Drivers of Urban Housing Prices*

Analyzing Population, Income, and Housing Demand Dynamics

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This paper examines the factors influencing urban housing prices, focusing on demographic, economic, and market dynamics. We analyze key drivers such as population growth, household characteristics, income levels, housing demand, and rental prices. Our findings reveal how these variables interact to shape housing market trends and affordability. Understanding these relationships provides valuable insights for policymakers and stakeholders to address urban housing challenges and improve housing accessibility.

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*Code and data are available at: https://github.com/XYPKQ896/housing_price.

1 Introduction

Urban housing prices are shaped by a complex interplay of demographic, economic, and market factors. Cities worldwide face unique challenges as population growth, changing household structures, income levels, and rental market dynamics influence housing demand and affordability. Understanding these variables is essential for unraveling the underlying mechanisms of urban housing price fluctuations and addressing persistent housing market issues.

This study aims to estimate the relative influence of six critical factors—population size, household size, number of households, monthly income, housing upgrade demand, and rental prices—on urban housing prices. By analyzing these variables, we identify their individual contributions and interactions in shaping housing markets.

The analysis reveals that several factors significantly influence the average market price of housing. Population size has a negative impact on housing prices, with a substantial decrease in price associated with population growth. Additionally, both the average household size and the number of households are positively related to housing prices, with larger household sizes and more households driving up market prices. Monthly income also has a positive effect

on housing prices, indicating that higher income levels are associated with higher housing prices.

These insights are crucial for policymakers and market stakeholders to design targeted interventions that promote housing affordability, stability, and equity in urban areas. By addressing the root causes of housing market pressures, this research contributes to the broader goal of creating sustainable and inclusive cities.

Telegraphing paragraph: The remainder of this paper is structured as follows. Section 2 Data, Section 3 Model, Section 4 Results, Section 5 Discussion.

2 Data

2.1 Overview

We use the statistical programming language R (R Core Team 2023) for data analysis. We use ggplot2 Wickham (2016) to visualize the data. We use arrow Richardson et al. (2024) to read the parquet. The data used in this study comes from the website AIDDATA (AidData 2024). The article (Prakash et al. 2020) includes national census data, housing market surveys, and rental market reports. Following the guidelines in Telling Stories with Data (Alexander 2023), we focus on key variables such as population size, household size, number of households, monthly income, housing upgrade demand, and rental prices to capture the multifaceted nature of urban housing markets. The dataset spans urban areas in various regions, providing a broad perspective on housing price dynamics.

The preview of the original and cleaned dataset can be found in Appendix. Section A

2.2 Measurement

To translate real-world phenomena into dataset entries, we employ standardized metrics and definitions. Population size is measured as the total number of residents in an urban area, while household size represents the average number of people per household, derived from census microdata. The number of households is computed by dividing the total population by the household size. Monthly income is represented by low quantile income at the city level, adjusted for inflation and regional purchasing power. Housing upgrade demand is quantified as the percentage of households expressing a preference for moving to larger or higher-quality homes, based on survey responses. Finally, rental prices reflect the average monthly rent of an adequate home 550 SqFt per month, serving as a proxy for rental market trends. Data cleaning and validation processes ensure consistency across variables, and missing values are imputed using multiple imputation techniques to minimize bias.

2.3 Outcome variables

2.3.1 Market Prices

Market prices Figure 1 are represented by the average market price of an adequate home of 550 sqft in each urban area. This variable is a direct measure of urban housing costs and reflects the interaction of supply and demand in the housing market.

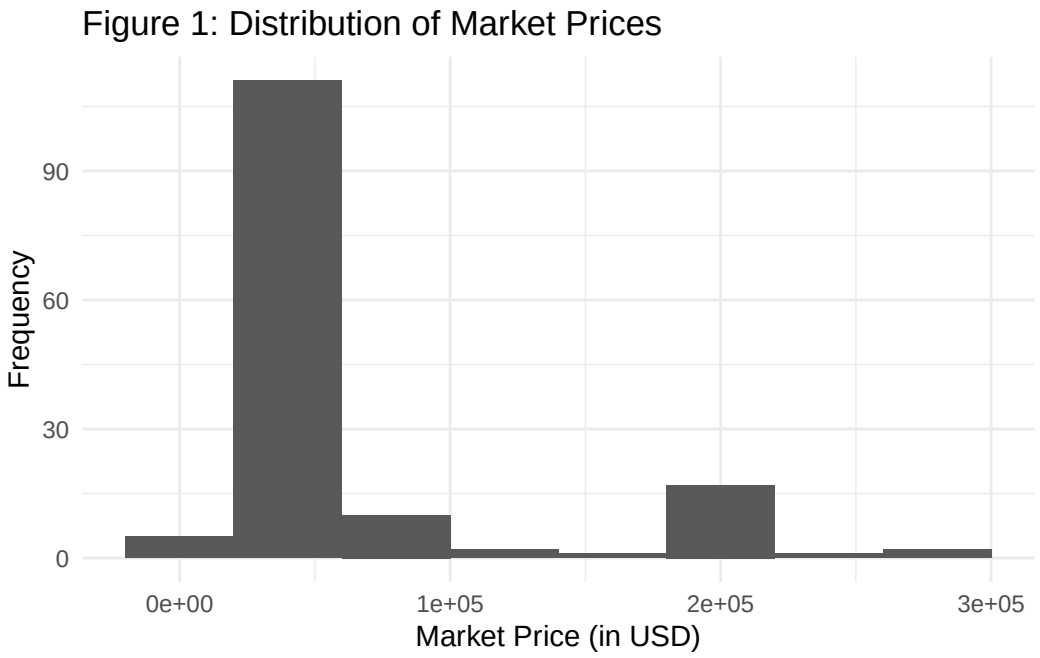

Figure 1: Market Prices

Most of market price of our data is smaller than 10000 USD. It shows a right skewed which displays that a few luxury homes with significantly higher prices.

2.4 Predictor variables

2.4.1 Population

Some of our data is of population (Figure 2). The total population of each city, which influences demand for housing and public services. Larger populations are often correlated with higher demand for housing and more complex governance challenges.

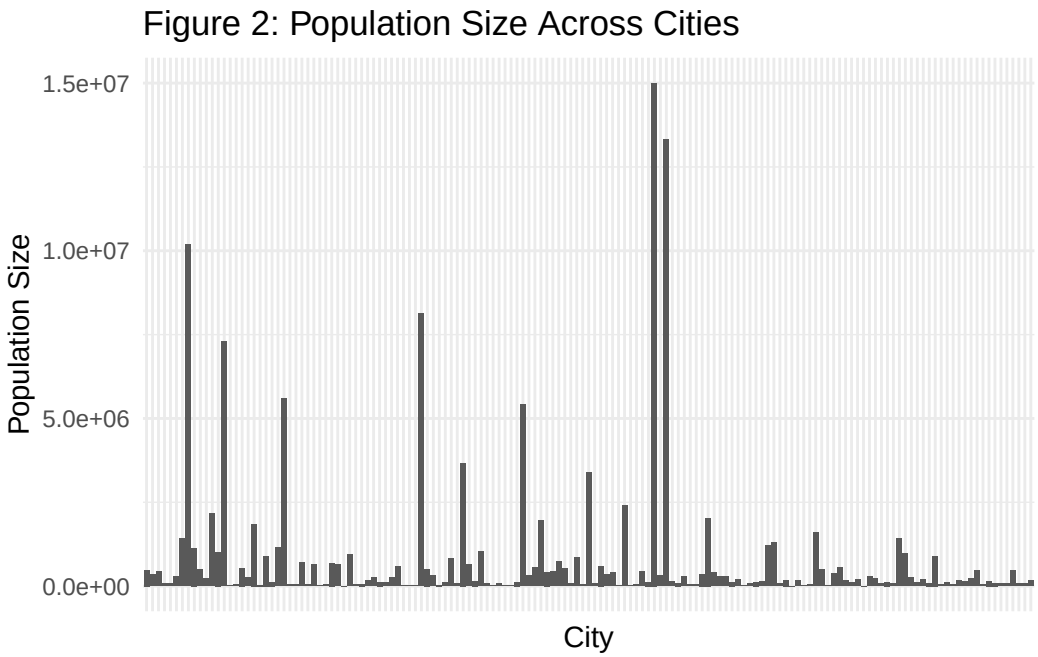

Figure 2: Population across cities.

This variable shows the distribution of population across different cities, revealing notable variation between them. The city with the largest population is significantly larger than the others.

2.4.2 Size

The overall size of a city (Figure 3) is a measure of the geographical area or population density of an urban area. It is an important factor influencing housing markets, as larger cities often have higher demand for housing due to more concentrated economic opportunities and services. City size was derived from official urban area boundaries and population density data, typically measured in square miles or kilometers, and is often correlated with higher housing prices due to demand-supply imbalances.

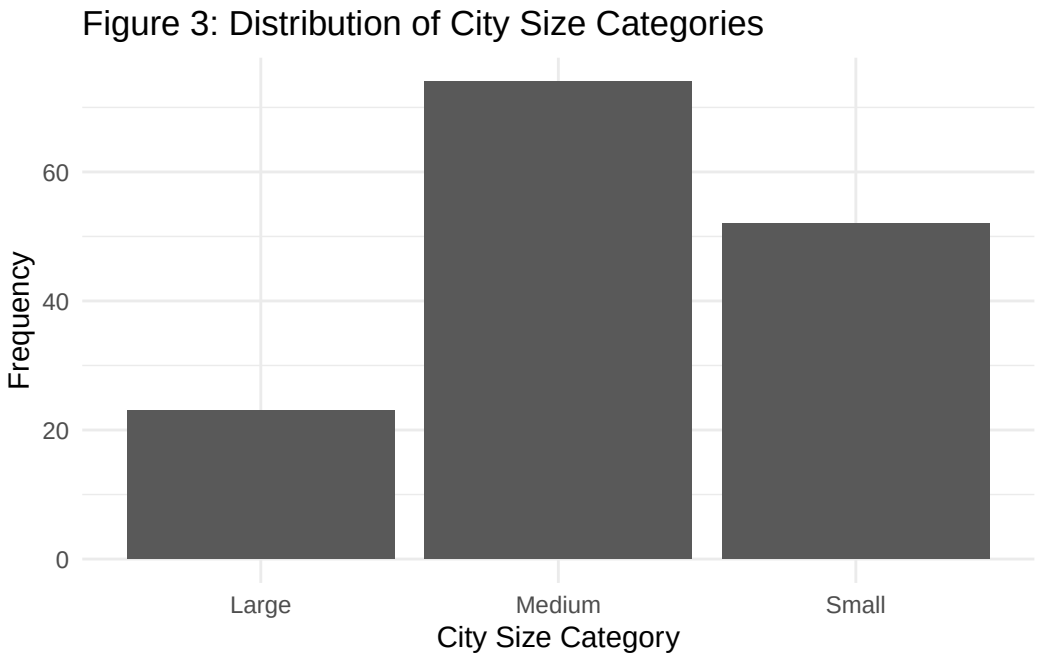

Figure 3: Size across cities.

Medium-sized cities have the highest frequency, appearing significantly more frequently than the "Large" and "Small" categories. Large cities appear the least frequently, with fewer cities falling into this category compared to the other two. Small cities show a moderate frequency, falling between the other two categories.

2.4.3 Average Household Size

Average Household Size represents the average number of individuals living in a single household. Smaller household sizes often lead to an increased number of households, elevating housing demand. Calculated directly from census microdata, this measure captures changes in household formation trends.

Table 1: Summary Statistics for Average Household Size

	Value
Min.	2.042352
1st Qu.	2.659113
Median	3.669355
Mean	3.565609
3rd Qu.	4.290000

	Value
Max.	6.457236

In conclusion, these statistics suggest that urban areas in the dataset tend to have moderately sized households, with a slight tendency towards larger household sizes in the upper quartile.

2.4.4 Number of Households

Number of Households Figure 4 is derived by dividing the total population by the average household size. It serves as a direct measure of housing unit demand in each urban area.

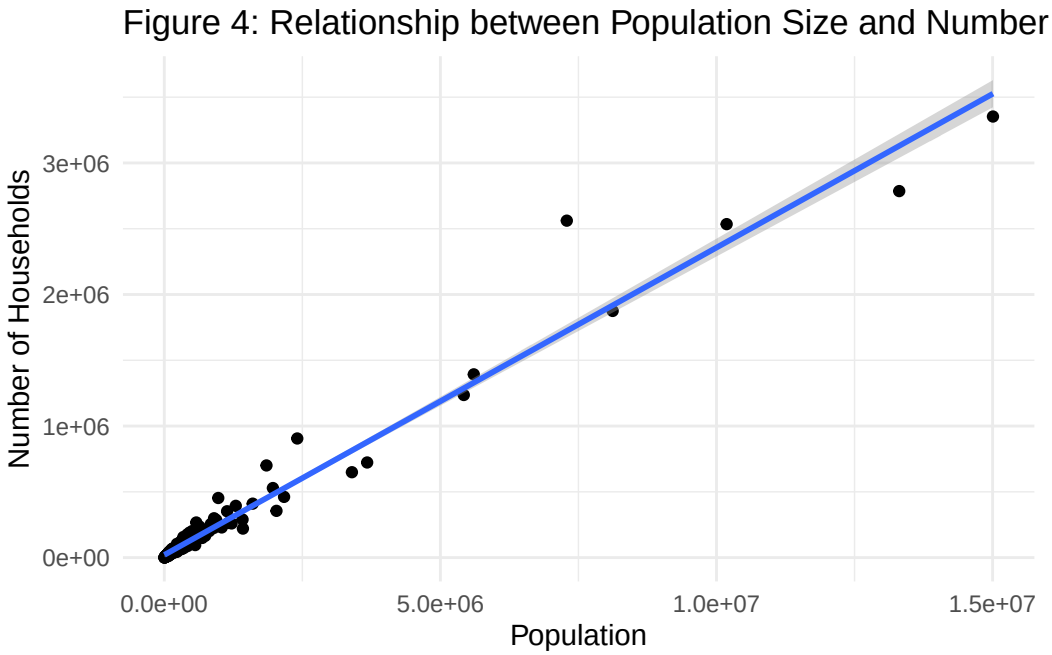

Figure 4: Number of Households.

This plot confirms that population size is a strong predictor of the number of households in urban areas. It validates the expectation that larger populations generally lead to more households, which directly impacts housing demand and urban planning. However, the variability in the relationship at higher population sizes suggests that additional factors, such as average household size or regional housing policies, might play a role and could be investigated further.

2.4.5 Monthly Income

Monthly income Figure 5 is the average monthly household income of the lowest quintile of Population in each urban area. This variable is critical for assessing housing affordability and purchasing power in the market.

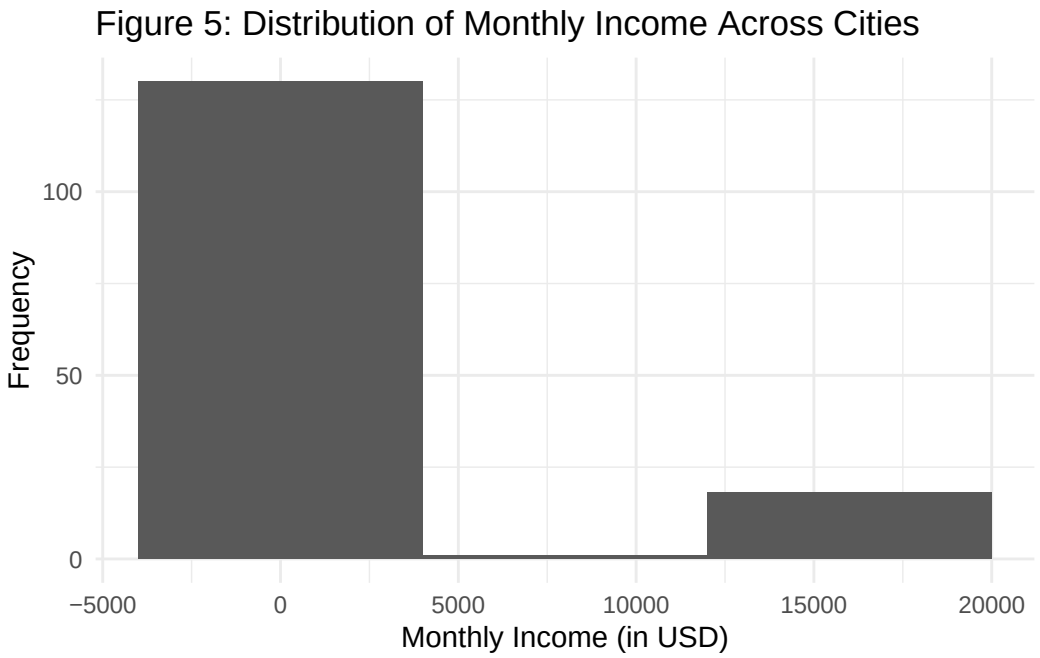

Figure 5: Monthly Income.

The histogram shows that most monthly incomes are clustered on the lower end (below $5,000). The distribution is right-skewed, indicating a smaller number of individuals or households with significantly higher incomes. Monthly incomes range widely, from near $0 to over $15,000. This wide range signifies diverse economic conditions across cities, potentially driven by city size, industrial composition, or cost of living.

2.4.6 Percentage of Households Needing Housing Upgrades

Percentage of Households Needing Housing Upgrades Figure 6 reflects the proportion of households expressing a desire to move to larger or higher-quality homes. It captures the aspirational demand for improved housing conditions, which can drive housing market activity. Survey data were used to compute these percentages at the city level.

Households in the small cities are willing to upgrades their home. Households in the medium city has a smaller preference to upgrade the home.

Table 2: Percentage of Households Needing Housing Upgrades by Size

Size	Total Households	Percentage Needing Upgrades (%)	Households Needing Upgrades
Large	22718581.2	0.19	4350657
Medium	8333574.5	0.18	1527316
Small	862656.8	0.28	239371

Figure 6: Monthly Income.

2.4.7 Montly Rent

Monthly rent Figure 7 means the average monthly rent of an adequate home 550 SqFt per month. This measure captures housing demand and serves as a proxy for housing affordability.

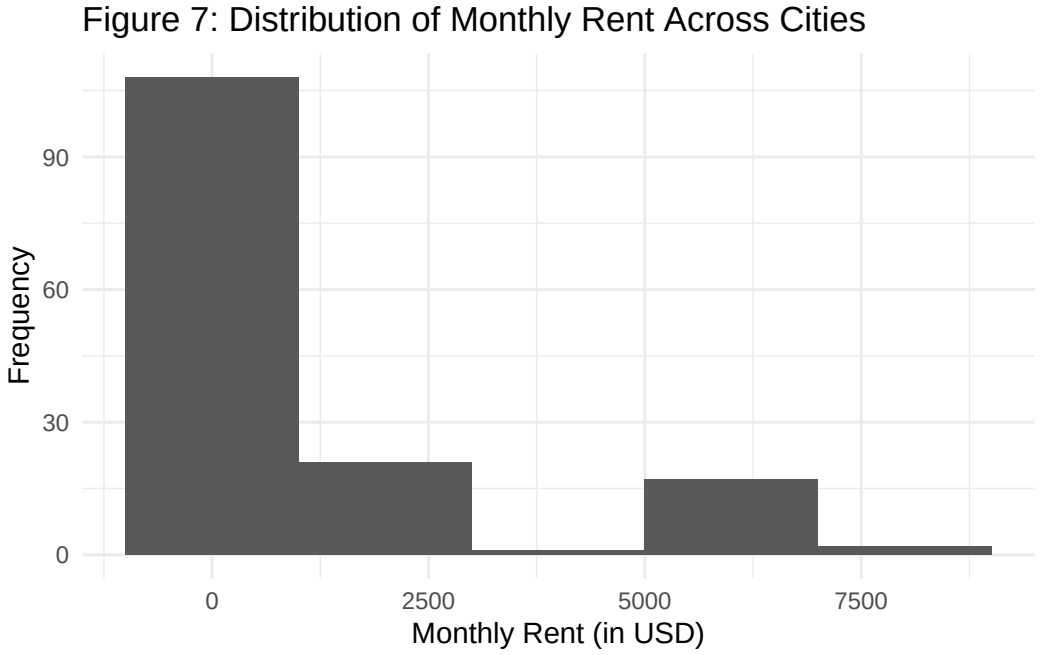

Figure 7: Monthly Income.

The distribution is heavily right-skewed, with a majority of values concentrated at the lower end of the range. A large number of cities have monthly rents clustered around $0–$1250, indicating relatively affordable housing in many areas.

3 Model

The goal of our modeling strategy is twofold. Firstly, we aim to quantify the relationships between various demographic and housing market characteristics and the average market price of an adequate home. Secondly, we use this model to identify key predictors that could inform housing policy and urban planning. The chosen model combines demographic, economic, and housing variables to provide a comprehensive understanding of market dynamics. Background details and diagnostics are included in Appendix - B.

3.1 Model set-up

Define y_i as the average market price of an adequate home for city i, measured in USD. The predictor variables include:

- x_{1i}: Population size of city i.
- x_{2i}: Size of city i (e.g., small, medium, or large).
- x_{3i}: Average household size in city i.
- x_{4i}: Total number of households in city i.
- x_{5i}: Average monthly income in USD for city i.
- x_{6i}: Percentage of households needing adequate housing upgrades in city i.
- x_{7i}: Average monthly rent for an adequate home in city i.

The linear regression model is defined as:

$$y_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + \beta_4 x_{4i} + \beta_5 x_{5i} + \beta_6 x_{6i} + \beta_7 x_{7i}$$

where: - β_0 is the intercept.

- $\beta_1, \ldots, \beta_7$ are the coefficients corresponding to the predictors.

We run the model in R (R Core Team 2023) using the `lm()` function from the base R package.

3.1.1 Model justification

The predictors were selected based on their theoretical relevance to housing market prices. Key assumptions include:

1. Population (x_{1i}): Larger populations may increase housing demand, driving prices higher.
2. City size (x_{2i}): Larger cities often experience higher housing prices due to limited land and increased demand.
3. Household size (x_{3i}): Larger households may influence the demand for larger homes, potentially increasing prices.

4. Number of households (x_{4i}): This variable captures the housing supply-demand balance, which impacts pricing.
5. Income (x_{5i}): Cities with higher average incomes often experience greater purchasing power, increasing housing demand.
6. Housing upgrade needs (x_{6i}): A higher percentage of inadequate housing could depress prices if supply quality is low.
7. Rent (x_{7i}): Rent prices often correlate with home prices, acting as a proxy for housing affordability.

4 Results

Our results are summarized in Table 3 which presents the coefficients of the explanatory model predicting the average market price of an adequate home. Robinson and Lee (2023) is used to tidy the model. Xie (2023) is used to kable the table. The statistically significant is p<0.05. The model reveals several important insights and indicates a baseline average market price of $40,500 when all predictor variables are at their reference levels or zero. Among the predictor variables:

Table 3: Explanatory models of average market price

Predictor	Estimate	Std. Error	t value	Pr(>|t|)
Intercept	-1592.501	513.022	-3.104	0.002
Population	-11123.163	3607.675	-3.083	0.002
Size: Medium (Ref: Large)	0.057	0.047	1.206	0.230
Size: Small (Ref: Large)	-0.001	0.073	-0.017	0.986
Average Household Size	764.739	242.867	3.149	0.002
Number of Households	11946.141	3877.722	3.081	0.002
Monthly Income	0.696	0.231	3.008	0.003
Percentage of Households Needing Upgrades	0.085	0.063	1.342	0.182
Average Monthly Rent	0.547	0.308	1.777	0.078

Intercept: The intercept has an estimate of -1592.501 (p=0.002), suggesting a baseline adjustment for average market prices when all predictors are held constant.

Population: The coefficient for population is -11123.163 (p=0.002), indicating that increases in population are associated with a significant negative impact on market prices, possibly reflecting supply pressures or urban constraints.

City Size: Medium cities (compared to large cities) have an insignificant positive estimate of 0.057 (p=0.230). Small cities have a negligible and statistically insignificant estimate of -0.001 (p=0.986), indicating that city size may not strongly predict market prices when controlling for other factors.

Average Household Size: With an estimate of 764.739 (p=0.002), this variable significantly impacts market prices positively, suggesting that larger household sizes may be associated with higher market values.

Number of Households: The coefficient is 11946.141 (p=0.002), showing a significant positive association between the number of households and market prices, possibly reflecting demand pressures.

Monthly Income: With an estimate of 0.696 (p=0.003), higher monthly income is significantly associated with higher market prices, consistent with economic theory linking income levels to housing affordability.

Percentage of Households Needing Upgrades: This variable has an estimate of 0.085 (p=0.182), suggesting a positive but statistically insignificant relationship.

Average Monthly Rent: The coefficient is 0.547 (p=0.078), which approaches significance, indicating that higher rents may predict higher market prices.

5 Discussion

5.1 The Relationship Among Population and Market Price

The analysis indicates a significant negative relationship between population size and average market prices for adequate homes (β=−11,123.163,p=0.002). This finding suggests that, contrary to conventional wisdom, larger populations are associated with lower average housing prices.

Population size is often linked to urban agglomeration, where economic opportunities attract a broad spectrum of residents. While demand increases, cities with larger populations may also benefit from broader tax bases and investment in affordable housing initiatives that temper price growth.

5.2 The Relationship Between Average Household Size and Market Price

The analysis reveals a statistically significant positive relationship between average household size and the average market price for adequate homes (β=764.739,p=0.002). This finding suggests that, as the average household size increases, so does the market price for housing in that area.

Larger households often require more space, which can drive up demand for bigger homes. In many urban areas, larger households may have a higher propensity to purchase or rent larger, more expensive homes, thereby increasing the average market price.

5.3 The Relationship Between Number of Household and Market Price

The analysis shows a statistically significant positive relationship between the number of households and the average market price for adequate homes (β=11,946.141,p=0.002). This suggests that as the number of households increases, the average market price of homes also tends to rise.

As the number of households in an area grows, the demand for housing naturally increases. More households mean a greater need for available housing units, which can push prices up, especially in areas where supply is limited. A larger number of households creates greater competition for the available housing stock. This heightened competition can lead to higher prices, particularly in areas with constrained housing supply. When the number of households exceeds the number of available units, bidding wars or higher rents can drive up market prices.

5.4 The Relationship Between Monthly Income and Market Price

The analysis reveals a statistically significant positive relationship between monthly income and the average market price of homes (β=0.696,p=0.003). This indicates that as monthly income increases, the market price for adequate homes tends to rise.

Higher monthly income increases individuals' purchasing power, allowing them to afford more expensive homes. As income levels rise, people are more willing and able to bid for higher-quality homes, which in turn pushes up the average market price. In regions with higher average monthly incomes, there is often a demand for larger, more luxurious homes. This is particularly true in affluent urban centers where wealthier individuals tend to live, which raises the overall market price. Such areas are more likely to experience an increase in the availability of higher-end properties, contributing to a higher average home price.

5.5 Weaknesses and next steps

Despite the valuable insights provided by the model, there are several weaknesses that limit the comprehensiveness and robustness of the analysis. Additionally, several next steps can be taken to address these limitations and improve our understanding of housing market dynamics.

Weaknesses Model Simplification and Omitted Variables One significant weakness of the current model is its simplification. While it includes several key predictors such as Monthly

Income, Monthly Rent, and Household Size, there may be other important variables influencing housing prices that were not included in the model. Factors such as interest rates, government policies, zoning laws, and infrastructure development are likely to play a significant role in shaping housing prices. The omission of these variables could lead to omitted variable bias, potentially distorting the model's findings. The lack of certain unobserved variables, such as neighborhood-level amenities, crime rates, and future growth projections, also limits the model's predictive power.

Next Steps Incorporating Additional Variables To address the limitation of omitted variables, future research should aim to incorporate additional predictors such as interest rates, tax policies, neighborhood-level amenities, and zoning regulations. These factors are often highly correlated with housing prices and would provide a more comprehensive understanding of what drives housing markets. Moreover, including time-varying factors could capture the evolving nature of housing markets.

In conclusion, while this model provides valuable insights into the relationship between income, rent, and housing prices, there are several limitations that should be addressed in future research. By incorporating more data, addressing multicollinearity, and improving the model's assumptions, we can create a more robust and comprehensive framework for understanding housing market dynamics.

Appendix

A Additional data details

Preview of the raw dataset

Table 4: Preview of the raw dataset

...1	...2	...3	...4	...5
No.	City	Country	Population	Size
1	Sucre	Bolivia	265028.74551111902	Medium
2	La Paz	Bolivia	842200.26293095062	Medium
3	El Alto	Bolivia	939905.45983825868	Medium
4	Viacha	Bolivia	69896.92276964114	Small
5	Cochabamba	Bolivia	701436.41293779213	Medium

Table 5: Preview of the raw dataset

...6	...7
Average HH Size	Number of HH
3.6769491146556486	72078.437108297963
3.3070982737810106	254664.41974464271
3.2836322428840261	286239.56348191306
3.1216650512676596	22390.910498631842
3.499256931524287	200452.96091826109

Table 6: Preview of the raw dataset

...8	...9
Average Monthly Household Income of the Lowest Quintile of Population (USD 2019)	Area Sq.Km
468.8029792149182	34.052254615026783
524.18975366229711	90.663333133777869
524.18975366229711	163.09566023144248
524.18975366229711	21.789563822271017
474.2370659555292	134.04213373470196

Table 7: Preview of the raw dataset

TRANSPORTATION	…11	…12	…13
Current Length of Roads	Paved roads (% total)	No. Buses in Operation	Existing Bus Stops in Operation
637.73787600000003	0.1081176574507552342		0
1668.5831900000001	0.108117657450755239 8		0
3643.723684	0.10811765745075523 0		0
482.31696199999999	0.10811765745075523 5		0
2447.370347	0.10811765745075523126		0

Table 8: Preview of the raw dataset

…14	…15	…16
Existing Bus Terminals in Operation	Average cost of public transit ticket (USD 2019)	Total Transportation Cost from 2019-2030 (USD 2019)
0	0.22	1536101875.6460705
1	0.36	4865477003.7157965
0	0.28999999999999998	5113470681.236496
0	0.28999999999999998	6749334.0128200017
1	0.28999999999999998	4298257657.3196354

Table 9: Preview of the raw dataset

…17	PUBLIC SPACE	…19	…20
NA	Existing Open Space (Sq. Km)	Cost of Vacant Land (USD2019/Sq. Km)	Total Public Space Cost from 2019-2030 (USD 2019)
NA	0.48152480669100001	112666666.66666667	372529500.65645623
NA	4.3641126541710005	250000000	1469382968.2288766
NA	0.52077137448099997	148489405.06416112	1802387546.3408322
NA	4.4427618498999996E-2	148489405.06416112	133145552.62393023
NA	7.1776520242890003	119387755.10204081	276769771.40994942

Table 10: Preview of the raw dataset

…21	SOLID WASTE	…23
NA	GDP per capita (projected, constant 2011 international $)	(Projected) Waste Generated per capita (kg/yr)
NA	7332.1515286784361	189.38701711158538
NA	7332.1515286784361	238.79232592330331
NA	7332.1515286784361	156.4501445704401
NA	7332.1515286784361	102.92772669107902
NA	7332.1515286784361	247.02654405858962

Table 11: Preview of the raw dataset

…24	…25
Disposal cost per ton (2019 USD)	Collection and Transportation cost per ton (2019 USD)
12.536338246924021	24.26234284290619
12.536338246924021	24.26234284290619
12.536338246924021	24.26234284290619
12.536338246924021	24.26234284290619
12.536338246924021	24.26234284290619

Table 12: Preview of the raw dataset

…26	…27
Existing hectares of sanitary landfill	Price land per hectare
0	7700
0	7700
0	7700
0	7700
0	7700

Table 13: Preview of the raw dataset

…28	…29	HOUSING
Total Solid Waste Cost from 2019-2030 (USD 2019)	NA	Percentage of HH in Need of Adequate Housing Upgrades
30570436.600731175	NA	0.29545180282922212
122488183.73800626	NA	0.23799410516137157

Table 13: Preview of the raw dataset

…28	…29	HOUSING
89560930.635592163	NA	0.48121528157984184
4381763.0989313712	NA	0.69096065060847545
105533510.84437338	NA	0.44546506945213082

Table 14: Preview of the raw dataset

…31
Average Market Price of an Adequate Home 550 sqft (USD 2019)
38540.810000000005
44525.250000000007
38540.810000000005
38540.810000000005
30956.309999999998

Table 15: Preview of the raw dataset

…32	…33	…34
Average Monthly Rent of an Adequate Home 550 SqFt per month (USD 2019.)	Total Housing Cost from 2019-2030 (USD 2019)	NA
1075	1035563482.632672	NA
1714.41	4414594637.4068813	NA
1566.3	5280520611.1374655	NA
1566.3	463369296.33604205	NA
1181.08	3044357730.7460241	NA

Table 16: Preview of the raw dataset

…34	…35	…36
NA	Total Governance Cost from 2019-2030 (USD 2019)	NA
NA	55865200	NA
NA	55865200	NA
NA	118124600	NA
NA	16247200	NA
NA	55865200	NA

Table 17: Preview of the raw dataset

...37	...38
Latitute (Decimal)	Longitude (Decimal)
-19.040970846699999	-65.259515626699994
-16.497973613700001	-68.149985190500004
-16.490107999999999	-68.208178000000004
-16.650005677500001	-68.299950197000001
-17.410010967200002	-66.169976848999994

Preview of the cleaned dataset

Table 18: Preview of the raw dataset

City	Country	Population	Size	Average_HH_Size
Sucre	Bolivia	265028.75	Medium	3.676949
La Paz	Bolivia	842200.26	Medium	3.307098
El Alto	Bolivia	939905.46	Medium	3.283632
Viacha	Bolivia	69896.92	Small	3.121665
Cochabamba	Bolivia	701436.41	Medium	3.499257
Quillacollo	Bolivia	130805.21	Medium	3.748219

Table 19: Preview of the raw dataset

Number_of_HH	Monthly_Income
72078.44	468.8030
254664.42	524.1898
286239.56	524.1898
22390.91	524.1898
200452.96	474.2371
34897.97	474.2371

Table 20: Preview of the raw dataset

Percentage_of_HH_in_Need_of_Adequate_Housing_Upgrades
0.2954518
0.2379941
0.4812153

Table 20: Preview of the raw dataset

Percentage_of_HH_in_Need_of_Adequate_Housing_Upgrades
0.6909607
0.4454651
0.3520544

Table 21: Preview of the raw dataset

Average_Market_Price_of_an_Adequate_Home
38540.81
44525.25
38540.81
38540.81
30956.31
38540.81

Table 22: Preview of the raw dataset

Average_Monthly_Rent_of_an_Adequate_Home
1075.00
1714.41
1566.30
1566.30
1181.08
1566.30

B Model details

B.1 Check the violation assumptions of original model.

In Figure 8 we implement a residual vs. fitted value plot. This shows clustering of residuals in certain ranges of fitted values, with uneven dispersion in others. This violates constant variance assumption.

In Figure 9 we draw a QQ plot. This shows the deviation at the extremes indicates the presence of outliers or non-normality in the residuals, which could bias parameter estimates and predictions.It violates normality assumption.

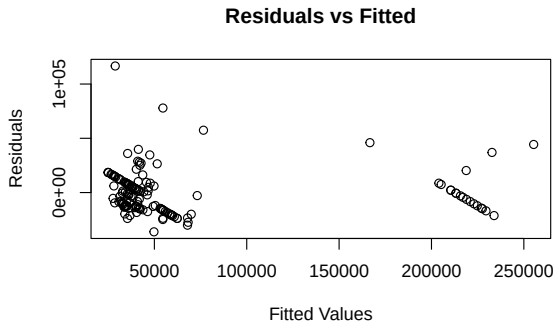

Figure 8: Examining how the model fits, and is affected by, the data

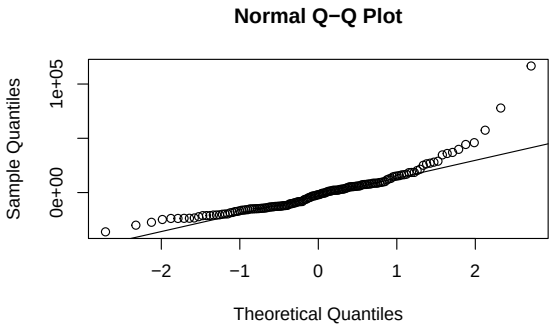

Figure 9: Examining how the model fits, and is affected by, the data

B.2 Check the violation assumptions of transfered model.

By applying Box-cox transformation to the first model. We get the second model. Now, we want to check the assumptions of second model.

Figure 10 is a Residual vs. fited value plot. It shows that The residuals appear to be randomly distributed around zero, without a clear pattern. Also, the spread of residuals does not seem to systematically increase or decrease with the fitted values. This suggests that the model does not violate uncorrelated, linearity or constant variance assumptions.

Figure 11 is a QQ plot. It shows that all the points are located near the line.

This suggests that the model does not violate normality assumption.

C Survey

In studying the drivers of urban housing prices, survey data plays a critical role in understanding household-level factors such as income, housing preferences, and rental demand. To ensure representativeness and minimize bias in the dataset, careful attention must be paid to the sampling methodology employed.

Urban households in metropolitan areas with a population of over 500,000. The survey aims to sample a diverse range of households across different income levels, family sizes, and housing types.

Sample Size 1,000 households, stratified by:

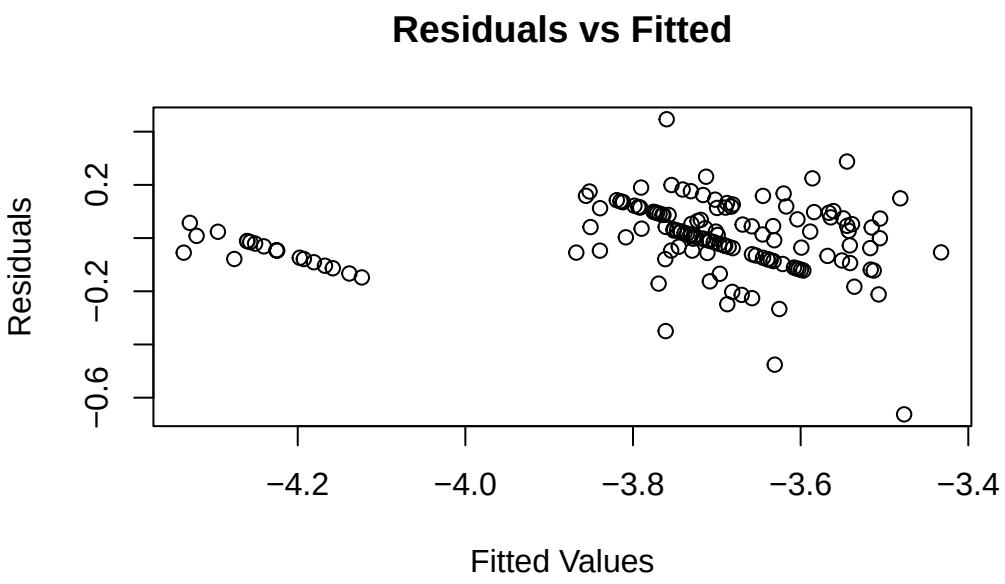

Figure 10: Checking the second model

Income level (low, middle, high) Housing type (owned, rented, subsidized) Geographic distribution (central, suburban, peripheral areas) Survey Method Online and phone-based surveys, supplemented by in-person interviews for underserved populations.

Survey Questions Demographic Information

What is the size of your household? (1, 2, 3–4, 5+)

What is your household's annual income? (Less than $30,000, $30,000–$60,000, $60,000–$100,000, $100,000+)

What is your highest education level? (High school, Associate's, Bachelor's, Graduate)

Housing Information

Do you own or rent your current residence? (Own, Rent, Other)

What is the monthly cost of your housing (including mortgage/rent, utilities)?

Less than $500

$500–$1,000

$1,000–$2,000

$2,000+

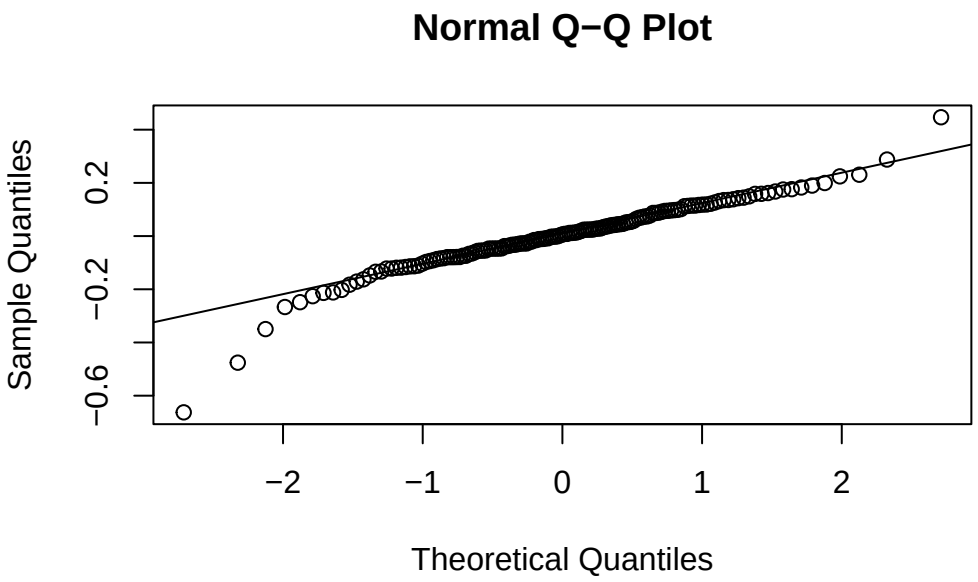

Figure 11: Checking the second model

What type of housing do you live in? (Apartment, Single-family home, Townhouse, Other)

Housing Market Perceptions

Over the past year, do you feel housing prices in your area have:

Increased significantly

Increased slightly

Remained stable

Decreased

How would you rate the affordability of housing in your area? (1 = Very unaffordable, 5 = Very affordable) Demand Dynamics

Are you planning to move or upgrade your housing within the next year? (Yes, No, Unsure)

What factors are influencing your decision to move/upgrade? (Check all that apply)

Income changes

Family size changes

Better location

Housing affordability

Job relocation

Additional Context

How far is your residence from your workplace/school? (Less than 5 miles, 5–10 miles, 10–20 miles, 20+ miles)

How much time do you spend commuting daily?

Less than 30 minutes

30–60 minutes

60+ minutes

Ethical Considerations

Ensure participant confidentiality and anonymity.

Provide participants with informed consent forms outlining the purpose of the survey and data usage.

Allow participants to withdraw from the survey at any time.

Data Analysis

The collected data will be used to:

Analyze the relationship between household demographics and housing costs.

Identify factors that influence perceptions of housing affordability.

Model housing price variations across urban areas.

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