

FACTORS INFLUENCING RESIDENTIAL HOME PRICES IN THE UNITED STATES

A MECE APPROACH

Exploring the Key Factors and Their Impact on
US Residential Home Prices





OBJECTIVES

- Explore **factors** influencing the US residential housing market.
- Analyze **correlations** between key factors and residential housing prices.
- Develop a **Mutually Exclusive, Collectively Exhaustive (MECE)** framework for understanding the factors that could impact the US residential home prices in the future.
- Provide **insights** into the dynamics driving the US housing market.

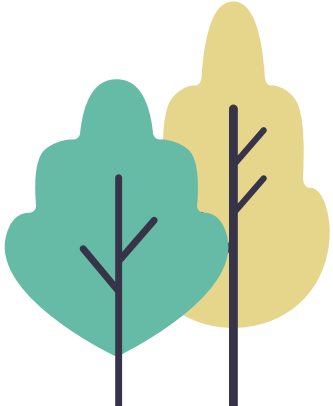




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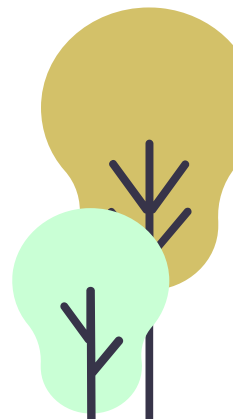
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ACKNOWLEDGEMENTS

Reference to articles, data
sources and other resources
utilized during the research



INTRODUCTION

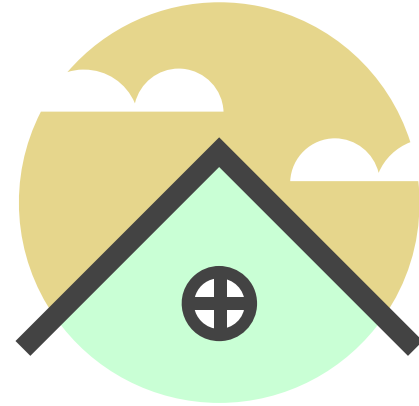
MECE is a problem-solving framework used for organizing and structuring information in a way that ensures comprehensive coverage and avoids duplication or overlap.

Mutually Exclusive :

“Are there any instances of overlapping or duplication?”

Collectively Exhaustive:

“Have I considered all possible scenarios?”



MECE

Mutually Exclusive Collectively Exhaustive

POTENTIAL FACTORS

An article published by Investopedia explains how key factors mentioned below drive the Real Estate Market.

DEMOGRAPHICS

Data that reflect the composition of a population such as age, race, gender and population growth.



INTEREST RATES

As interest rates rise, the cost of a mortgage increases, thus lowering demand and real estate prices.



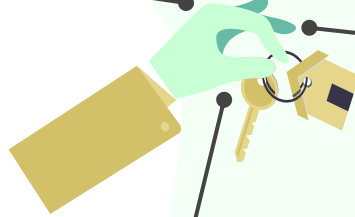
THE ECONOMY

Measured by indicators such as GDP, employment data, manufacturing activity etc.

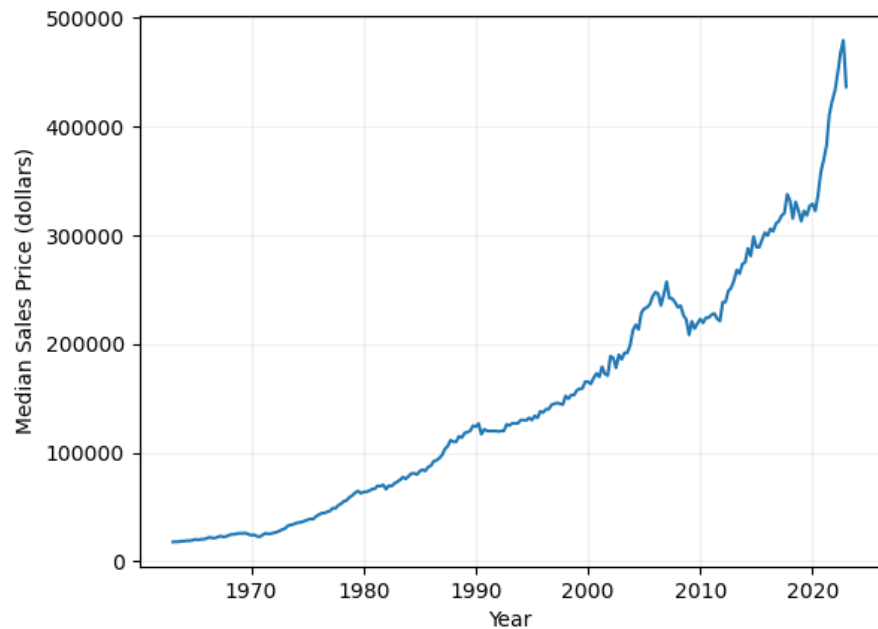
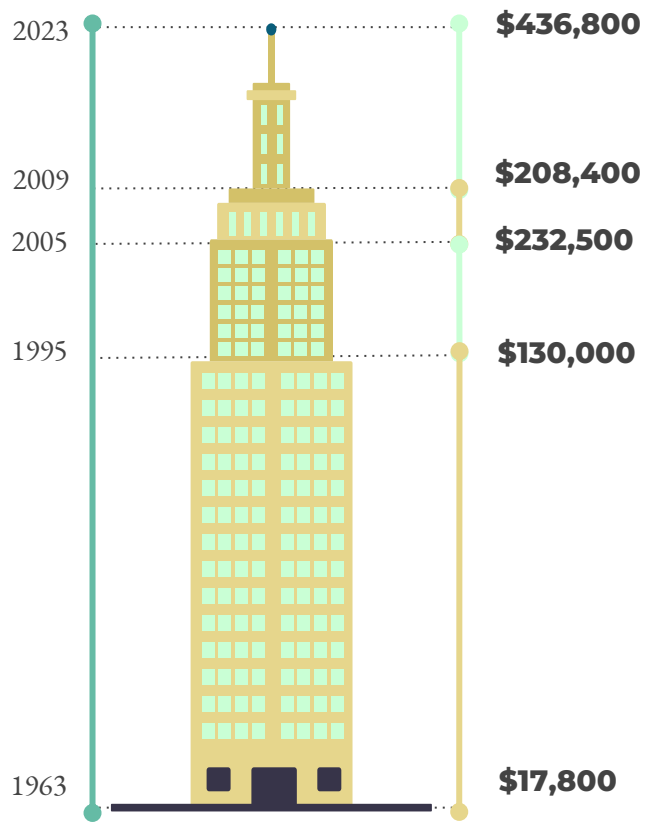


GOVERNMENT POLICIES and SUBSIDIES

Tax credits, deductions, and subsidies are some of the ways the government can temporarily boost demand for real estate.

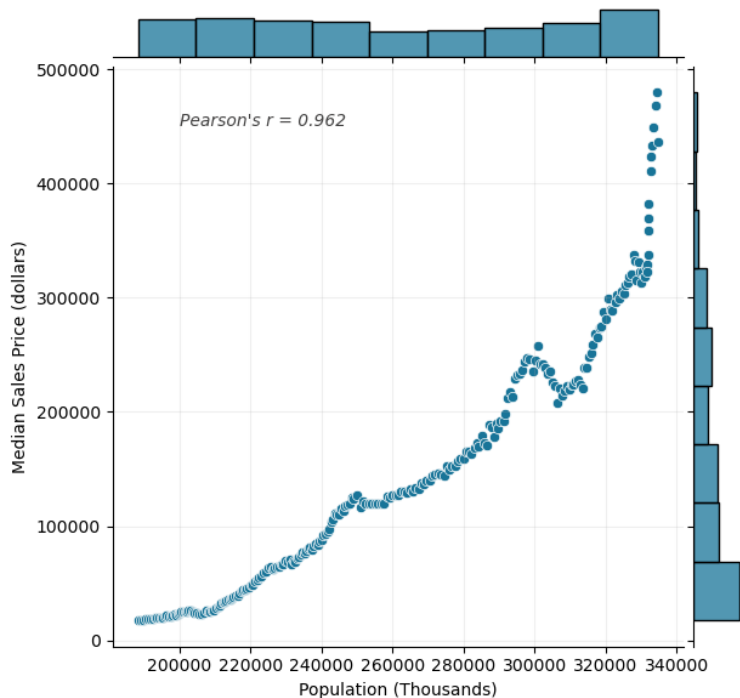


Median Sales Price of homes sold in the United States



Median Sales Price of Houses Sold for the United States

CORRELATIONS – Demographics (Population Size)

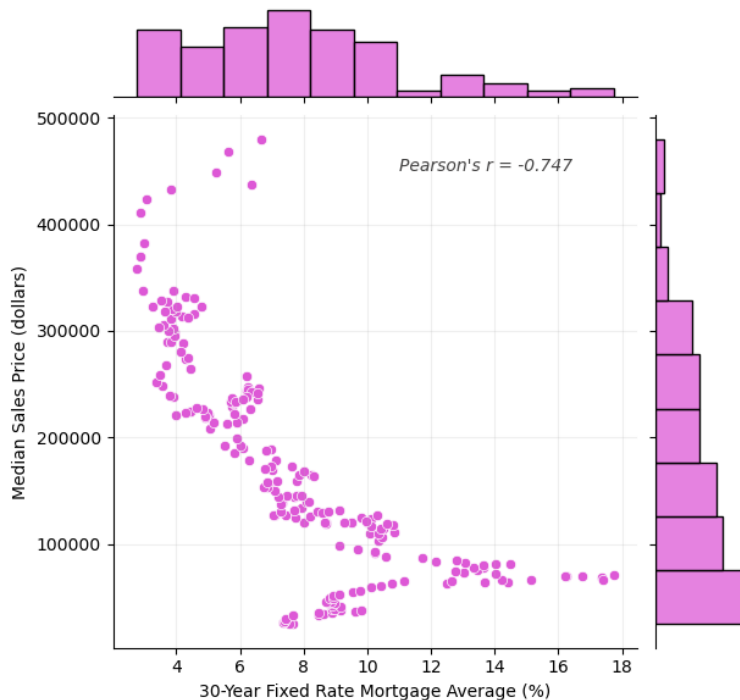


Correlation between Median Sales Price and Population Size

- Very strong positive correlation between **Population Size** and **Median Sales Price** of houses sold in the United States.
- Correlation doesn't imply causation, however with the increase in population size, it is fairly reasonable to think that more people need shelter which could significantly drive the demand for residential homes. This demand could result in increased Sales Price.
- Similarly, age distribution, another demographic variable could have a role in shaping the real estate market since different age groups have varying housing needs and preferences.

Refer Jupyter Notebook for data and code used to generate the scatter plot.

CORRELATIONS – Interest Rates (Mortgage Rate)

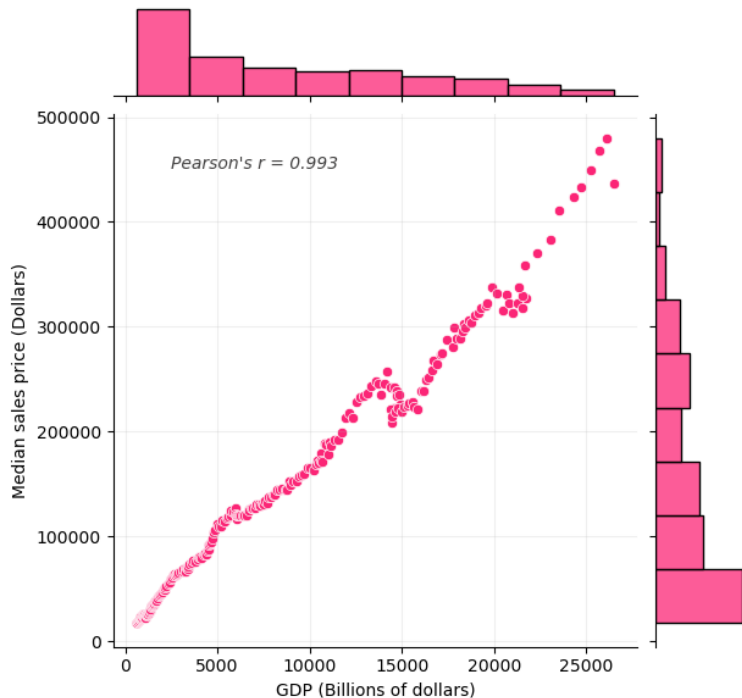


Correlation between Median Sales Price and Mortgage Rate

- Strong negative correlation between **Mortgage Rate** and **Median Sales Price** of houses sold in the United States.
- Again, while correlation doesn't imply causation, changes in interest rates can greatly influence a person's ability to purchase a residential property. That's because the lower the interest rate, the lower the cost of the mortgage.
- The scatter plot suggests that as interest rates rise, the cost of a mortgage increases, thus lowering demand and real estate prices, which supports the explanation in Investopedia's article.

Refer Jupyter Notebook for data and code used to generate the scatter plot.

CORRELATIONS – The Economy (Gross Domestic Product)

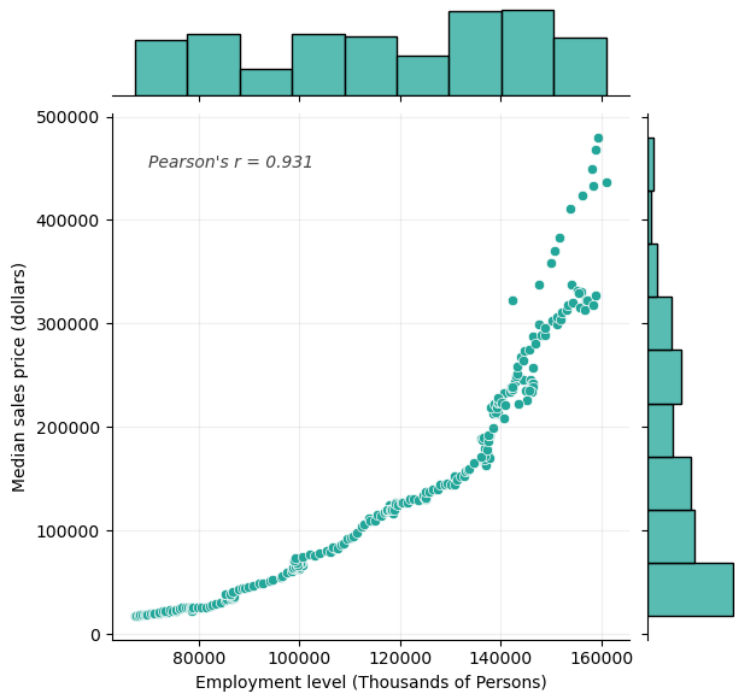


Correlation between Median Sales Price of houses and GDP

- Very strong positive correlation between **GDP** and **Median Sales Price** of houses in the United States.
- When the GDP of a country is increasing, it usually signifies a growing economy, higher employment rates, and increased consumer confidence. This could suggest a hypothesis that there is higher demand for housing as people feel more financially secure and are more willing to make a real estate investment.
- Economic growth is often accompanied by infrastructure development and urbanization. This could enhance the desirability and value of residential properties in certain areas, thereby influencing Sales Price.

Refer Jupyter Notebook for data and code used to generate the scatter plot.

CORRELATIONS – The Economy (Employment Level)

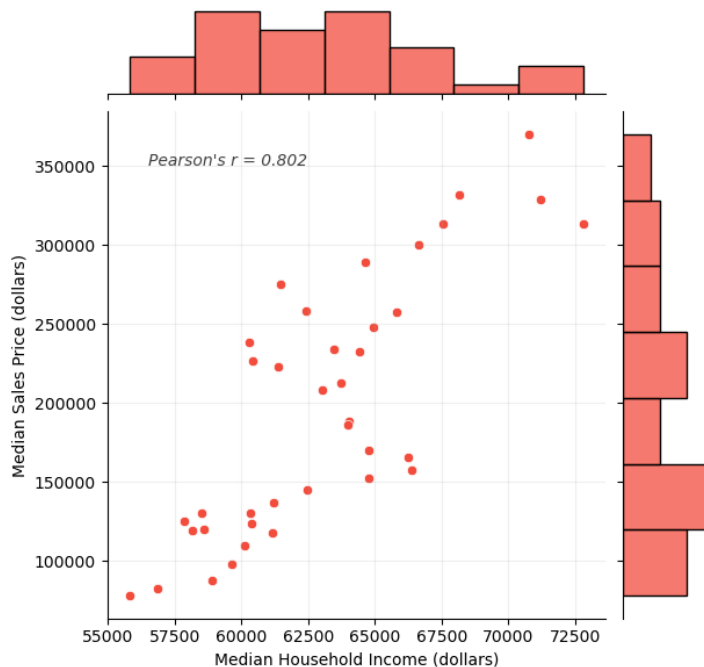


Correlation between Median Sales Price of houses and Employment Level

- Strong positive correlation between **Employment level** and **Median Sales Price** of houses in the United States.
- The employment level directly affects the income and financial stability of individuals and households.
- When employment levels are high and people have steady income, they are more likely to afford and purchase homes. Increased employment opportunities can lead to higher demand for housing, which in turn can drive up prices.

Refer Jupyter Notebook for data and code used to generate the scatter plot.

CORRELATIONS – The Economy (Employment Level)



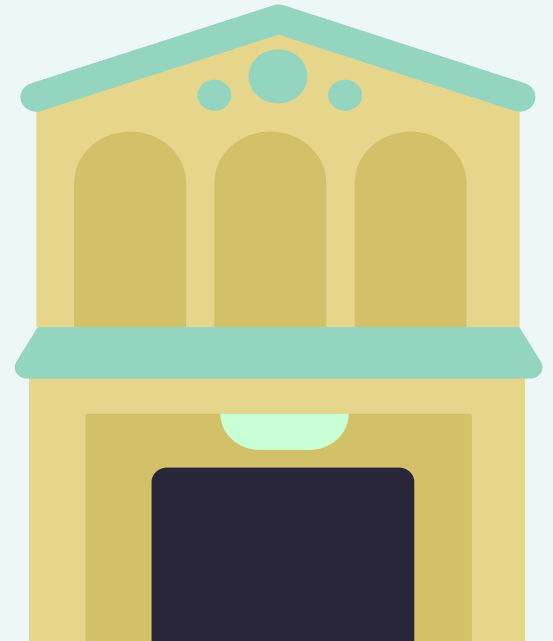
Correlation between Median Sales Price of houses and Median Household Income

- Strong positive correlation between **Median Household Income** and **Median Sales Price** of houses in the United States.
- Median household income is a key indicator of the financial capacity of individuals and households to afford housing.
- Higher median household incomes generally indicate higher purchasing power and the ability to afford more expensive homes. As median household income increases, it can lead to increased demand for housing in higher price ranges, which can contribute to upward pressure on housing prices.

Refer Jupyter Notebook for data and code used to generate the scatter plot.

Government Policies and Subsidies

- As explained in the Investopedia's article, legislation is another factor that can have a sizable impact on property demand and prices.
- Tax credits, deductions and subsidies are some of the ways the government can temporarily boost demand for real estate.
- Governments may offer mortgage programs, such as low-interest loans or down payment assistance, to facilitate homeownership. By making it easier for individuals and families to access financing, these programs can increase homeownership rates and drive up housing demand, potentially leading to higher prices.



Mutually Exclusive Collectively Exhaustive (MECE) framework



DEMOGRAPHICS

Population growth, age, race, gender, migration patterns etc.



INTEREST RATES

Exhibits inverse relationship with residential property prices.



THE ECONOMY

When economy is sluggish, so is the real estate market.



GOVT POLICIES AND SUBSIDIES

Government can temporarily boost demand for real estate.



UNIDENTIFIED FACTORS

Additional factors that are currently unknown or difficult to predict.

CONCLUSION

Recapping the Objective

This analysis aimed to explore the factors influencing residential home prices in the US and strengthen the MECE framework to better understand the dynamics of the housing market.

Key Findings

Through statistical analysis and examination of correlations, economic factors like GDP, employment levels and household incomes, demographic factors like population size, and factors like interest rates particularly mortgage rates showed strong correlations with housing prices in the US. These observations align with the factors mentioned in an article published by Investopedia.

MECE Framework

Identified factors were then organized in a MECE framework. This includes demographics, interest rates, the economy, government policies/subsidies and unidentified factors.

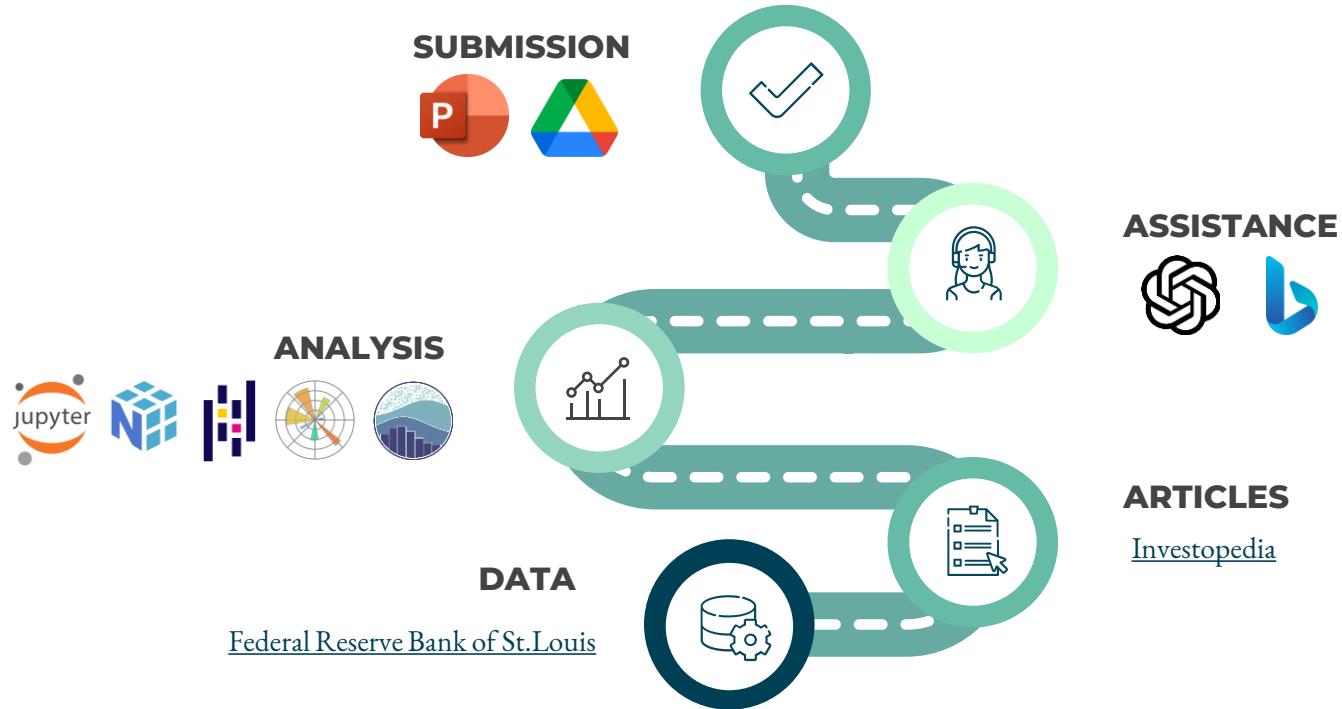


“Home is where one starts from.”

—**T.S. Eliot**



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THANKS

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