VAR Forecast Report

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General View

We may expect the U.S. economy in 2025 to face a crucial turning point as it balances the impact of the Federal Reserve's monetary tightening with underlying inflationary pressures and labor market resilience. As a Macroeconomic analyst, I utilized a Vector Autoregression (VAR) model to forecast the trajectory of key macroeconomic indicators — Real GDP growth, Inflation rate (PCE), Unemployment rate, and the Federal Funds Rate — and contextualize these predictions within prevailing economic conditions. The analysis evaluates the realism of the forecasts by comparing them with real-world trends and risks. The model was constructed using quarterly data spanning over two decades, from 2000Q1 to 2024Q4. The U.S. economy, at the close of 2024, stands at a crossroads, balancing resilience in key areas with vulnerabilities in others. The Federal Reserve's tightening cycle, initiated in 2022 to combat inflation, has started to take a tangible toll on economic activity. By December 2024, the Federal Reserve had raised its policy rate to 5.25%, the highest level since 2007. The pace and magnitude of these hikes have significantly impacted credit-sensitive sectors such as housing and automobiles. Also, inflation has gradually declined to 3.9% annually by Q4 2024 from 9.1% (BLS). Despite a cooling economy, unemployment remains low at 4.2% (December 2024).

Economic Growth

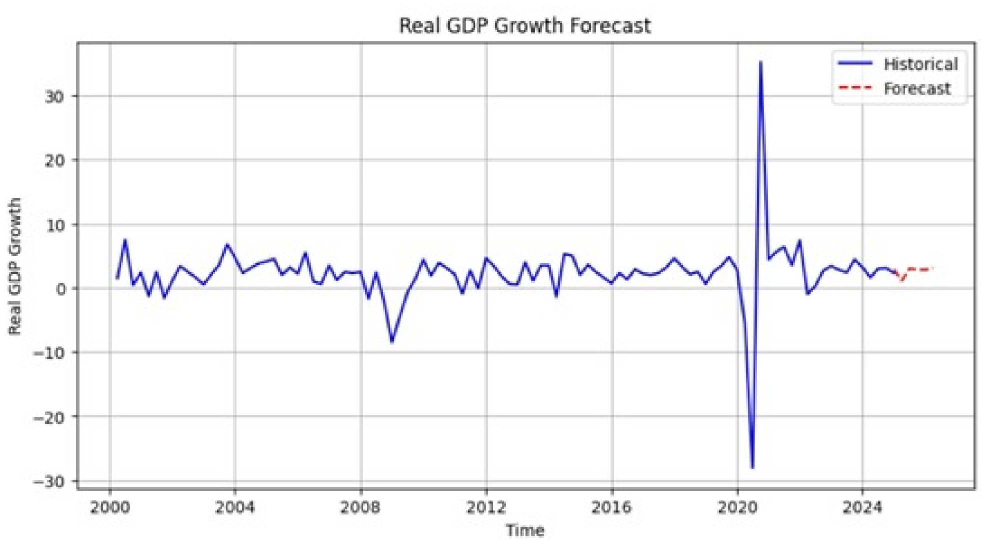

Figure 1: Real GDP Growth Forecast

Based on the VAR model result, as plot 1 showed, economic growth in 2025 is forecasted to start weak in the first quarter, with real GDP growth at 1.1%, before gradually improving in subsequent quarters to reach around 2.8% by the end of the year. This trend reflects the interplay of tighter monetary policy and gradual economic adjustment. In the first half of the year, consumer spending is expected to remain constrained due to the lagged effects of the Federal Reserve's aggressive rate hikes in 2023 and 2024, which pushed borrowing costs significantly higher. Elevated mortgage rates, hovering around 7.5% (Freddie Mac), have limited demand in interest-sensitive sectors like housing and automotive. On the other hand, pent-up demand in service sectors like travel and leisure are likely to provide some support for spending. Business investment, particularly in manufacturing and technology, is projected to remain subdued as firms navigate higher capital costs and uncertain global demand. Sectors like energy and infrastructure, driven by federal and state-level spending initiatives, may act as stabilizers amid weaker investment in other areas.

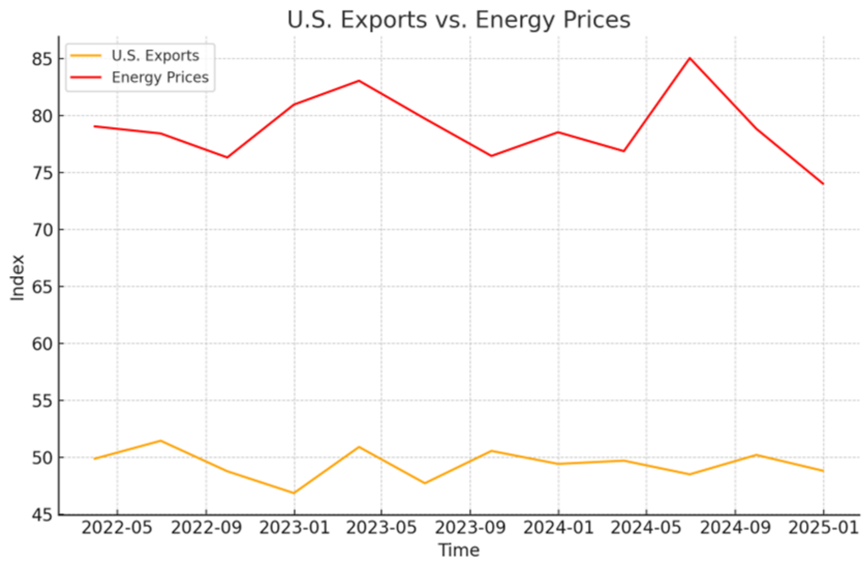

Figure 2: Exports & Energy Prices

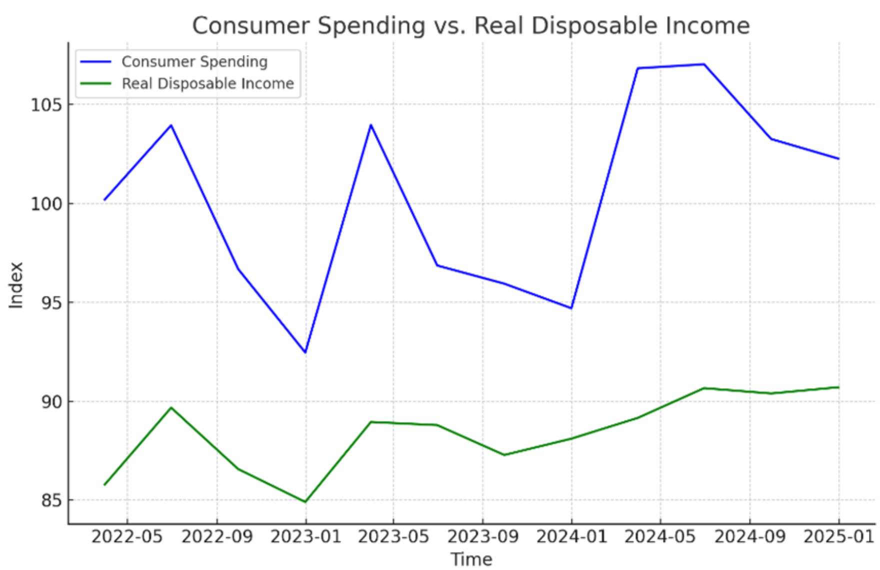

Figure 3: Consumer Spending & RDI

Globally, weak recoveries in Europe and China are expected to constrain U.S. export growth. At the same time, declining energy prices and a weaker dollar toward the end of the year could offer some support to U.S. exporters. Government spending on infrastructure projects is anticipated to sustain some level of growth throughout the year, helping to offset declines in private-sector investment.

Institutional projections align with this forecasted trajectory. The International Monetary Fund (IMF) expects U.S. GDP growth of 1.3% for 2025, emphasizing gradual strengthening in the second half of the year as inflationary pressures ease. Similarly, the Federal Reserve projects growth in the range of 1.1% to 1.5%, reflecting its emphasis on managing the lagged effects of monetary policy. The World Bank's outlook of 1.2% growth also highlights fiscal spending and moderating inflation as key drivers of recovery.

The VAR model forecast aligns with these institutional projections, particularly in capturing the expected improvement in growth from Q2 onward. While the 1.1% growth in Q1 reflects the ongoing impact of restrictive monetary policy, the steady rise to approximately 3% by Q4 suggests resilience in the economy.

Inflation

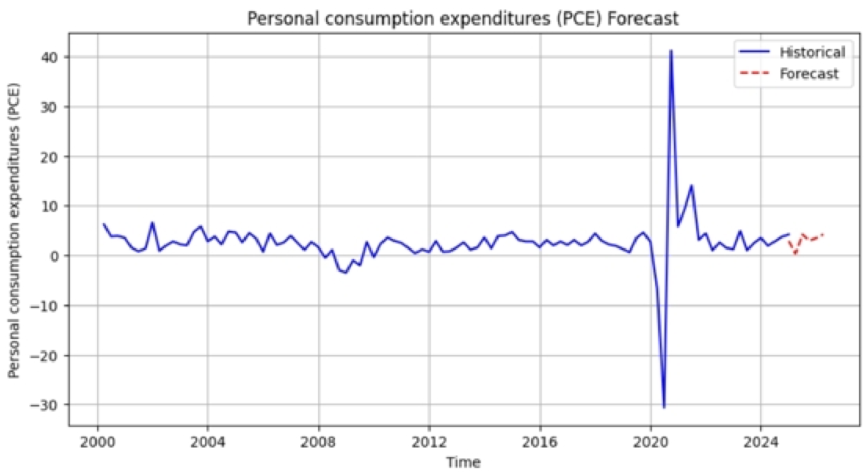

Figure 4: Inflation Forecast

According to the forecast plot above, inflation in 2025 is expected to ease gradually, starting at 4.19% in Q2 and declining toward 3.44% by Q4, according to the forecast. This trajectory reflects the cumulative impact of the Federal Reserve's aggressive monetary tightening, which has successfully curtailed demand in key segments of the economy, such as housing and durable goods. Lower energy prices, and subdued consumer spending have contributed to the disinflationary process. Despite these positive trends, Services inflation, particularly in housing, healthcare, and other labor-intensive sectors, continues to rise due to strong wage growth. Thus, we may conclude that the price pressure is alive in parts of the U.S. economy in 2025.

If we look at other institutional forecasts, they align with these trends and the VAR model results. The Federal Reserve projects core PCE inflation between 3.4% and 3.6% for 2025, while the International Monetary Fund (IMF) expects it to average 3.5%. These projections indicate that inflation will remain a challenge despite progress, requiring the Fed to maintain restrictive policies for longer. In summary, while inflation is declining, the process remains uneven. Inflation is easing due to lower energy prices like the oil price as the chart showed, but high borrowing cost will likely keep overall inflation higher than the Fed's target through 2025.

Figure 5: Mortgage Rates

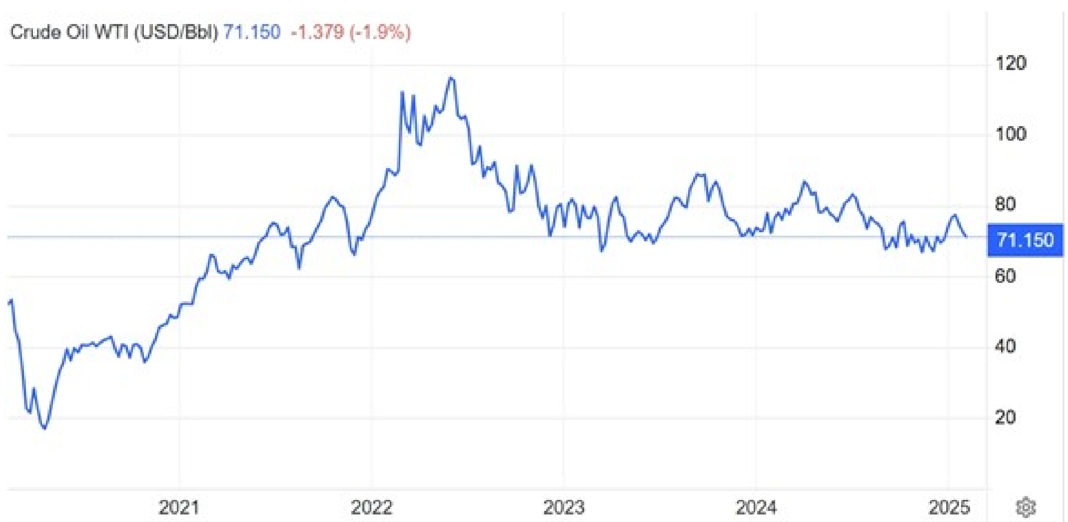

Figure 6: Oil Prices

Labor Market

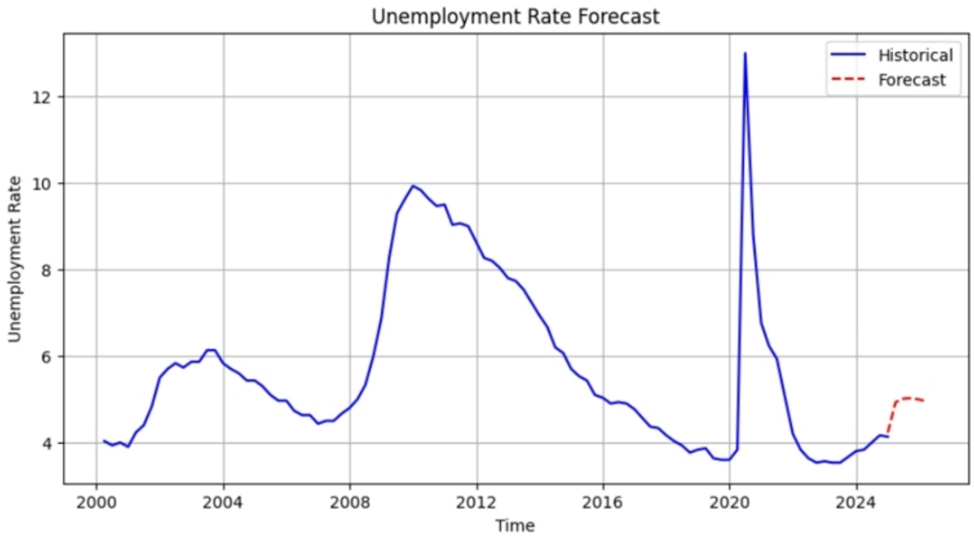

Figure 7: Unemployment Rates

The U.S. labor market has shown resilience despite higher interest rates and slower economic growth. Unemployment is forecasted to rise slightly, from 4.93% in Q1 2025 to 5.03% in Q4, reflecting the effects of tighter monetary policy. However, demand for workers remains strong in sectors like healthcare, technology, and construction. These industries are supported by long-term trends such as an aging population, increased digitization, and government spending on infrastructure projects.

The civilian labor force participation rate, which experienced a sharp decline during the pandemic but has steadily recovered since 2020. As of late 2024, the participation rate hovers around 62%, signaling a return to pre-pandemic levels for many demographic groups. However, the recovery is uneven, with challenges such as skill mismatches and geographic disparities still affecting certain sectors and regions. And the employment change by industry in 2024 provides insights into sectoral dynamics. Private education and health services, along with leisure and hospitality, were the biggest contributors to job growth, reflecting strong demand in these areas. Meanwhile, construction and government also added significant jobs, likely driven by federal infrastructure spending. In contrast, industries like retail trade and manufacturing saw relatively modest gains, reflecting the impact of higher interest rates and slowing consumer demand.

The steady labor force participation rate and robust hiring in key sectors suggest that the labor market remains resilient. However, the modest rise in unemployment reflects ongoing adjustments to higher borrowing costs and a cooling economy. Overall, while certain industries are driving job growth, others face headwinds, creating a mixed but stable outlook for the U.S. labor market.

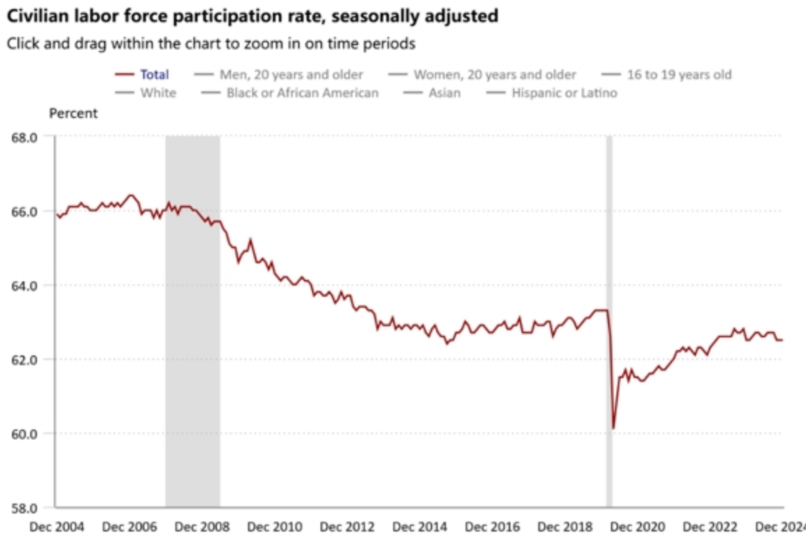

Figure 8: Labor Force Participation Rate

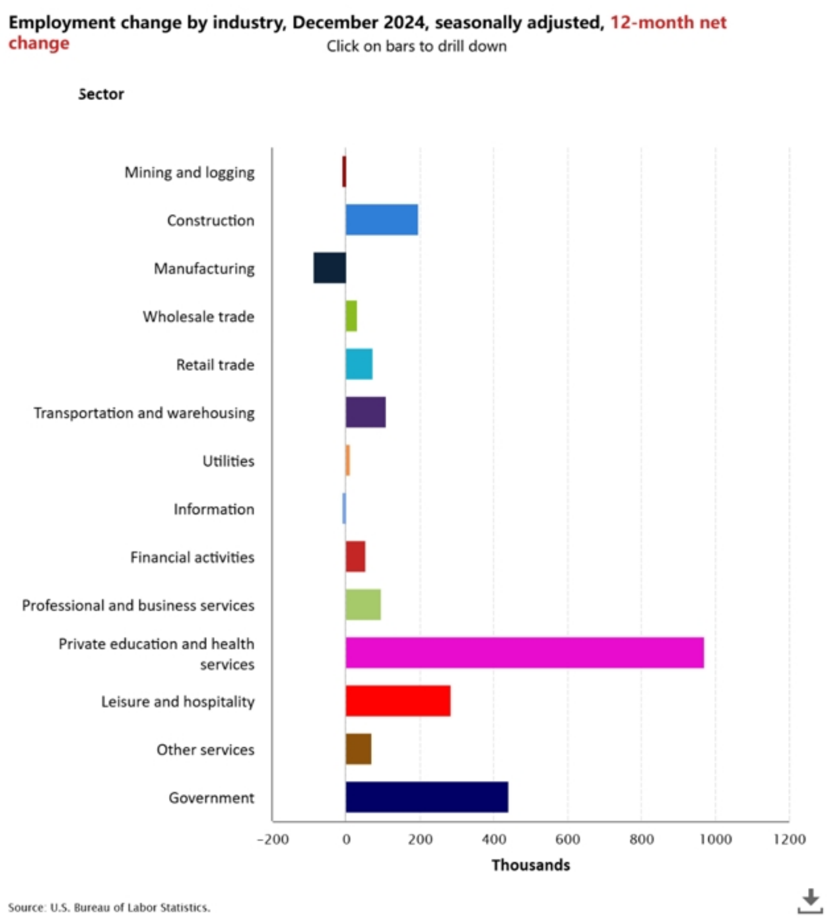

Figure 9: Employment Change by Industry

Federal Reserve Policy

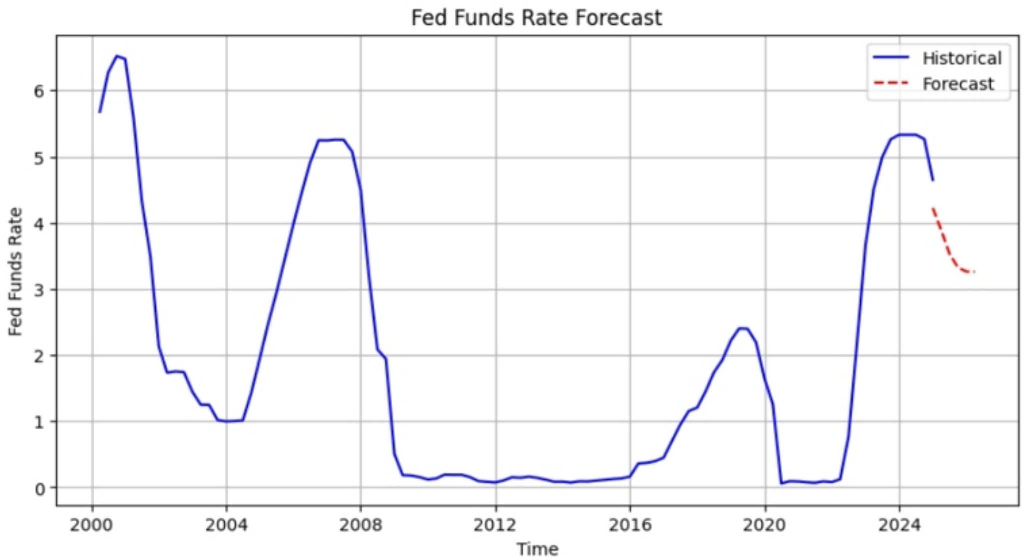

Figure 10: Federal Funds Rate Forecast

The Federal Reserve's monetary policy in 2025 is expected to remain centered on balancing the dual mandate of price stability and maximum employment. After a series of aggressive rate hikes throughout 2023 and 2024 to combat inflation, the federal funds rate is forecasted to gradually decline in 2025, from 4.22% in Q4 2024 to 3.26% by Q4 2025. This projected easing reflects the Fed's cautious approach to managing slowing inflation while avoiding a significant economic slowdown.

The impact of previous rate hikes is evident in various sectors of the economy. Elevated borrowing costs have curbed consumer spending on interest-sensitive goods like housing and automobiles. Businesses, particularly in capital-intensive industries, have also reduced investments. These factors have contributed to the decline in inflation, forecasted to fall to 3.44% by the end of 2025. However, core inflation remains above the Federal Reserve's 2% target, underscoring persistent price pressures in the services sector driven by strong wage growth.

Despite the progress in lowering inflation, the Federal Reserve faces a challenging trade-off. Loosening policy too quickly could reignite inflationary pressures, while maintaining high rates for an extended period risks slowing economic growth and increasing unemployment. The Fed's strategy is likely to focus on fine-tuning policy rates to sustain a gradual decline in inflation without derailing the economy. The Federal Open Market Committee (FOMC) expects the federal funds rate to remain moderately restrictive in 2025, with adjustments depending on incoming data on inflation and labor market conditions. This careful balancing act reflects the Fed's commitment to steering the economy toward a soft landing, avoiding the dual risks of entrenched inflation and recessionary pressures.

Conclusion

In conclusion, based on all the analysis above, I may expect that the U.S. economy in 2025 would reflect a delicate balancing act between slowing inflation, moderate economic growth, and a resilient labor market. While inflation is forecasted to ease, it remains above the Federal Reserve's 2% target, necessitating a cautious approach to monetary policy. The labor market shows stability, driven by demand in key sectors like healthcare and construction, though unemployment is expected to rise slightly. Economic growth, while slowing, is supported by structural trends and fiscal measures. The Federal Reserve's careful policy adjustments aim to sustain this balance, guiding the economy toward stability around persistent uncertainties and global challenges.