

Furnishing Status Analysis

1) Furnished :

Number of furnished houses : 140

Q1: 3.876.250

Median : 5.075.000

Q3: 6.650.000

IQR: 2.773.750

Upper Bound : 10.881.250

Outliers : 13.300.000, 12.250.000, 12.215.000, 11.410.000

- This category displays the highest prices among the three categories, with a median of 5.075.000.
- It has the largest IQR (2.773.750), indicating greater price dispersion.
- It includes the most expensive residences, with outliers reaching up to 13.300.000.

2) Semi – Furnished :

Number of semi-furnished houses : 227

Q1: 3.850.000

Median: 4.585.000

Q3: 5.582.500

IQR: 1.732.500

Upper Bound : 8.181.250

Outliers : 12.250.000, 10.850.000, 10.150.000, 9.681.000, 9.310.000,
9.240.000, 9.100.000, 8.855.000, 8.750.000

- They represent the most common category in the dataset (most observations).
- They have intermediate values with a median of 4.585.000.
- They show the smallest IQR (1.732.500), suggesting more concentrated values.

3) Unfurnished :

Number of unfurnished houses : 178

Q1: 2.870.000

Median (Q2): 3.430.000

Q3: 4.821.250

IQR: 1.951.250

Upper Bound : 7.748.125

Outliers : 10.150.000, 9.800.000, 9.100.000 8.680.000, 8.400.000 8.400.000, 8.190.000, 7.962.500

- They have clearly lower prices with a median of 3.430.000.
- They exhibit fewer extreme high values, with the maximum outlier at 10.150.000.

Key Takeaway : The furnishing status appears to have a significant impact on house prices. Furnished houses tend to be substantially more expensive (approximately 48% higher median price compared to unfurnished ones), followed by semi-furnished and finally unfurnished properties. This is logical since furnishings add value to the property. Additionally, it's likely that furnished houses may also possess other higher-quality features that contribute to their increased price.

Air-condition Analysis

1) Air – condition : Yes

Number of houses with air – condition : 172

Q1 = 4.602.500

Median = 5.757.500

Q3 = 7.218.750

IQR = 2.616.250

Upper Bound : 11.143.125

Outliers : 11.410.000, 12.215.000, 12.250.000, 13.300.000

- They show significantly higher prices with a median of 5.757.500.
- They have a larger IQR (2.616.250), indicating greater price dispersion.
- They include the most expensive residences in the dataset, with outliers reaching up to 13.300.000.
- The Q1 (4.602.500) is higher even than the median of non-air-conditioned houses.

2) Air - condition : No

Number of houses without air - condition : 373

Q1 : 3.150.000

Median : 3.885.000

Q3 : 4.900.000

IQR : 1.750.000

Upper Bound : 7.525.000

Outliers : 7.700.000, 8.043.000, 8.190.000, 8.400.000, 8.400.000, 8.750.000, 9.100.000, 9.240.000, 9.240.000, 9.681.000, 10.150.000, 12.250.000

- They represent the majority of residences in the dataset (approximately 68%).
- They have significantly lower prices with a median of 3.885.000.
- They show a smaller IQR (1.750.000), indicating a more compact price distribution.
- They have more outliers, but within generally lower price ranges.

Key Takeaway: The presence of air conditioning appears to be strongly associated with house prices. Houses with air conditioning have a median price approximately 48% higher than those without. This can be attributed to two factors: (1) air conditioning represents added value for the property, especially in areas with warm climates, and (2) houses with air conditioning are likely to feature other luxury amenities that contribute to their higher price. It's noteworthy that although most houses in the dataset don't have air conditioning, houses with air conditioning clearly demonstrate significantly higher prices.

Basement Analysis

1) Basement : Yes

Number of houses with basement : 191

Q1 : 3.998.750

Median : 4.900.000

Q3 : 6.020.000

IQR : 2.021.250

Upper Bound : 9.051.875

Outliers : 12.250.000, 12.215.000, 11.410.000, 10.850.000, 9.870.000,
9.681.000, 9.100.000, 9.100.000

- They have a higher median price (4.900.000) compared to houses without basements.
- Their price range is more concentrated (IQR: 2.021.250), though several high outliers are observed (up to 12.250.000).

2) Basement : No

Number of houses without basement : 354

Q1 : 3.228.750

Median : 4.077.500

Q3 : 5.556.250

IQR : 2.327.500

Upper Bound : 9.047.500

Outliers : 13.300.000, 12.250.000, 10.150.000, 10.150.000, 9.800.000,
9.310.000, 9.240.000, 9.240.000

- They have a lower median (4.077.500), approximately 17% less than those with basements.
- They exhibit greater price dispersion (IQR: 2.327.500), but also more extreme outliers (maximum at 13.300.000).

Key Takeaway: Houses with basements tend to command higher prices, though the difference is less pronounced compared to other variables. This may be because basements increase usable space but don't impact value as significantly as other luxury features. Additionally, prices for homes without basements show greater

dispersion, indicating that some high-value residences exist even without basements—likely due to other premium attributes.

Guestroom Analysis

1) Guestroom : Yes

Number of houses with guestroom : 97

Q1 : 4.690.000

Median : 5.495.000

Q3 : 6.419.000

IQR : 1.729.000

Upper bound : 9.012.500

Outliers : 11.410.000, 9.870.000, 9.800.000, 9.681.000, 9.100.000

- They have a significantly higher median (5.495.000) compared to houses without a guest room.
- They show a narrower price range (IQR: 1.729.000), indicating a more stable distribution.
- The most expensive properties in this category reach 11.410.000.

2) Guestroom : No

Number of houses with guestroom : 448

Q1 : 3.347.750

Median : 4.165.000

Q3 : 5.258.750

IQR : 1.911.000

Upper bound : 8.125.250

Outliers : 13.300.000, 12.250.000, 12.250.000, 12.215.000, 10.850.000,
10.150.000, 10.150.000, 9.800.000, 9.310.000, 9.240.000, 9.240.000,
9.100.000, 8.960.000, 8.855.000, 8.750.000, 8.575.000, 8.400.000,
8.400.000, 8.400.000, 8.400.000, 8.400.000, 8.295.000

- They have a significantly lower median (4.165.000), approximately 24% less than houses with a guest room.
- They exhibit greater price dispersion (IQR: 1.911.000) and more extreme outliers, with values reaching up to 13.300.000.

Key Takeaway : Houses with guest rooms are generally more expensive, with a median price approximately 24% higher than others. This is logical, as an additional room adds functionality and value to the property. However, the presence of expensive outliers in both categories indicates that price is also influenced by other factors beyond the guest room.

Hot Water Heating Analysis

1) Hot water heating : Yes

Number of houses with hot water heating : 25

Q1 : 3.780.000

Median : 5.383.000

Q3 : 6.650.000

IQR : 2.870.000

Upper bound : 10.955.000

Outliers : No outliers for houses with hot water heating

- They have a clearly higher median (5.383.000) compared to the other properties.
- They show the largest IQR (2.870.000), indicating significant price variability.
- They contain no outliers, suggesting a more uniform price distribution.

2) Hot water heating : No

Number of houses with hot water heating : 520

Q1 : 3.430.000

Median : 4.329.500

Q3 : 5.674.375

IQR : 2.244.375

Upper Bound : 9.040.937,5

Outliers : 13.300.000, 12.250.000, 12.250.000, 12.215.000, 11.410.000, 10.850.000, 10.150.000, 10.150.000, 9.870.000, 9.800.000, 9.800.000, 9.310.000, 9.240.000, 9.100.000, 9.100.000

- They have a lower median (4.329.500), approximately 20% less than houses with a water heating system.
- They show a smaller IQR (2.244.375), indicating less dispersion.
- They include several high outliers, with prices reaching up to 13.300.000.

Key Takeaway : Houses with water heating systems are more expensive on average, showing a 20% higher median price than others. This could be attributed either to the added value of water heating itself or to these properties having other luxury

features. The limited number of houses with this characteristic makes the comparison less reliable, but the price difference is clear.

Main road Analysis

1) Main road : Yes

Number of houses that are on main road : 468

Q1 : 3.638.250

Median : 4.550.000

Q3 : 5.967.500

IQR : 2.329.250

Upper bound : 9.461.375

Outliers : 13.300.000, 12.250.000, 12.250.000, 12.215.000, 11.410.000, 10.850.000, 10.150.000, 10.150.000, 9.870.000, 9.800.000, 9.800.000, 9.681.000

- They have a significantly higher median (4.550.000) compared to properties not located on main roads.
- They display double the IQR (2.329.250) versus off-main-road properties, indicating greater price variability.
- They include numerous high-end outliers, with values reaching up to 13.300.000.

2) Main road : No

Number of houses that are not on main road : 77

Q1 : 2.835.000

Median : 3.290.000

Q3 : 3.990.000

IQR : 1.155.000

Upper bound : 5.722.500

Outliers : No outliers

- They have a significantly lower median (3.290.000), approximately 28% less than properties located on main roads.
- They show a smaller IQR (1.155.000), indicating more compact and less dispersed prices.
- They don't feature outliers, demonstrating a more uniform price distribution.

Key Takeaway : Properties on main roads are on average more expensive (median 4.550.000 vs. 3.290.000). This premium may be attributed to better access to infrastructure, retail, and transportation - all factors that increase property value. Additionally, the significant price variation among main-road properties suggests this category includes both luxury and more affordable residences, while off-main-road properties show more stable pricing without extreme deviations.

Preferred Area Analysis

1) Preferred Area : Yes

Number of houses that are in preferred area : 128

Q1 : 4.548.250

Median : 5.582.500

Q3 : 6.650.000

IQR : 2.101.750

Upper bound : 9.802.625

Outliers : 13.300.000, 12.250.000, 12.215.000, 10.850.000, 10.150.000, 9.870.000

- Higher median (5.582.500), approximately 36% greater than properties not in preferred areas.
- Larger IQR (2.101.750), indicating greater price variation - though less extreme than other categories.
- Include premium outliers reaching up to 13.300.000.

2) Preferred Area : No

Number of houses that are not in preferred area : 417

Q1 : 3.255.000

Median : 4.095.000

Q3 : 5.110.000

IQR : 1.855.000

Upper bound : 7.892.500

Outliers : 12.250.000, 11.410.000, 10.150.000, 9.681.000, 9.240.000, 9.100.000, 8.960.000, 8.890.000, 8.750.000, 8.680.000, 8.645.000, 8.645.000, 8.575.000, 8.400.000, 8.400.000, 8.400.000, 8.400.000, 8.190.000, 8.120.000, 8.080.940, 7.980.000, 7.962.500, 7.910.000

- They have a significantly lower median (4.095.000).
- They show a smaller IQR (1.855.000), indicating more compact pricing.

- They feature numerous outliers, but within a narrower price range than properties in preferred areas.

Key Takeaway : Properties in preferred areas are on average more expensive (median 5.582.500 vs. 4.095.000). This is expected, as these areas likely offer better infrastructure, higher demand, and superior quality of life. While non-preferred areas also contain high-value outliers, their overall price distribution remains at lower levels.