

Introduction

The New York City real estate market is one of the most lucrative and competitive markets in the world. This project seeks to uncover and understand NYC real estate pricing trends, both renting and owning, and use those findings to create a machine learning model that predicts housing prices. Entering a post-COVID19 era, NYC real estate has been roiled by the highest rent increases in nearly a decade leading to bidding wars amid scarce supply and ongoing inflation (Zaveri, 2022). Tenants have faced existential questions about whether to renew their leases asking for 30 to 60% more year over year or relocate somewhere in a city where affordable housing is almost nonexistent (White Karp, 2022). Also on their minds is whether to rent or buy and at what time, considering a “tipping point” of how long it would take to justify that transition (Walker, 2017). By analyzing the housing market, we will illuminate the current and future geography of this financial services sector. This work will set the stage for a discussion on the distribution of wealth in the city as well as laws and policies underlying the cost of renting and ownership for lending and borrowing stakeholders.

Questions addressed in this report:

1. How has the Price changed over time?
2. Where has rent increased the most in the last X years?
3. Renting vs Owning
 - a. Split and avg costs
 - b. Most and least expensive neighborhoods
4. How do New York real estate zones compare with one another by zip code, borough, senate/congressional district?
5. Are there other factors (policy changes/population shifts) that have a predictive relationship to changing prices (machine learning) in specific neighborhoods?
6. Can we predict where the prices are going to be in the near future?
7. What can we do with those predictions (actionable)?

References

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