BELGIAN HOUSING MARKET

Analysis for investment opportunities

Client
Immo Eliza

For Harmony Real Estate
Izabela
Petra
Rik
Tom

CONTENT

- **Methodology**

- **Dataset**

  - **High level description**

  - **Correlation**

  - **Most relevant features**

- **Conclusion**

METHODOLOGY

Data collection

- webscraping Immoweb
- search for type 'houses'
  - overview pages
  - individual url's

- 9995 records
- 27 features

Clean up dataset

- cosmetic cleanup
- removed
  - duplicates (905)
  - 'House group' (693)
  - 'Chalet', 'Bungalow', 'Castle', 'Other property', 'Exceptional property' (809)

- 7587 records
- 27 features

Segmentation

- consolidations and segmentation on subtypes
- adding features (price per sqm, vicinity of city)
- zooming in on 'house'

- 5924 records
- 33 features

Handling outliers

- numerical data: IQR and Z method
- categorical: mapping of rare values

- 4180 records
- 33 features

Correlations

- Pearson for linear on numerical
- Point-biserial for linear on binary
- Spearman for non-linear and encoded categorical
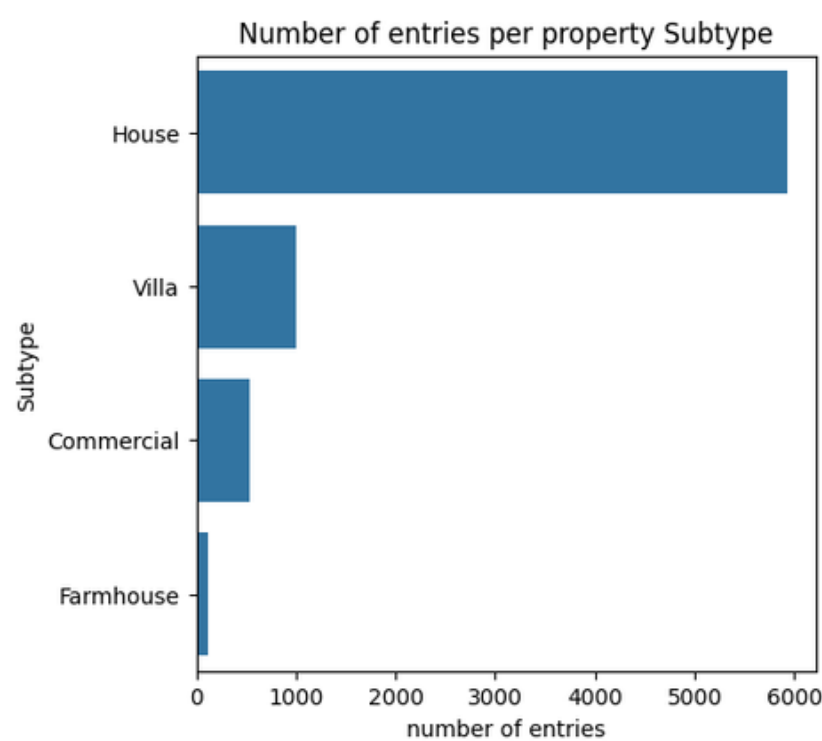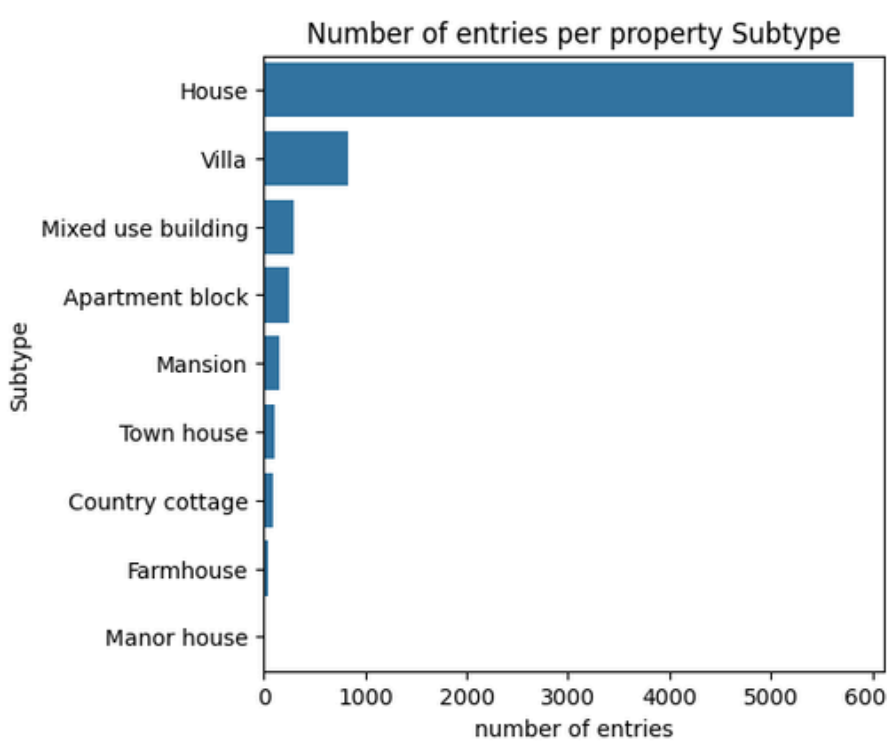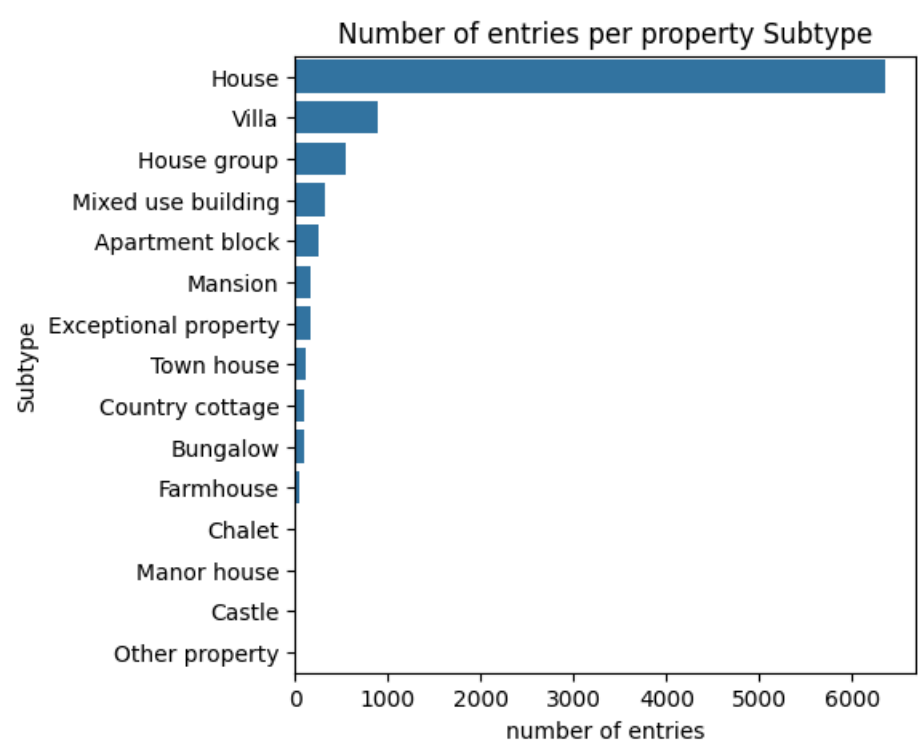
DISTRIBUTION OF HOUSES ACROSS BELGIUM

Dataset: Houses October 2024
- 'House' as subtype (containing House and Town house)
- 4180 records (curated, singular, no outliers)
- Features:

Identifier
- id
- locality_name
- street
- number
- latitude
- longitude

Categorical
- Postal_code
- Subtype
- Kitchen_type
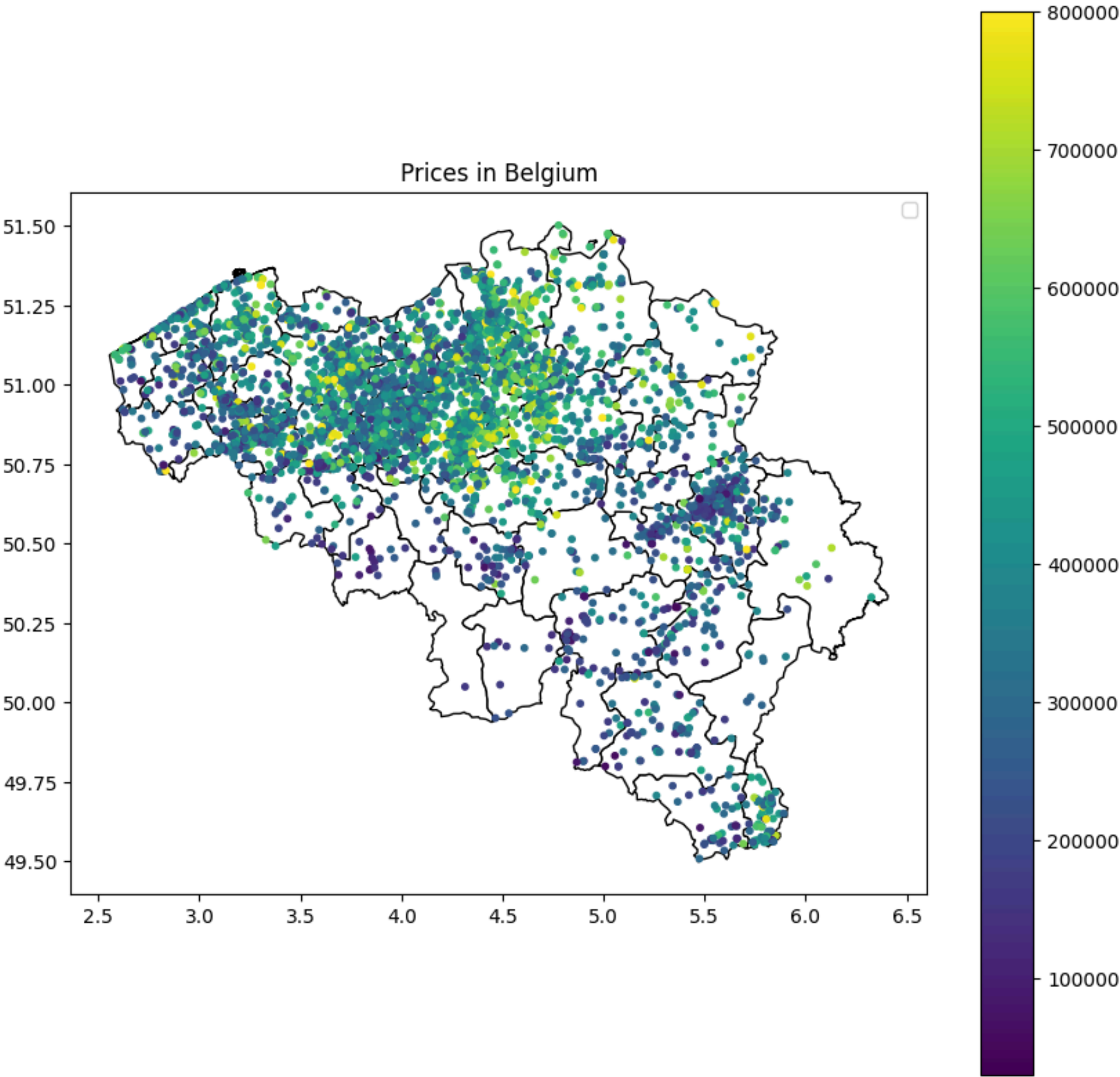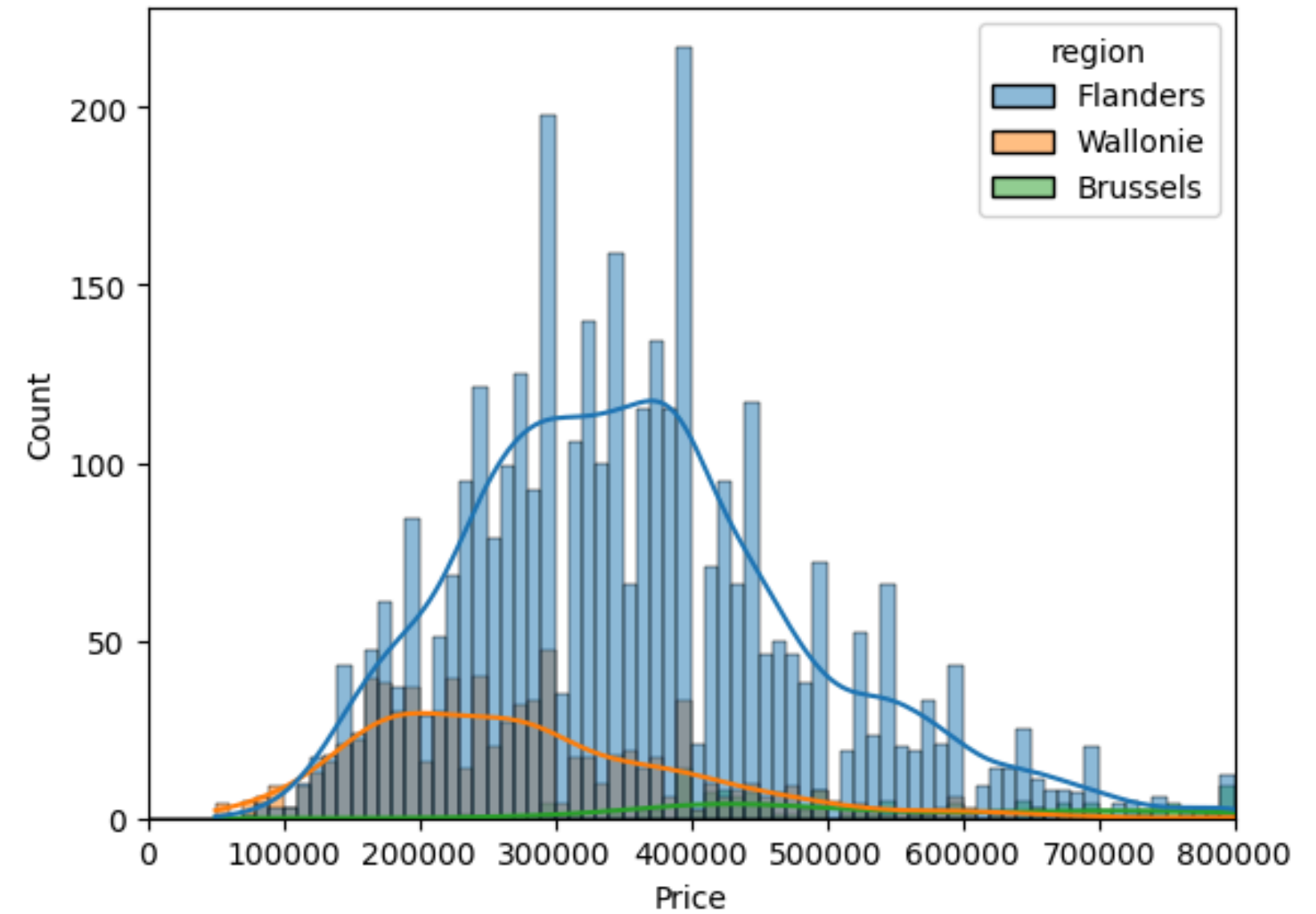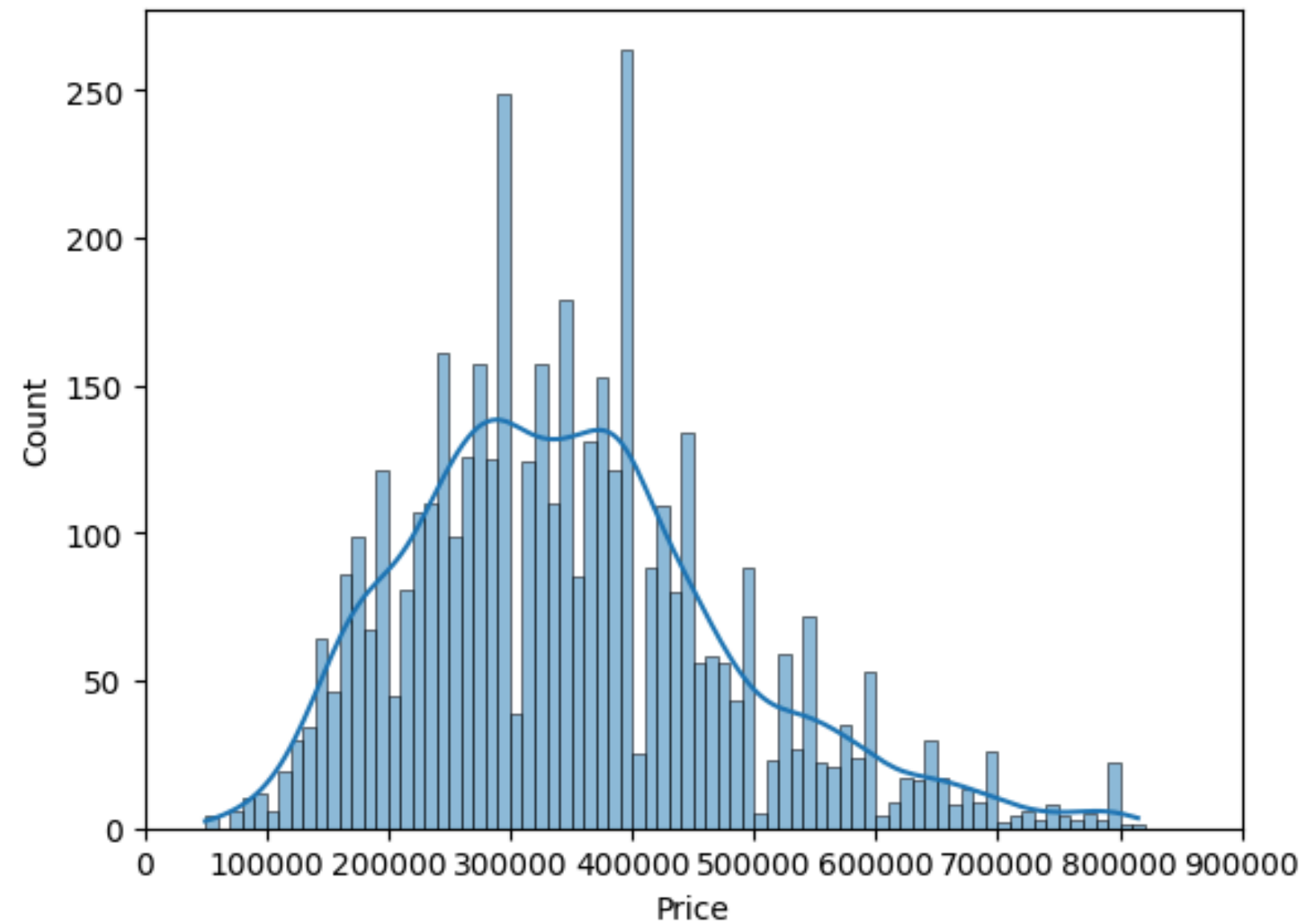- epc
- Province*
- Assigned_City*

Numerical
- Price
- Number_of_bedrooms
- Living_area
- terraceSurface
- gardenSurface
- Number_of_facades
- landSurface
- price_per_sqm*
- price_per_sqm_land*

Binary
- Open_fire
- Swimming_Pool
- hasTerrace
- Furnished
- State_of_building
- Has_Assigned_City*

*Added feature

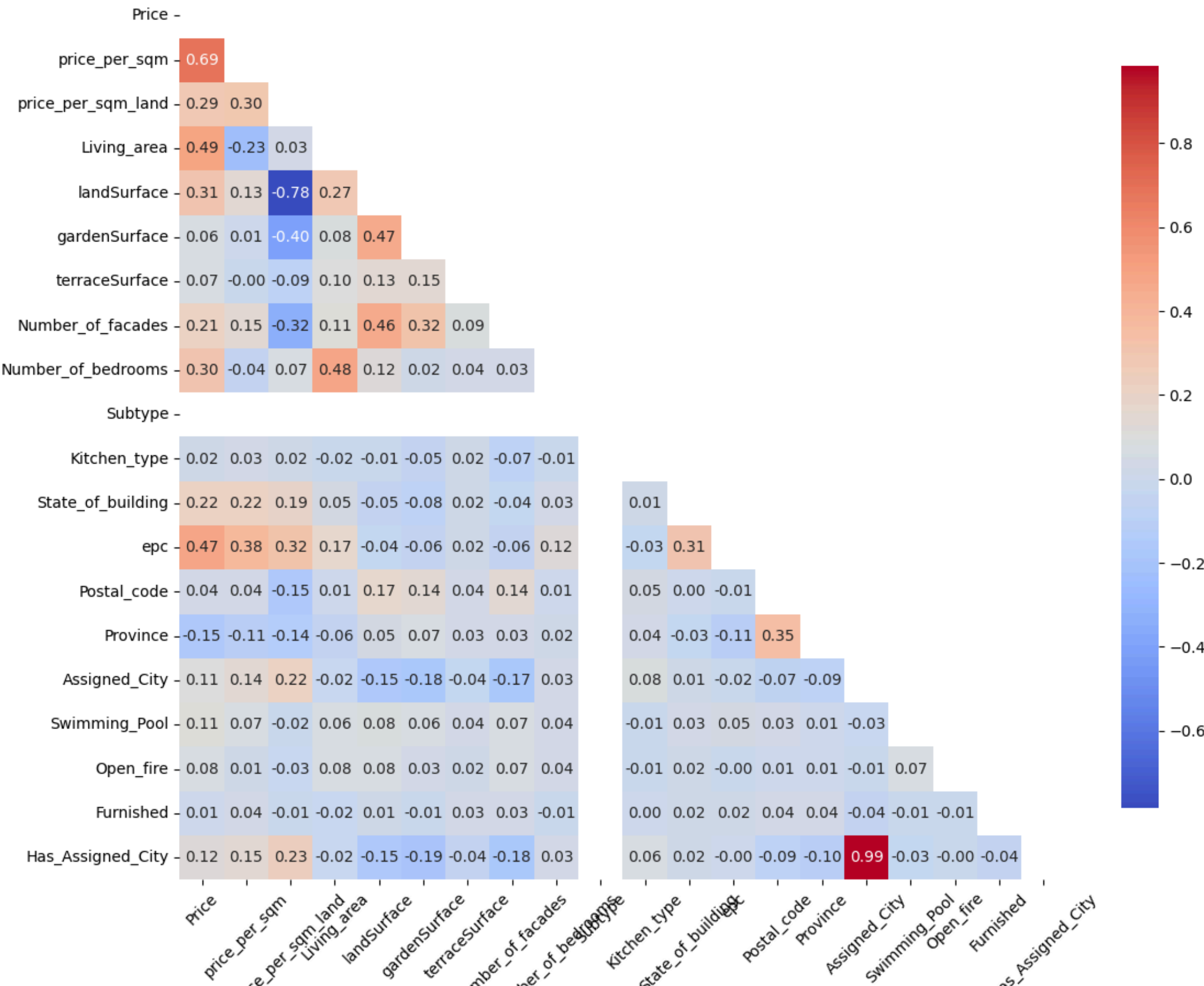Prices in Belgium

PRICE DISTRIBUTION
- location is important
- 'psychological' price settings, e.g. around 400k cut off
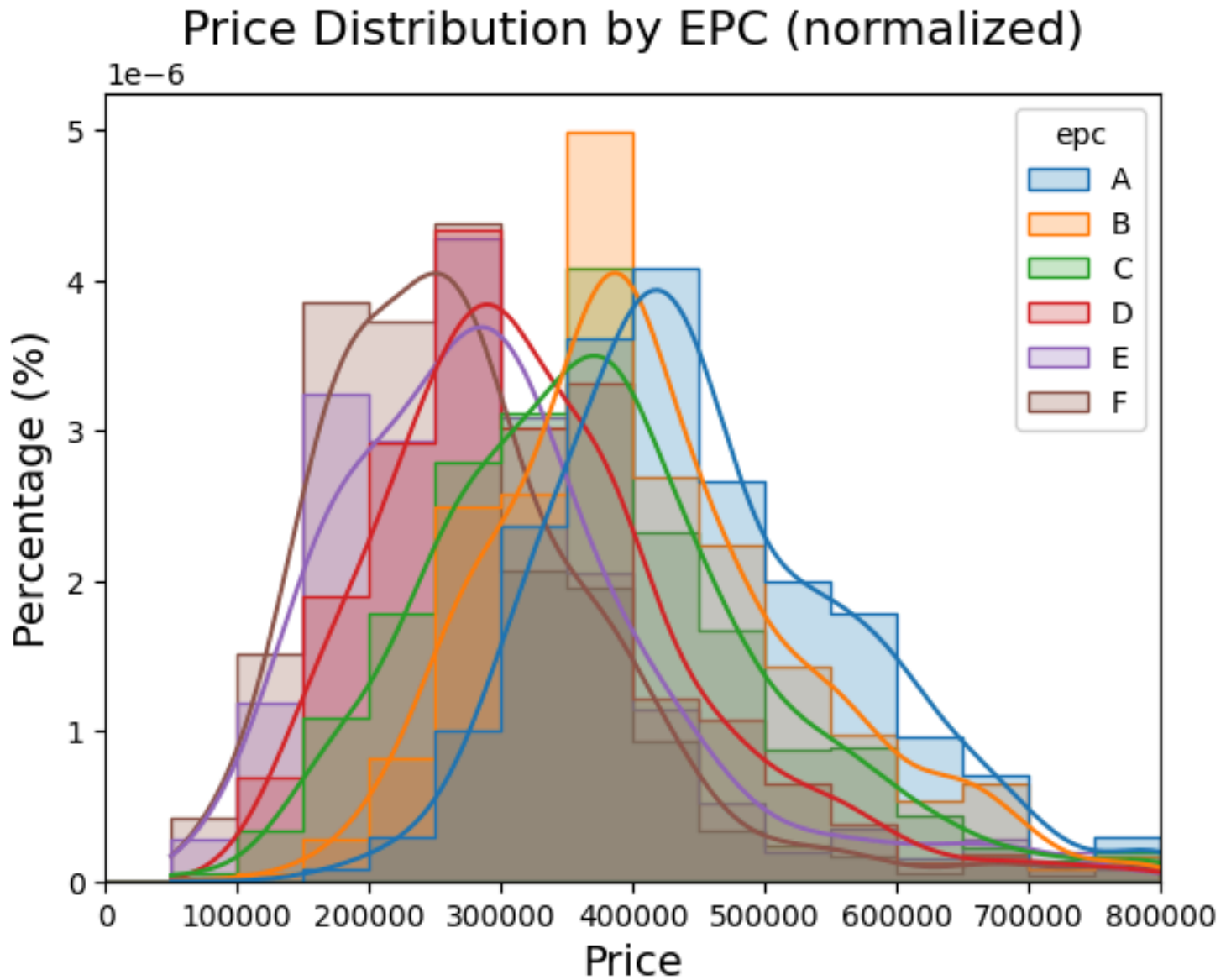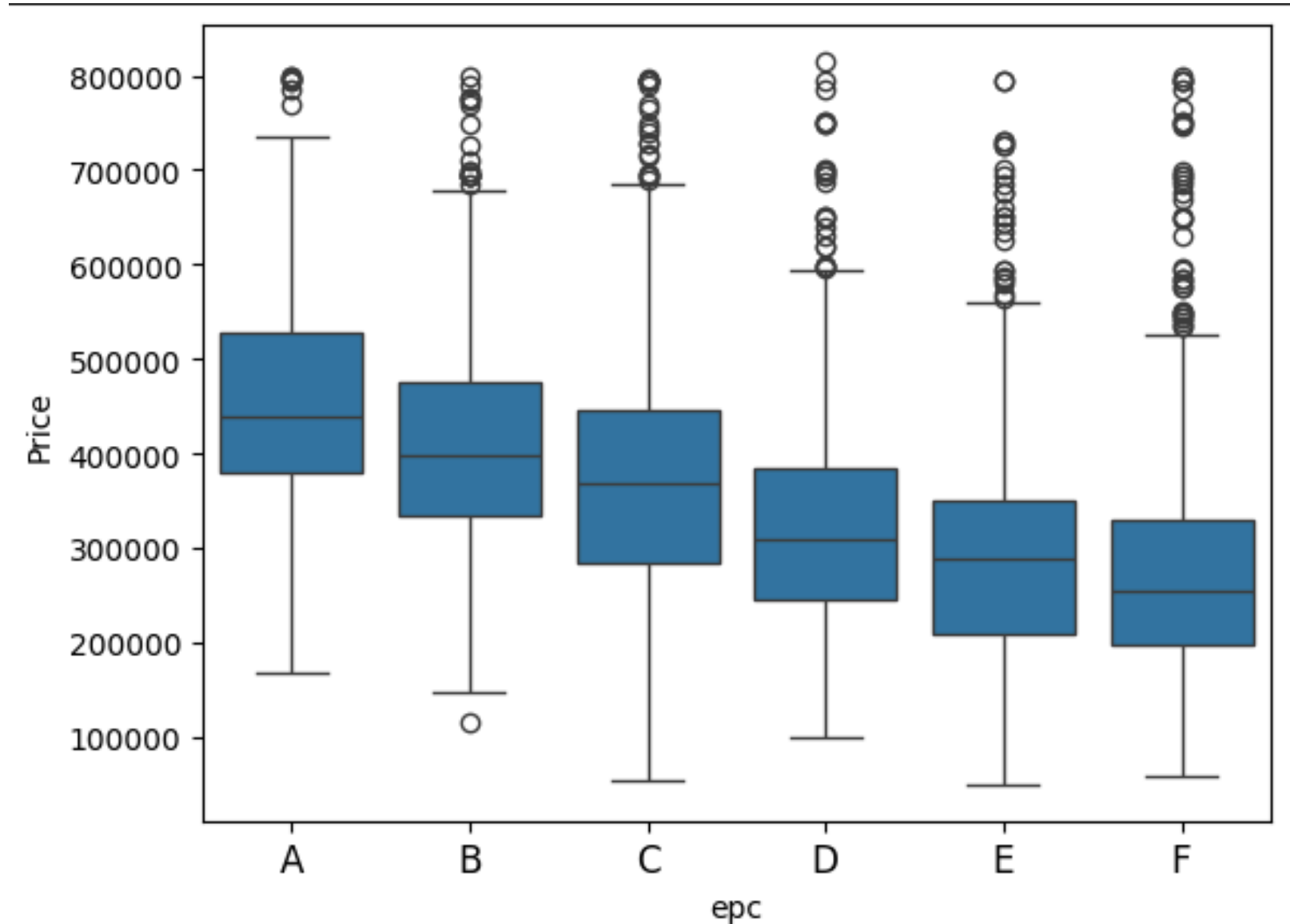
region
Brussels 91
Flanders 3285
Wallonie 804
<u>Total 4180</u>

CORRELATION MATRIX

Most important correlations

- Price per sqm

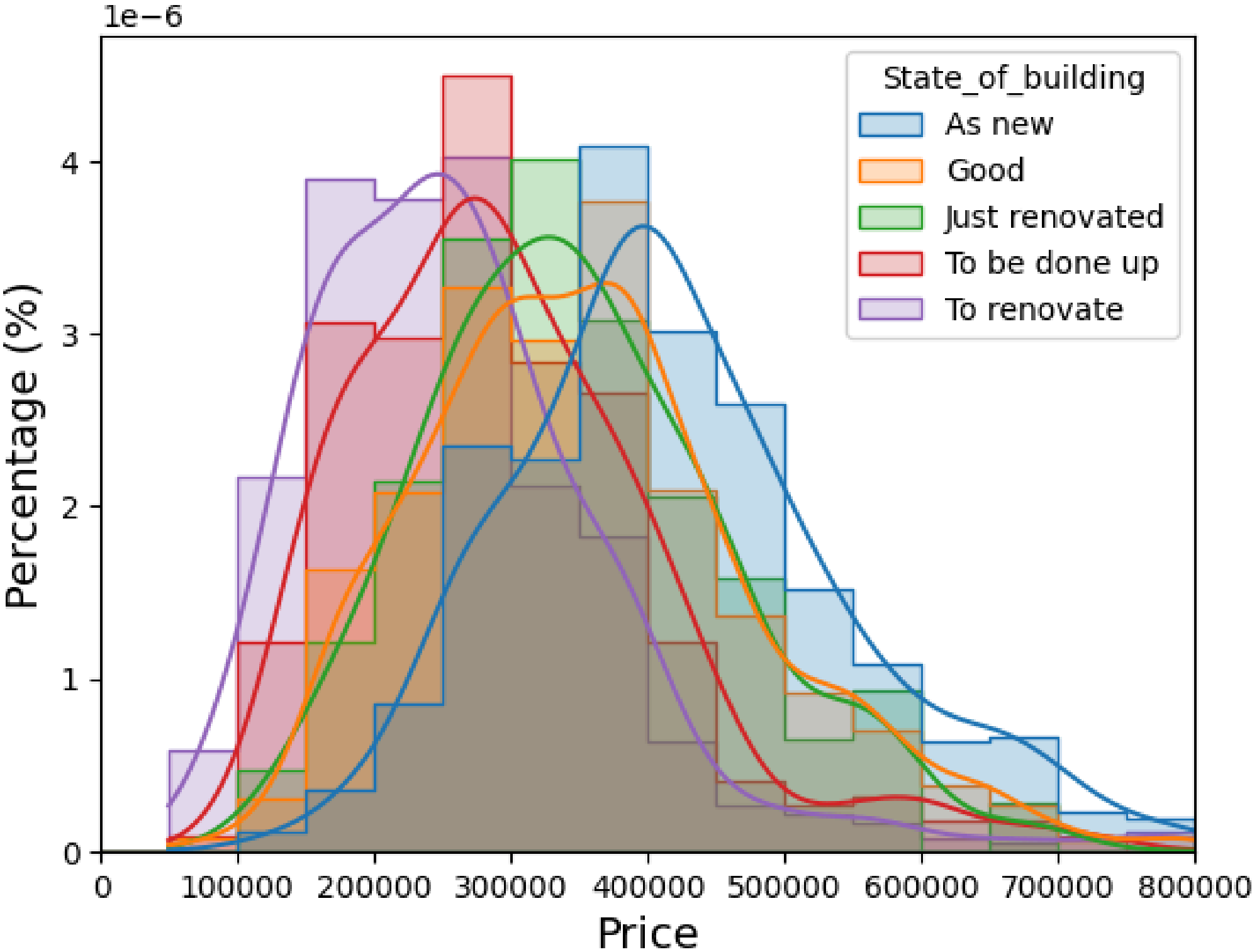- EPC (energy efficiency)

- State of Building

- Number of bedrooms

Price Distribution by EPC (normalized)

A   444
B   619
C   920
D   743
E   484
F   970

EPC

State of building

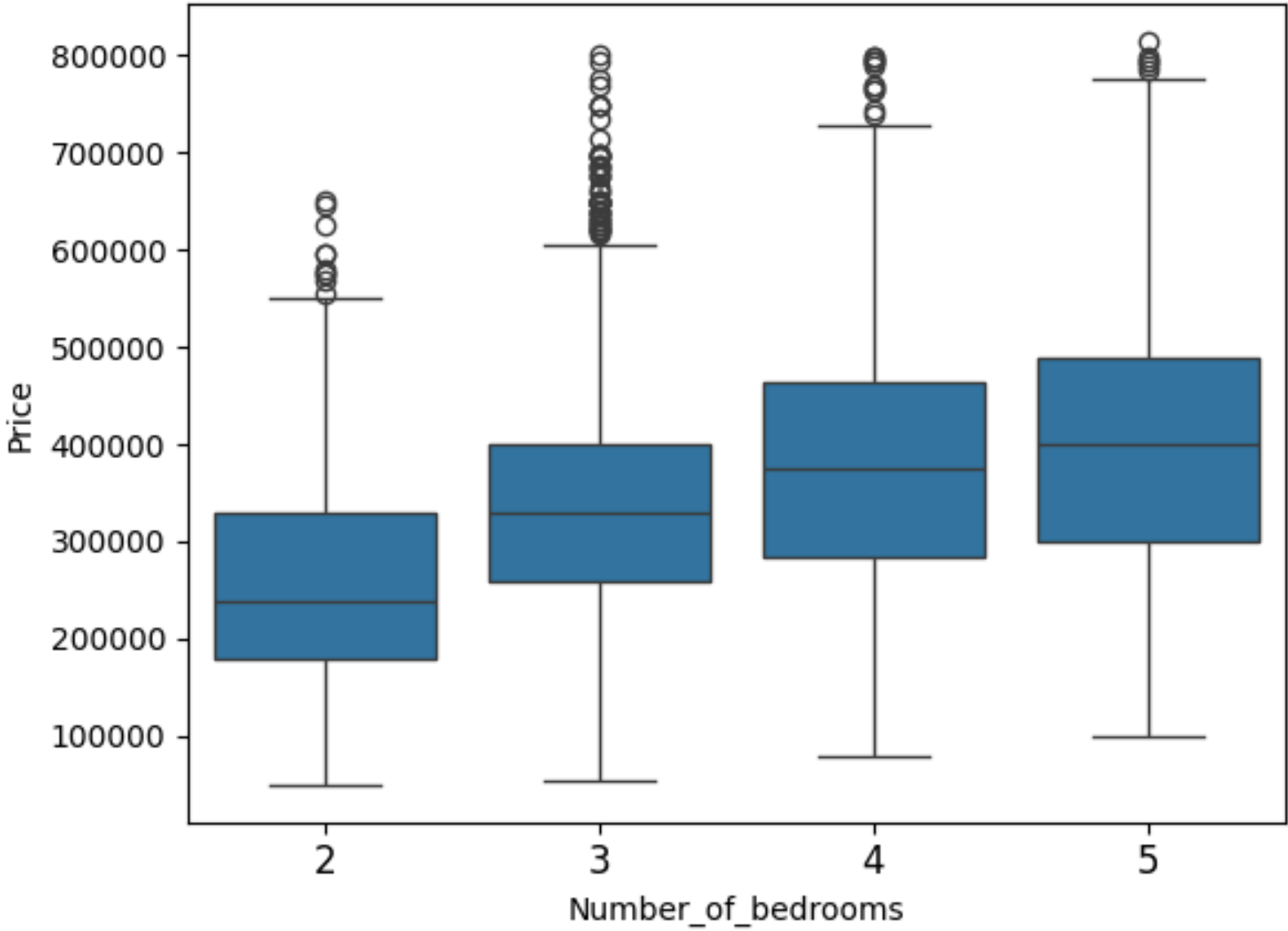|	
As new	723
Good	2044
Just renovated	214
To be done up	444
To renovate	755

STATE OF THE BUILDING

Price Distribution by State of building (normalized)
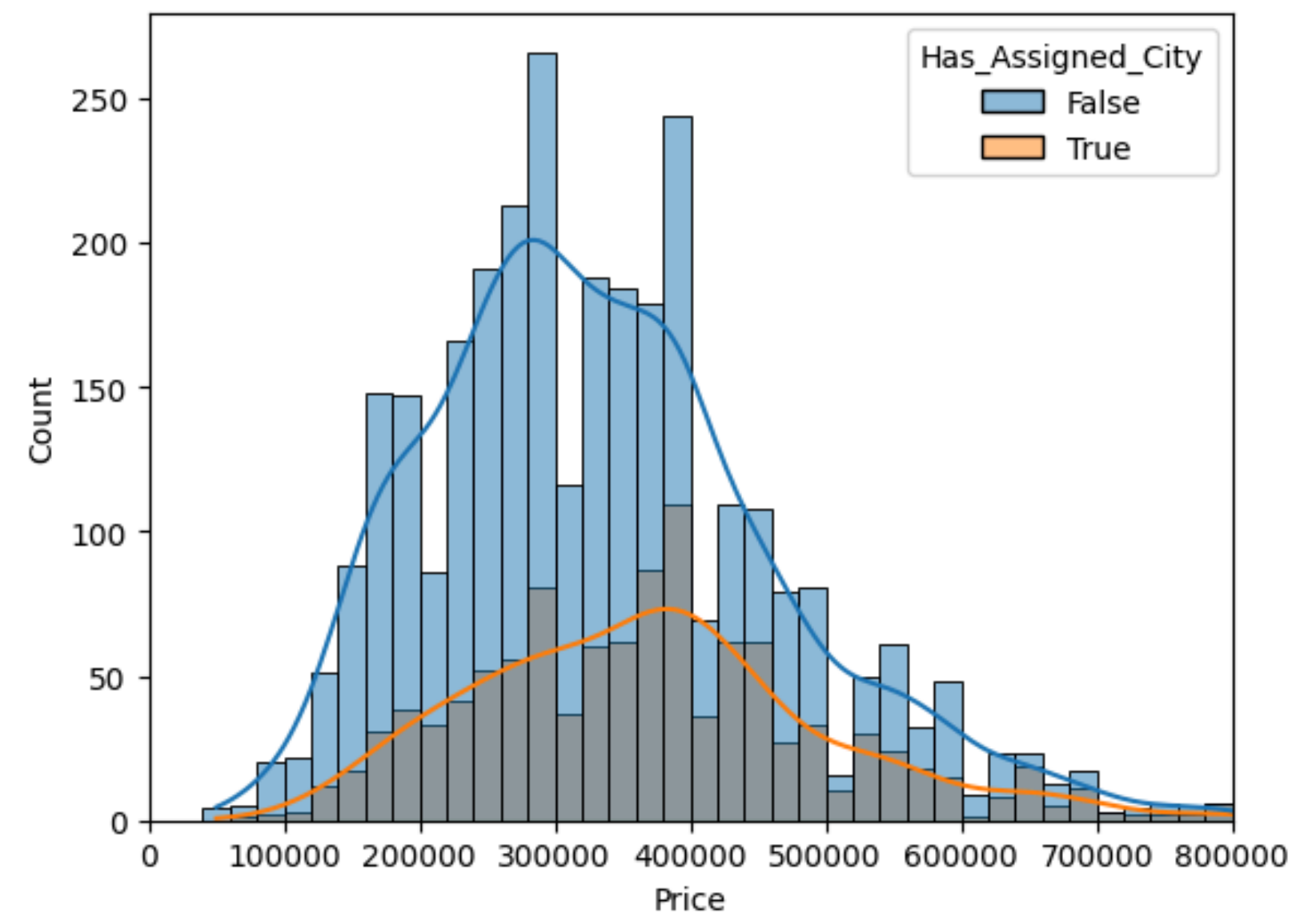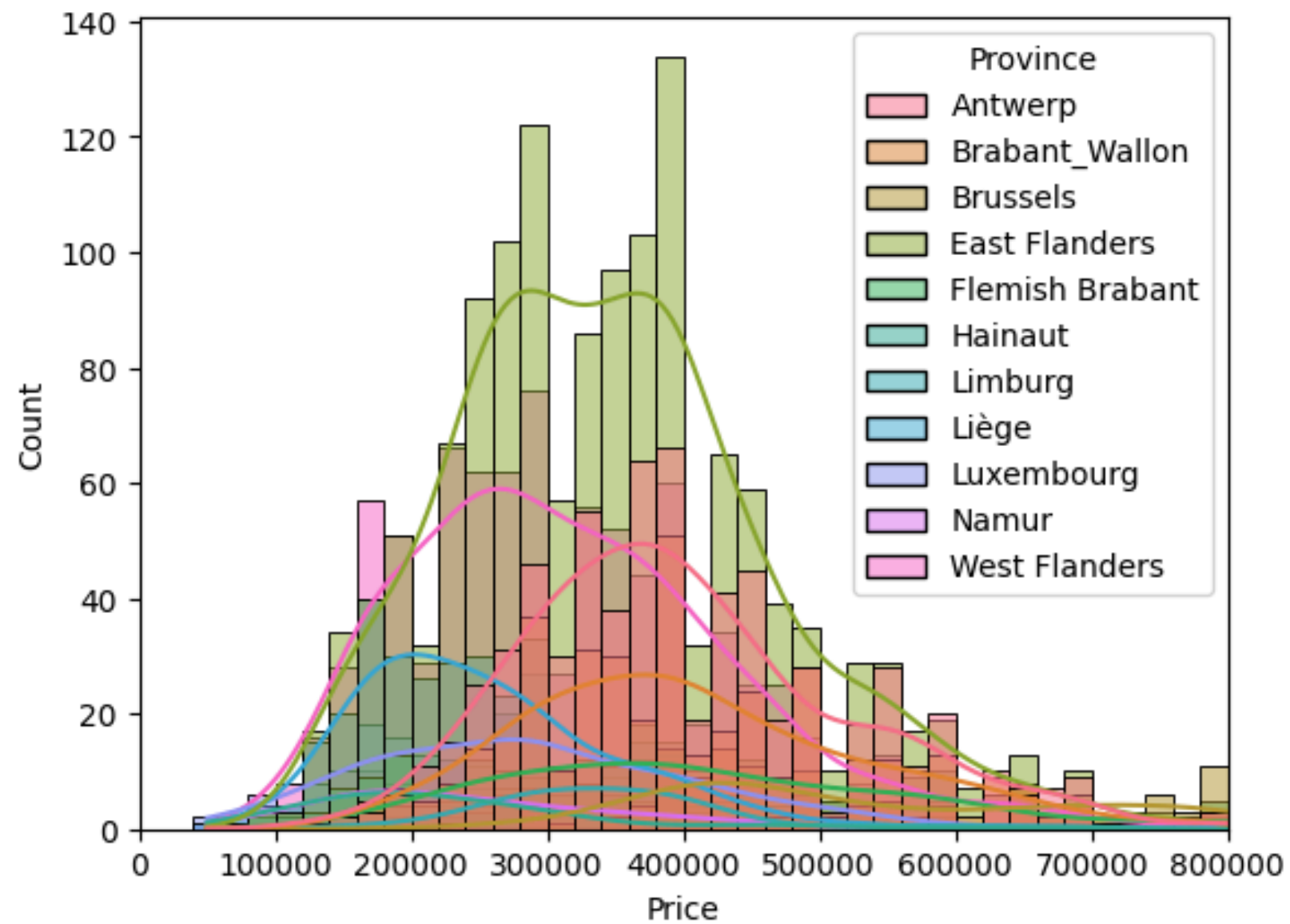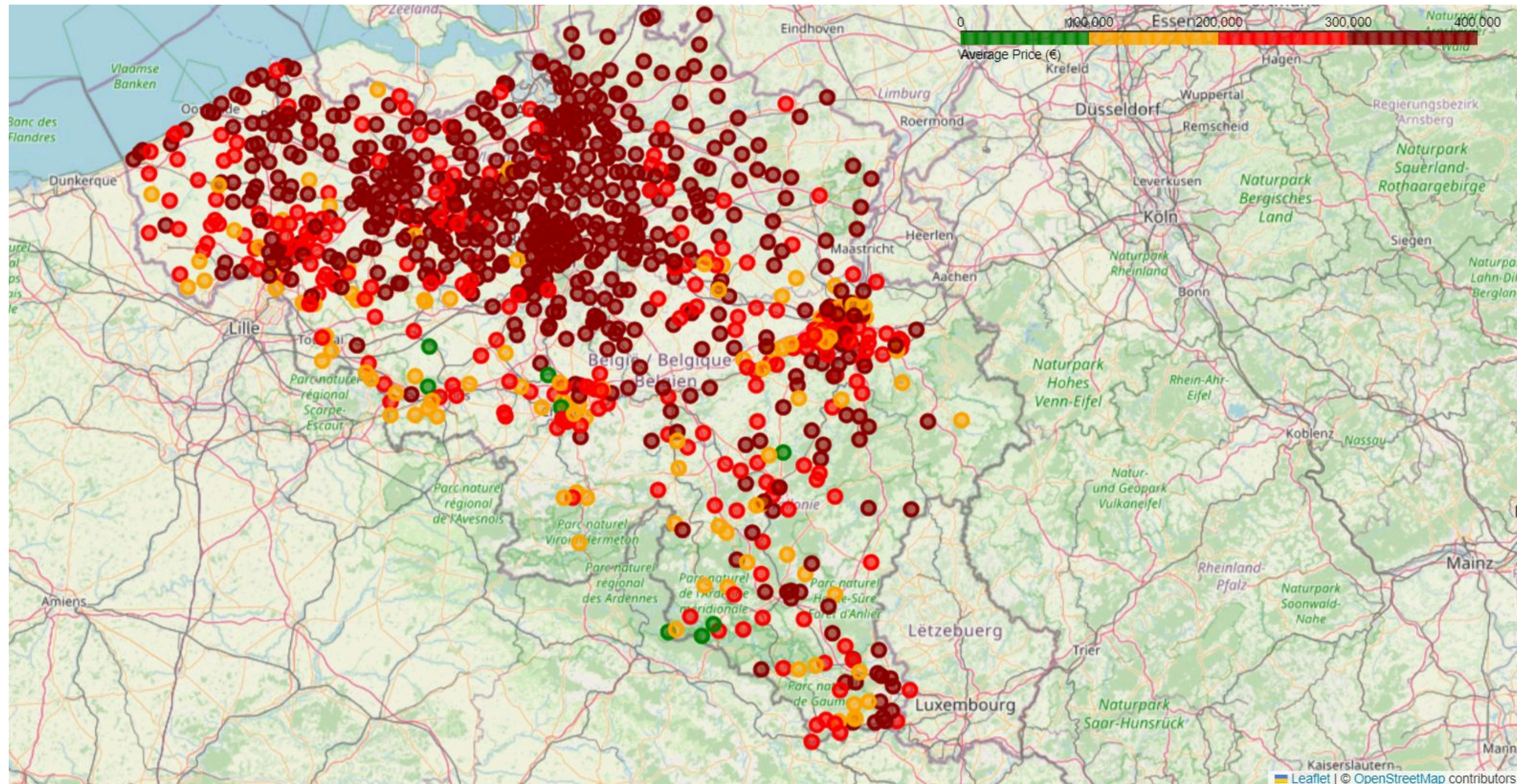
Number of bedrooms

2 : 622

3 : 2232

4 : 1073

5 : 253

NUMBER OF BEDROOMS

LOCATION LOCATION LOCATION

INTERACTIVE MAP – FOLIUM

CONCLUSION:

- In listing creation focus:
    - Price Per Square Meter
    - Energy Efficiency

- Emphasize living space, building condition, and urban proximity

- Buyers care about size, efficiency, and condition more than luxury extras like swimming pools or terraces.

Thank you for your attention

Any questions?