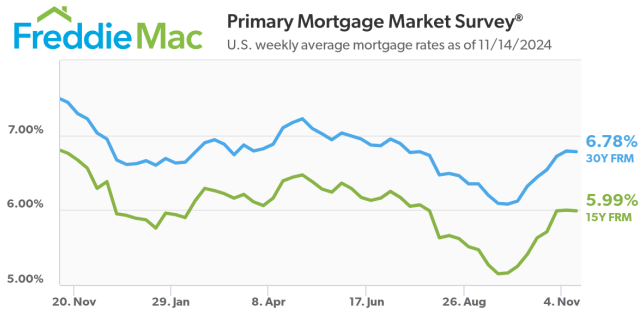
Forecasting U.S. Mortgage Rates: Guiding the Next Generation of Homebuyers

DS 4002 Case Study by Kirsten Fung



Your Challenge

You're a data scientist for a leading real estate analytics firm, and the nation's housing crisis has reached a critical point. College students and young professionals are facing the most expensive housing market in U.S. history. Your company's clients - including policymakers, mortgage brokers, and aspiring homeowners - are looking to you for answers. They want to know: What do the next 10 years hold for U.S. mortgage interest rates, and how can they prepare for the future?

As a rising expert in data analysis, you've been tasked with uncovering insights from over 50 years of U.S. mortgage data to deliver actionable insights. Your mission is to analyze historical trends, provide a forecast for the next decade, and share actionable insights that could shape the future of homeownership.

The Context

For decades, U.S. mortgage rates have fluctuated in response to economic, political, and social factors. Beyond their fluctuations, mortgage rates directly impact millions of lives, determining whether people can achieve the dream of homeownership. From young families buying their first homes to policymakers creating housing reforms, understanding the shifts in 30-year and 15-year fixed rate mortgages (FRM) is crucial.

Your job is to analyze historical patterns in mortgage data and forecast the future. By uncovering key patterns, your analysis will inform decisions for future homeowners, guide businesses in planning ahead, and help policymakers craft solutions to address housing challenges.

What's Next

1. Examine the cleaned data to identify key historical trends and patterns in U.S. mortgage rates.
2. Use insights from the analysis to develop a data-driven forecast of U.S. mortgage rates for the next 10 years.
3. Assess the reliability and accuracy of the projections to ensure robust and meaningful insights.

Ready to take on the challenge? Access the dataset and resources here:
https://github.com/kirstenfung/DS4002-CS3/tree/main