline inflation was measured at 3.35%.

Core Inflation

- Month-over-month, core inflation saw a decline to 2.78%.
- Last year, core inflation was measured at 3.62%.

Inflation has continued to cool in recent months. This is a positive development; however, several factors on the horizon pose risks to this trend. First, we have tariffs. Whether you view them as non-inflationary price adjustments or see them having other impacts, their knock-on effects will play out in the supply-demand equation. The flip-flopping on key tariff policies has created a new bullwhip effect in global supply chains. Last week, we saw ocean container rates from China to the U.S. rise about 15% week-over-week, highlighting the surge in demand as importers bet that this temporary relief may be the best they will get.



Source: U.S. Bureau of Labor Statistics



Source: U.S. Bureau of Labor Statistics



Job Market Remains Soft

Macro Context

Unemployment Rate

- The unemployment rate remained unchanged at 4.2%.
- U-6 underemployment rate declined 0.1% to 7.8%.

Job Openings

- Job openings saw a decrease to 7.19 million.
- Year-over-year, job openings have declined by 11.1%.

While job openings continue to decline, we haven't yet seen significant pressure on the unemployment side.

Underemployment (U-6) has continued to rise; however, it has not accelerated to a level that would prompt the Fed to adjust rates. This shift is unlikely to occur without a strong catalyst, which supports our view that the Fed will not cut rates in 2025.



Source: U.S. Bureau of Labor Statistics



Source: U.S. Bureau of Labor Statistics



The background is a solid blue gradient. It features several sets of white, thin, wavy lines that flow across the frame. One set of lines is in the upper left, another in the upper right, and a third in the lower left. These lines are curved and layered, creating a sense of movement and depth.

Housing Market

Mispriced Real Estate (1/2)

Market Risks & Outlook

This past month, we analyzed the housing market in each state, and we published a paper that outlined our findings on our Substack account. Among other things, we wanted to calculate how sizable a movement in home valuation or mortgage rates would need to be in order to return to affordable conditions.

Across all states, the average downward revision to the median home sales price was 29.3%. In practical terms, this means a \$500,000 home would need to be priced at \$353,500 to align with the 10-year average MHIR. Similarly, the average revised mortgage rate came out to 3.68%.

In every state, either a reduction in home values or a decline in mortgage rates was necessary to bring the current MHIR back in line with its 10-year average.

Returning to Affordability

| State | Price Adjustment | Rate Adjustment |
|---------------|------------------|-----------------|
| Alabama | -30.2% | 3.59% |
| Alaska | -21.9% | 4.48% |
| Arizona | -26.3% | 4.02% |
| Arkansas | -29.4% | 3.67% |
| California | -30.9% | 3.51% |
| Colorado | -27.7% | 3.87% |
| Connecticut | -37.3% | 2.72% |
| Delaware | -28.2% | 3.80% |
| Florida | -27.3% | 3.89% |
| Georgia | -29.9% | 3.63% |
| Hawaii | -29.9% | 3.62% |
| Idaho | -32.4% | 3.32% |
| Illinois | -27.3% | 3.88% |
| Indiana | -30.6% | 3.55% |
| Iowa | -26.2% | 4.02% |
| Kansas | -24.2% | 4.23% |
| Kentucky | -29.2% | 3.67% |
| Louisiana | -20.9% | 4.62% |
| Maine | -34.0% | 3.14% |
| Maryland | -31.3% | 3.43% |
| Massachusetts | -28.7% | 3.74% |
| Michigan | -29.0% | 3.72% |
| Minnesota | -30.6% | 3.53% |
| Mississippi | -27.3% | 3.93% |
| Missouri | -26.2% | 4.04% |



Mispriced Real Estate (2/2)

Market Risks & Outlook

The largest adjustment was observed in Connecticut, where home values would need to fall by 37.3% or mortgage rates would need to drop to 2.72%. The smallest adjustment occurred in Louisiana, requiring a 20.9% reduction in home values or a decline in mortgage rates to 4.62%.

The five states requiring the largest revisions were Connecticut, New Jersey, New Hampshire, Vermont, and New York. The five states needing the smallest revisions were Louisiana, Alaska, Texas, Wyoming, and Kansas.

To read the full paper, visit our Substack page, where we publish weekly insights on the latest economic and real estate developments.

Returning to Affordability

| State | Price Adjustment | Rate Adjustment |
|----------------|------------------|-----------------|
| Montana | -30.6% | 3.54% |
| Nebraska | -26.9% | 3.94% |
| Nevada | -26.9% | 3.96% |
| New Hampshire | -35.9% | 2.87% |
| New Jersey | -36.8% | 2.77% |
| New Mexico | -28.7% | 3.77% |
| New York | -35.1% | 2.98% |
| North Carolina | -31.4% | 3.45% |
| North Dakota | -26.6% | 3.98% |
| Ohio | -30.6% | 3.51% |
| Oklahoma | -26.9% | 3.97% |
| Oregon | -24.7% | 4.19% |
| Pennsylvania | -30.9% | 3.48% |
| Rhode Island | -34.2% | 3.11% |
| South Carolina | -30.2% | 3.58% |
| South Dakota | -24.8% | 4.19% |
| Tennessee | -30.2% | 3.56% |
| Texas | -22.7% | 4.44% |
| Utah | -30.5% | 3.53% |
| Vermont | -35.8% | 2.92% |
| Virginia | -26.9% | 3.94% |
| Washington | -33.7% | 3.16% |
| West Virginia | -26.5% | 3.99% |
| Wisconsin | -34.5% | 3.08% |
| Wyoming | -24.0% | 4.29% |



Mortgage Rates Remain Elevated

Housing Market

Mortgage Rates

- As of May 22nd, 2025, mortgage rates are at 6.86%.
- Mortgage rates have slightly declined from their 7.04% peak in January.

Mortgage rates are unlikely to decline meaningfully in 2025. There are too many pressures on the Fed for it to be comfortable with significant rate cuts. Even if such cuts occur, the U.S. fiscal outlook is likely to push debt markets—particularly at the long end of the curve—higher.



Source: Freddie Mac



Potential for Affordability Relief on the Horizon

Housing Market

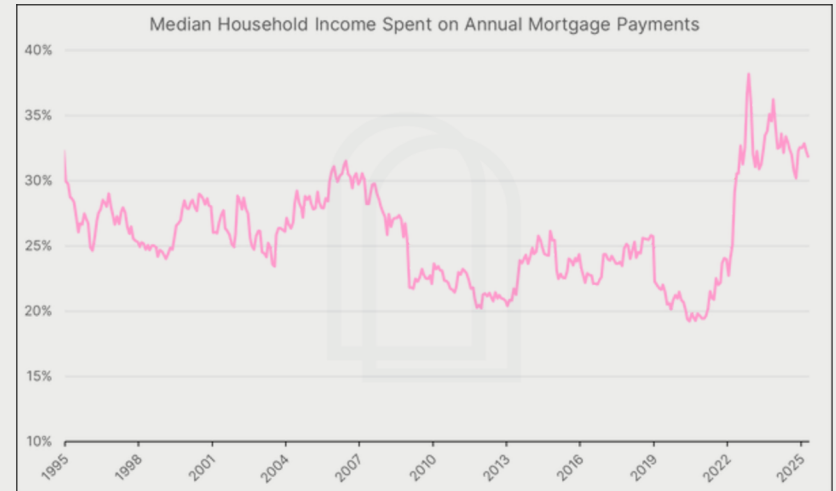
Mortgage Payments to Household Income Ratio

- Month-over-month, this metric slightly declined to 31.9%.
- Year-over-year, we saw a slight decline of 0.9%.
- When zooming out five years, we see a massive increase of 64.0%.

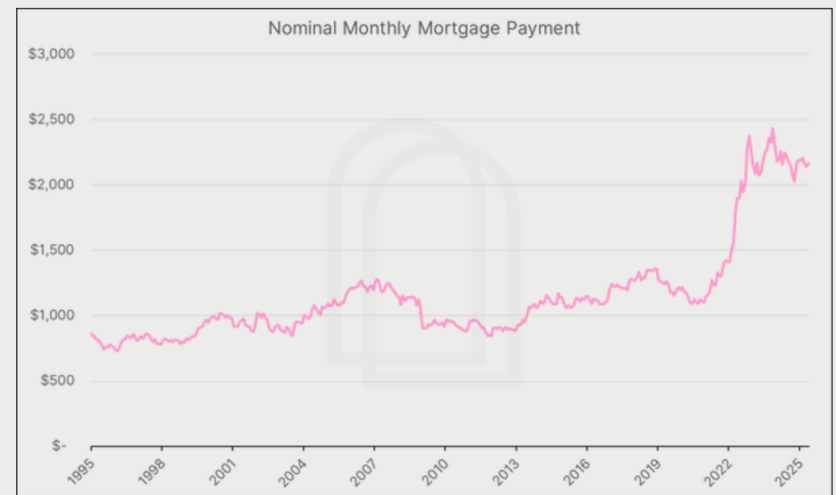
Nominal Monthly Mortgage Payment

- Month-over-month, the nominal monthly mortgage payment saw a slight rise to \$2,165.
- Year-over-year, this metric has declined 3.5%.
- When zooming out five years, we see a massive increase of 98.6%.

As we've stated previously, we don't expect meaningful movement in these measures to come from incomes or interest rates. This means that, in order for affordability to return to historical levels, we will need to see a decline in home prices. Refer to our post exploring this issue at the state level for more information.



Source: Reef Insights



Source: Reef Insights



Home Valuations Decline

Housing Market

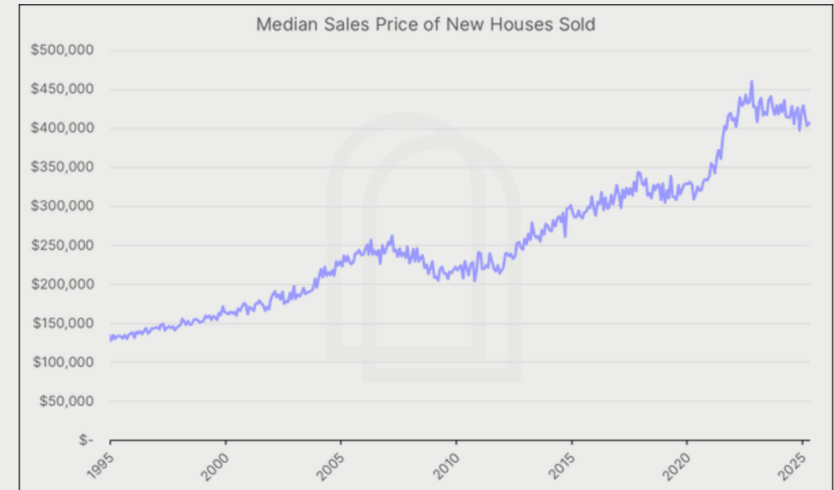
Median Sales Price of New Houses Sold

- Month-over-month, the median sales price rose to \$407,200.
- Year-over-year, the median sales prices declined by 1.95%.
- Of note, this does not include homebuilder buydowns.

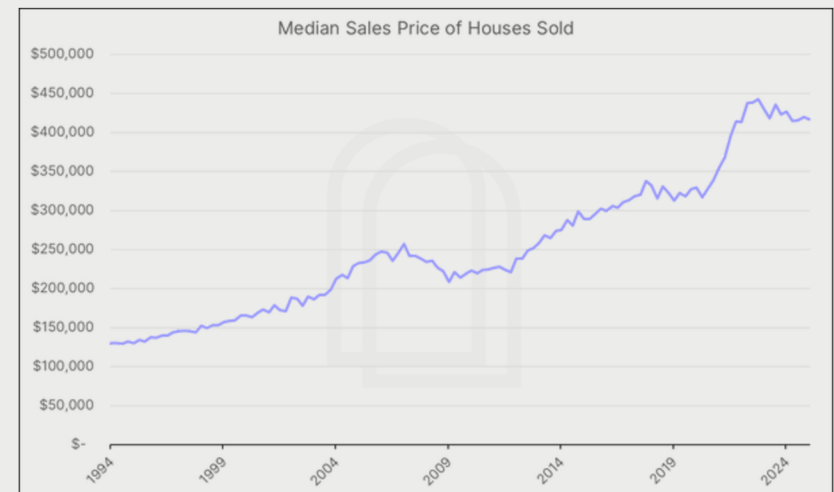
Median Sales Price of Existing Houses Sold

- Quarter-over-quarter, the median sales price declined to \$407,200.
- Year-over-year, the median sales prices declined by 2.32%.

Sales volume for new homes has hovered around the same level for the past few years, and relative to historical norms, this level is typical. However, inventory continues to rise as completions outpace sales, leading to increased pricing pressure.



Source: U.S. Census Bureau



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



The background of the slide is a dark blue field filled with intricate, white, wavy lines. These lines form a series of concentric, flowing patterns that resemble topographical map lines or liquid ripples. The patterns are most dense in the corners and along the edges, creating a sense of depth and movement. In the center, the text 'Supply & Construction' is displayed in a clean, white, sans-serif font.

Supply & Construction

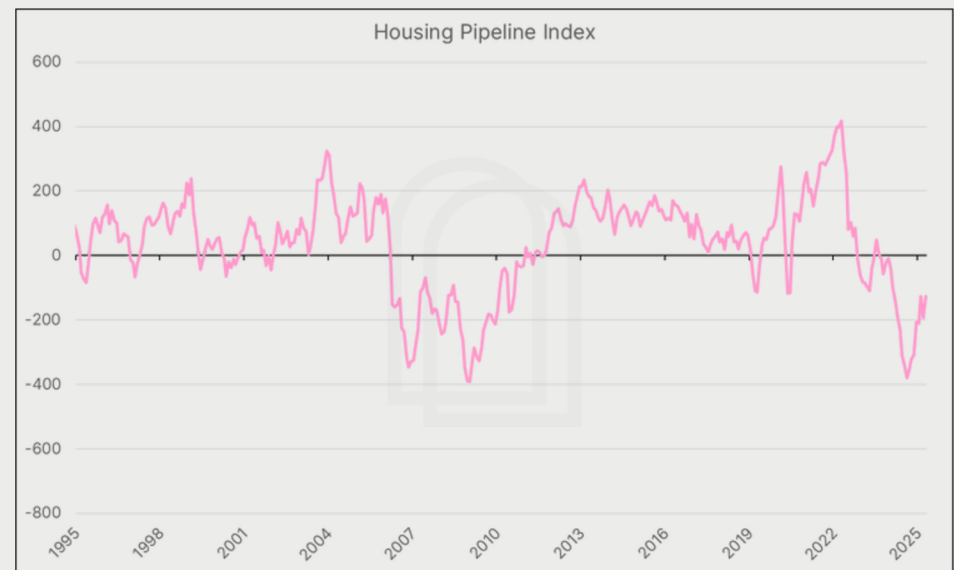
Housing Pipeline Signals Contraction and Caution

Supply & Construction

Housing Pipeline Index

- Month-over-month, the disparity shrunk to -127,000 units.
- The last time we witnessed this type of contraction was during the Great Financial Crisis.

As expected, the Housing Pipeline Index continues to show negative values as more homes are completed and homebuilders leave permitted builds on the sidelines. We've reached record highs—yes, even above 2006 levels—of unstarted new construction. This trend is driven by a significant increase in inventory levels, putting builders in a difficult position.



Source: Reef Insights



Construction Spending Flat Amid Inventory Surge

Supply & Construction

Real Residential Construction Spend

- Month-over-month, the index saw a slight increase to 108.3.
- Year-over-year, the index has increased by 1.5%.

We continue to see softness in construction spending—a trend that has persisted for some time. This reflects the current market hesitation to make strong capital investments, the significant decline in commercial real estate valuations, and a negative new housing pipeline.

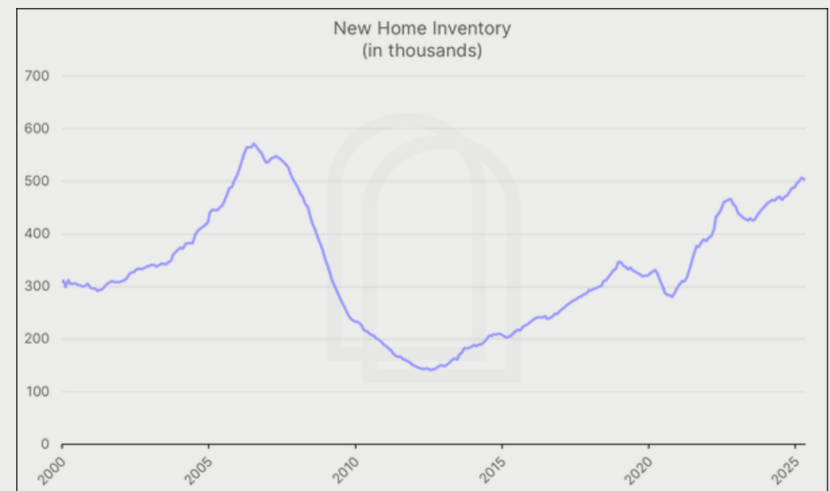


Source: Reef Insights

New Home Inventory

- Month-over-month, new home inventory declined to 504,000.
- Year-over-year, inventory has increased by 8.6%.
- The only other time inventory has been this high was leading up to the GFC.

New home inventory has continued to rise. As builders struggle to offload inventory—facing buyers who demand increasing concessions and a strong concentration of supply in overbuilt areas—the outlook for moving this inventory hinges on either substantial mortgage rate declines or significant concessions.



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



Housing Supply Continues to Rise

Supply & Construction

New Housing Supply

- Month-over-month, the months' supply declined to 8.1.
- Year-over-year, the months' supply increased by 5.2%.

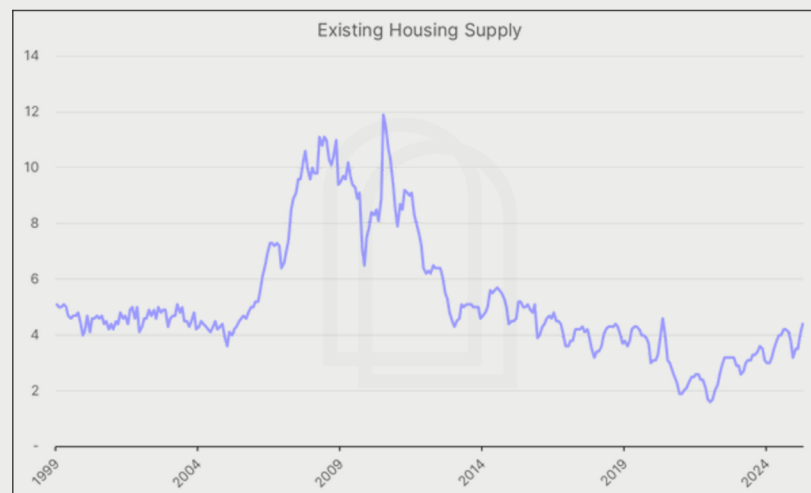
Existing Housing Supply

- Month-over-month, the months' supply rose to 4.4.
- Year-over-year, the months' supply has risen 25.7%.

For both new and existing housing supply, we are seeing rising levels—particularly in existing housing, which has increased 25.7% year-over-year. Homebuilders and existing homeowners are not experiencing the level of demand needed to absorb this supply. With mortgage rates remaining elevated and home price discovery lagging behind the levels that would attract buyers, we expect these figures to continue on their current trajectory.



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



Source: National Association of Realtors



Job Openings Plummet Amid Shrinking Pipeline

Supply & Construction

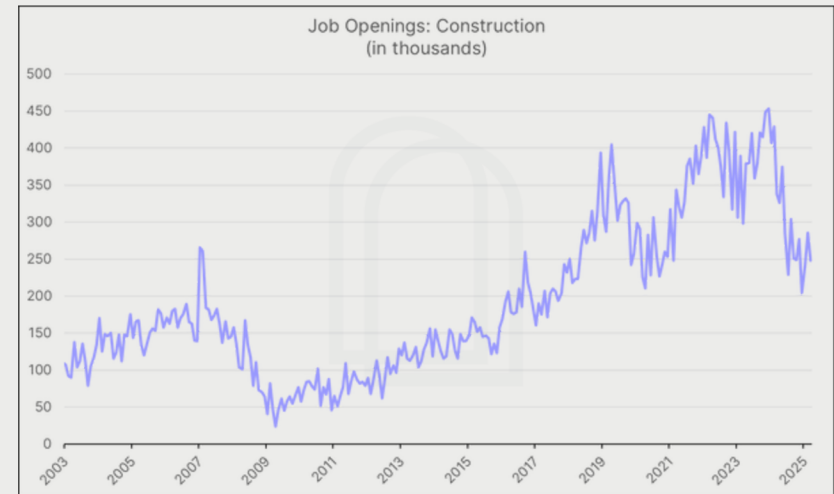
Construction Job Openings

- Month-over-month, construction job openings declined to 248,000.
- Year-over-year, construction job openings have declined 26.6%.

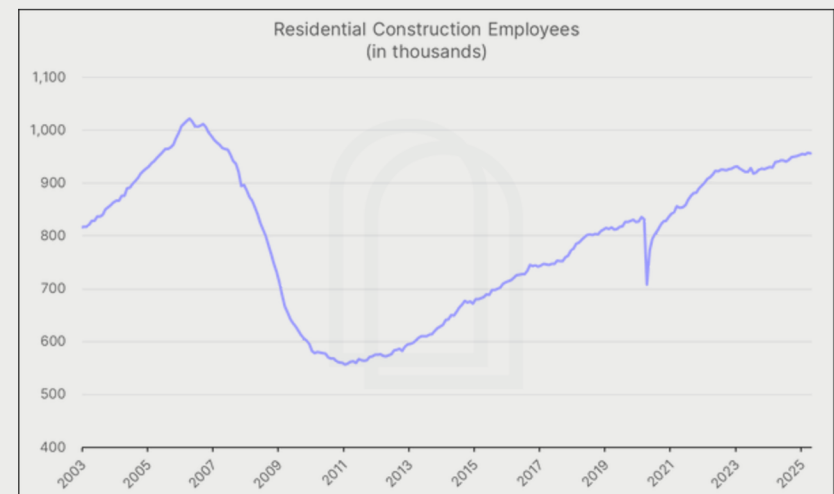
Residential Construction Employees

- Month-over-month, residential construction employees declined to 956,000 employees.
- Year-over-year, we've seen a 1.65% increase in employees.

The industry is in limbo, as reflected by the sharp decline in job openings alongside flat employment figures. People aren't being laid off, as uncertainty persists and existing projects are still underway, but the lack of new starts has eliminated the need for additional crews to continue building.



Source: U.S. Bureau of Labor Statistics



Source: U.S. Bureau of Labor Statistics





Market Risks & Outlook

Japanese Bond Yields

Market Risks & Outlook

Over the past year, we've published several papers examining the rise in Japanese government bond (JGB) yields.

In 2024, according to the Ministry of Finance in Japan, the country had a debt-to-GDP ratio of 237%. This is far and away the highest debt-to-GDP ratio in the world. With this in mind, let's see what the 10-year JGB has been doing over the past couple of years.

You may have noticed that the 10-Year JGB yield was actually negative for a period of time. While we don't have time here to dive into how that's even possible, for the sake of simplicity, just assume the yield was zero.

The key takeaway from the chart is that yields have been rising over the past couple of years—and given Japan's debt-to-GDP ratio, this trend carries serious implications.

If you're interested in learning more about the movement in these yields and their implications for the United States, visit our Substack page, where we've published an in-depth paper on the topic.



Source: Organization for Economic Co-operation and Development



Tariff On, Tariff Off

Market Risks & Outlook

Unbeknownst to many, the European Union is actually the United States' largest trading partner. On June 1st, however, President Trump may impose a significant tariff hike that could be deeply damaging.

Last year, the U.S. imported \$605.8 billion in goods from the EU and exported \$370.2 billion. If no adjustments are made and exemptions aren't granted, the proposed tariff could generate roughly \$300 billion in revenue. However, this cost would ultimately be borne by consumers at the register.

More importantly, such a move would represent a major provocation—one that the EU would almost certainly respond to. A retaliatory response could target American exports, posing serious challenges for U.S. companies that rely on international markets.

We've already experienced the largest jump in the effective tariff rate in modern history, reaching levels not seen in over a century. Markets seem to be assuming that this tariff won't materialize, as the reaction was fairly muted. Let's hope that assumption proves correct, as this proposal would mark a significant setback in trade negotiations.

Four hours after writing that:

Trump has announced that the tariff hike has been postponed from June 1st to July 9th. As is often the case with this administration, setting clear expectations around economic policy remains challenging.

A few days after writing that:

Okay, tariffs are in limbo.



An Unlikely But Impactful Scenario

Market Risks & Outlook

While unlikely, if this scenario were to unfold, the ramifications for U.S. markets could be significant.

The Court of International Trade recently ruled that former President Trump lacked the authority to impose broad-based global tariffs. This decision has been appealed and will likely be decided by the Supreme Court.

There are multiple potential outcomes, but one in particular could have the most severe impact on U.S. markets: if the Supreme Court upholds the lower court's decision and the administration chooses to defy it. Such defiance may seem implausible and logistically difficult, but if carried out, it could shake market confidence in a way we haven't seen before.

Foreign investors have long operated under the assumption that Supreme Court rulings are final and enforceable—an assumption rooted in historical precedent. However, the administration has already demonstrated a willingness to ignore lower—and at times even Supreme Court—rulings in the realm of immigration policy.

Defiance would undermine foreign investment and amplify existing risks in U.S. markets. Disrupting this stability could have far-reaching consequences.

We don't expect outright defiance in a simplistic form, such as blatantly continuing to collect tariff revenue against a direct ruling, but it's possible. Still, it's unlikely the administration will walk away from this issue, especially given the central role tariffs have played in Trump's second-term agenda.



Data Table

| Metric | This Period | Last Period | Year Ago | Latest Release |
|---|-------------|-------------|------------|----------------|
| Housing Starts: Total Units | 1,361 | 1,339 | 1,385 | Apr-25 |
| New Housing Supply | 8.10 | 9.10 | 7.70 | Apr-25 |
| Existing Housing Supply | 4.40 | 4.00 | 3.50 | Apr-25 |
| Nominal Median Sales Price of Houses Sold | \$ 416,900 | \$ 419,300 | \$ 426,800 | Jan-25 |
| New Building Permit Authorizations: Total Units | 1,422 | 1,481 | 1,459 | Apr-25 |
| Case-Shiller Index | 324.92 | 323.60 | 312.80 | Feb-25 |
| Residential Construction Employees | 956 | 957 | 941 | Apr-25 |
| Nominal Mortgage Rates | 6.76 | 6.65 | 7.17 | May-25 |
| Delinquency Rates: Single-Family | 1.78 | 1.77 | 1.71 | Jan-25 |
| Delinquency Rates: Commercial | 1.59 | 1.56 | 1.16 | Jan-25 |
| PPI: Residential Construction | 326 | 326 | 318 | Apr-25 |
| Construction Spending: Residential | \$ 949 | \$ 953 | \$ 924 | Mar-25 |
| Housing Inventory: Median Days on Market | 50 | 53 | 45 | Apr-25 |
| Nominal Monthly Mortgage Payment | \$ 2,165 | \$ 2,141 | \$ 2,244 | May-25 |
| Real Mortgage Payment Index | 573.34 | 579.85 | 578.29 | Apr-25 |



Data Table

| Metric | This Period | Last Period | Year Ago | Latest Release |
|---|-------------|-------------|-----------|----------------|
| Median Household Income Spent on Annual Mortgage Payments | 31.87 | 32.24 | 32.15 | Apr-25 |
| Fair Value Variable | (17.52) | (18.78) | (22.02) | Apr-25 |
| Housing Expense Change | 24.93 | 25.42 | 34.42 | Apr-25 |
| Nominal Median Household Income | \$ 80,610 | \$ 74,580 | \$ 74,580 | 2023 |
| Headline Inflation | 2.33 | 2.41 | 3.35 | Apr-25 |
| Core Inflation | 2.78 | 2.81 | 3.62 | Apr-25 |
| Unemployment Rate | 4.20 | 4.20 | 3.90 | Apr-25 |
| Federal Funds Rate | 4.33 | 4.33 | 5.33 | Apr-25 |
| Personal Savings Rate | 3.90 | 4.10 | 5.20 | Mar-25 |
| Jobless Claims | 227,000 | 229,000 | 216,000 | May-25 |
| 10-Year U.S. Treasury Yield Minus 2-Year U.S. Treasury | (0.34) | (0.26) | (0.41) | May-25 |
| Residential Rental Vacancy Rate | 7.10 | 6.90 | 6.60 | Jan-25 |
| Real Residential Construction Spend Index | 108.27 | 109.19 | 106.68 | Mar-25 |
| Household Savings | \$ 1,162 | \$ 711 | \$ 711 | 2023 |
| Bank Credit: All Commercial Banks | \$ 18,370 | \$ 18,364 | \$ 17,599 | May-25 |



Data Table

| Metric | This Period | Last Period | Year Ago | Latest Release |
|---|-------------|-------------|-----------|----------------|
| Delinquency Rates: Credit Card | 3.05 | 3.08 | 3.17 | Jan-25 |
| Gross Domestic Product (GDP) | \$ 29,978 | \$ 29,724 | \$ 28,624 | Jan-25 |
| M2 (Money Supply) | \$ 21,763 | \$ 21,671 | \$ 20,901 | Mar-25 |
| Federal Reserve's Balance Sheet | \$ 6,689 | \$ 6,713 | \$ 7,300 | May-25 |
| PCE: Headline Inflation | 2.29 | 2.69 | 2.81 | Mar-25 |
| PCE: Core Inflation | 2.65 | 2.96 | 2.98 | Mar-25 |
| Debt-to-GDP | 121.85 | 120.73 | 120.16 | Oct-24 |
| Real GDP | \$ 23,526 | \$ 23,542 | \$ 23,054 | Jan-25 |
| Trucking Employees | 1,525 | 1,523 | 1,529 | Apr-25 |
| Industrial Production | 104 | 104 | 102 | Apr-25 |
| Credit Card Interest Rates | 21.37 | 21.47 | 21.59 | Feb-25 |
| Charge-Off Rate: Credit Card Loans | 4.67 | 4.48 | 4.65 | Jan-25 |
| Charge-Off Rate: Business Loans | 0.55 | 0.50 | 0.44 | Jan-25 |
| Charge-Off Rate: Commercial Real Estate Loans | 0.21 | 0.26 | 0.23 | Jan-25 |
| Yield Curve | 0.31 | 0.24 | (0.38) | Apr-25 |



Data Table

| Metric | This Period | Last Period | Year Ago | Latest Release |
|---|--------------|--------------|--------------|----------------|
| Total Assets: Money Market Funds | \$ 7,243,180 | \$ 6,839,054 | \$ 6,357,551 | Oct-24 |
| Federal Government Interest Payments | \$ 1,111 | \$ 1,124 | \$ 1,067 | Jan-25 |
| CPI: Rent in U.S. City Average | 433 | 432 | 416 | Apr-25 |
| Consumer Loans: Credit Card Debt | #N/A | \$ 1,096 | \$ 1,061 | May-25 |
| New Single-Family Home Sales | 743 | 670 | 719 | Apr-25 |
| New Housing Units Completed | 1,458 | 1,549 | 1,662 | Apr-25 |
| Job Openings: Construction | 248 | 286 | 338 | Mar-25 |
| New Homes: Median Square Footage | 2,179 | 2,155 | 2,175 | Jan-25 |
| Median Sales Price of New Houses Sold | \$ 407,200 | \$ 403,700 | \$ 415,300 | Apr-25 |
| Job Openings: Total Nonfarm | 7,192 | 7,480 | 8,093 | Mar-25 |
| Housing Inventory: Active Listing Count | 959,251 | 892,561 | 734,324 | Apr-25 |
| New Home Inventory | 504 | 507 | 464 | Apr-25 |
| Quits: Total Private | 3,145 | 3,054 | 3,158 | Mar-25 |



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. |



Sources

| Metric | Frequency | Sources | Notes |
|---|-----------|--|---|
| 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. |
| Delinquency 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. |
| Delinquency 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. |



Sources

| Metric | Frequency | Sources | Notes |
|---------------------------------|-----------|---------------------------------|---|
| 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. |
| 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. |



Sources

| Metric | Frequency | Sources | Notes |
|--|-----------|--|---|
| 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. |
| 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. |



Sources

| Metric | Frequency | Sources | Notes |
|---|-----------|--|---|
| 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. |
| 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. |



Sources

| Metric | Frequency | Sources | Notes |
|---|-----------|--|---|
| 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 Single-Family Home Sales | Monthly | U.S. Census Bureau | For further further information, please refer to the New Residential Sales report that is published by the U.S. Census Bureau. |
| Hew Housing Unit Completed | Monthly | U.S. Census Bureau | This metric's official title is New Privately-Owned Housing Units Completed: Total Units, and further information can be found on the New Residential Construction report that is published by the U.S. Census Bureau. |
| Job Openings: Construction | Monthly | U.S. Bureau of Labor Statistics | This data can be found in the Job Openings and Labor Turnover Survey report that is published by the U.S. Bureau of Labor Statistics. |
| 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. |
| Median Sales Price of New Houses Sold | Monthly | U.S. Census Bureau | For further further information, please refer to the New Residential Sales report that is published by the U.S. Census Bureau. |
| Job Openings: Total Nonfarm | Monthly | U.S. Bureau of Labor Statistics | Total Nonfarm Job Openings are a measure of all jobs that are not filled on the last business day of the month. A job is considered open if a specific position exists and there is work available for it, the job can be started within 30 days, and there is active recruiting for the position. |
| Housing Inventory: Active Listing Count | Monthly | Realtor.com | The count of active single-family and condo/townhome listings for a given market during the specified month (excludes pending listings). |
| New Homes For Sale | Monthly | U.S. Census Bureau, U.S. Department of Housing and Urban Development | For further information, please refer to the New Residential Sales release. |
| Quits: Total Private | Monthly | U.S. Bureau of Labor Statistics | For further information, please refer to the Job Openings and Labor Turnover Survey release. |



About

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The Team

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