US Economics and Real Estate Market

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1. Introduction

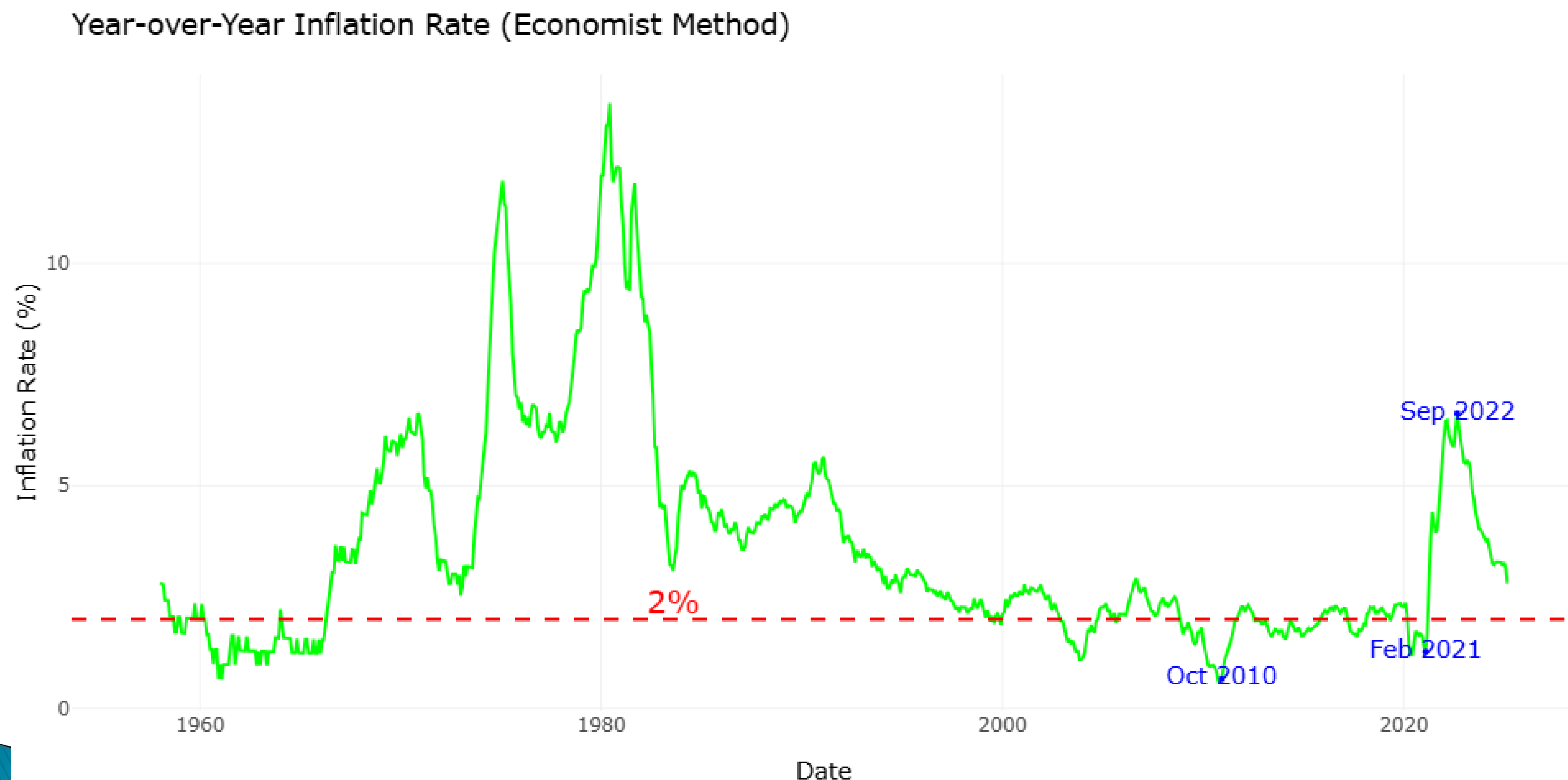
- In this data analysis project, I used **R programming** to explore the relationship between the **U.S. economy** and the **real estate market.**

- Using data from multiple economic indicators, this analysis examines how factors such as **inflation, Treasury bond yields, and federal interest rates** influence housing trends and market stability. It also looks at **key real estate indicators**—including
  - mortgage application rates, home prices, inventory levels, and days on market—to assess overall market health.

- Finally, the project compares **national and Hawaii-specific data** to highlight regional differences and explore potential signs of a **real estate bubble** and what these patterns might mean for **future housing decisions.**

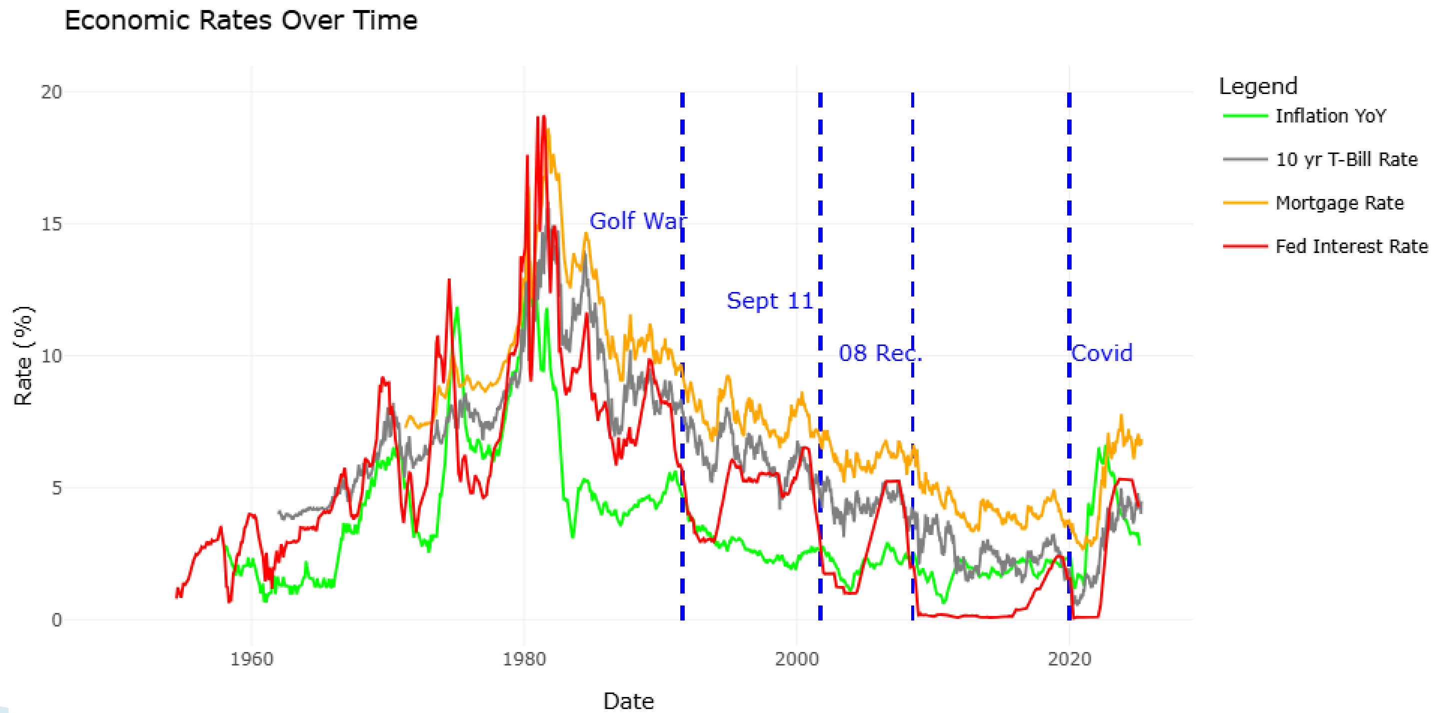
What is Inflation?

- **Inflation** is the rise in prices that reduces purchasing power, often driven by **currency devaluation** or **supply-demand imbalances.** It's measured by the **CPI**, with the **Fed targeting around 2%** to maintain economic stability.



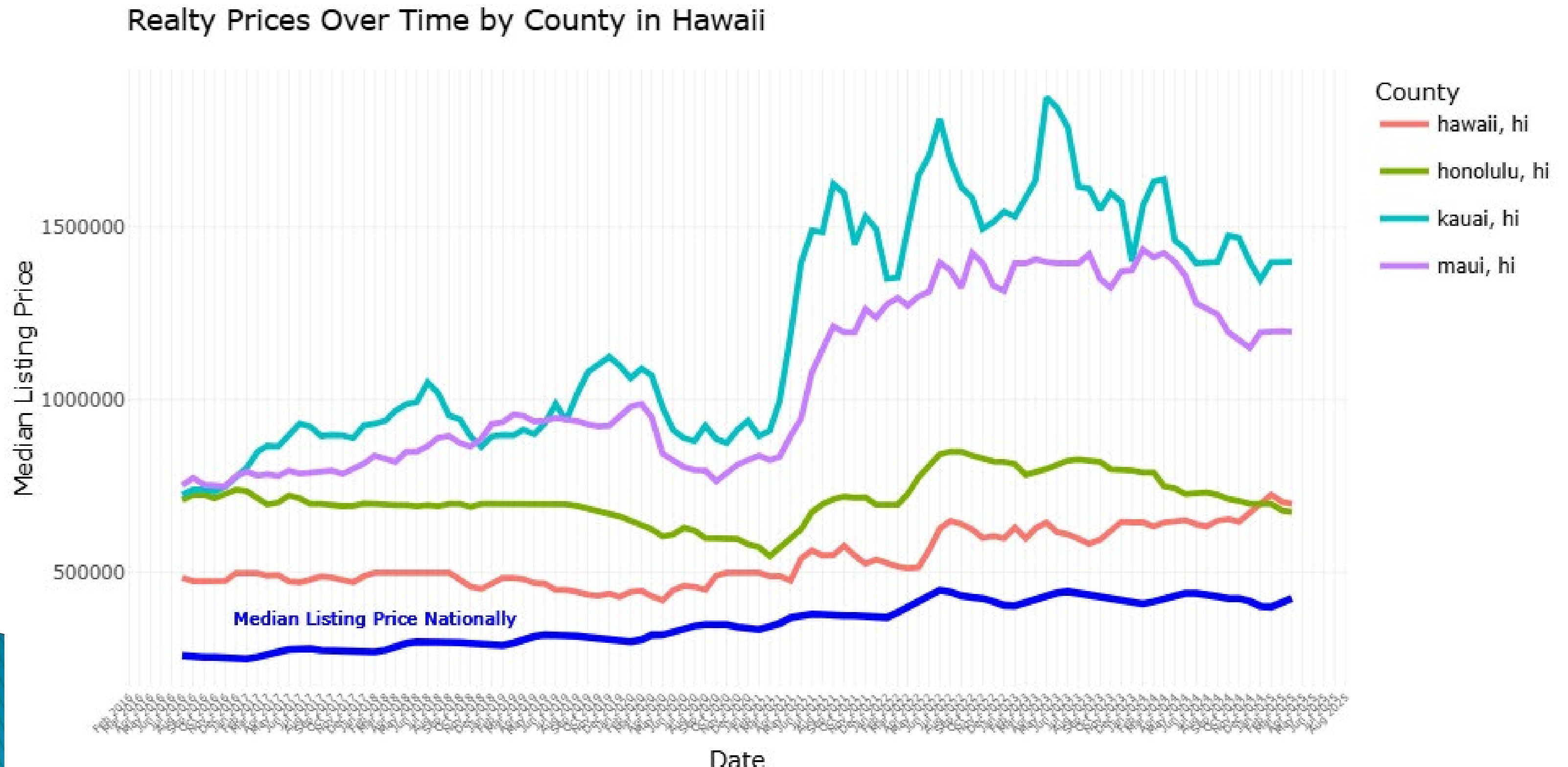
Inflation & Treasury Bonds

- **Bonds** are government loans, such as 10-year Treasuries. **Inflation expectations** drive bond prices and yields—**high inflation raises yields**, while **safe-haven demand** (like in 2008 or COVID) lowers them. **Fed rate changes** strongly influence these movements, with **inflation and yields often rising and falling together.**
- **Mortgage rates** follow **bond yields** and **Fed policy.** After the 2008 crash and during COVID, rates fell to record lows, fueling housing demand. From **2022-2024**, the Fed raised rates to **5.33%** to fight inflation, but **mortgage rates remain high**—around **7%**—as inflation concerns persist.



Housing Market Trends

- Home prices rose nationally from **$250K to $400K**, with **Hawaii** remaining **6–7× higher** than the U.S. average.
- **Mortgage applications** have declined since 2021, while **inventory** is rising as higher rates cool demand. **Savings** peaked at **32% during COVID** but now sit near **3.5%**, and **delinquency rates** have climbed again amid inflation pressures.



Conclusion

- Based on key indicators—including mortgage application rates, realty prices, inventory levels, and days on the market—the real estate market, as of January 2, 2025, appears to be in a downturn. Fewer people are applying for mortgage loans, reflecting a significant decline in buyer activity and demand. Home prices remain high or continue to rise, creating affordability challenges that further reduce purchasing activity. At the same time, inventory levels have increased, indicating more homes on the market relative to the number of active buyers. Additionally, properties are taking longer to sell, with the market gradually returning to pre-pandemic conditions.

- With all this data considered, is the U.S. economy heading toward growth or a recession? Signs point to **No** —the indicators suggest a slowdown rather than economic growth.