

Vienna's rising Real Estate Prices

Similarities and price differences of
Vienna's 23 districts.



The Issue and Potential Beneficiaries

- Real estate prices in Vienna have risen 10% in the past year (+170% since 2000)
- Prices are expected to keep rising:
 - Vienna is still cheap compared to international peers
 - Pertaining low interest rate environment
 - Consistently high growth of the city's population
- Although housing quality is fairly homogenous throughout Vienna, prices are not
- **Potential Beneficiaries:**
 - People that are interested in living in Vienna, who want to protect themselves from future price increases by taking advantage of current low interest rates

Used Data

- Average real estate prices per square meter for all 23 districts
(source: City of Vienna)

Stadtwien

- JSON-polygons for the official borders of each district
(source: Open Data Austria)

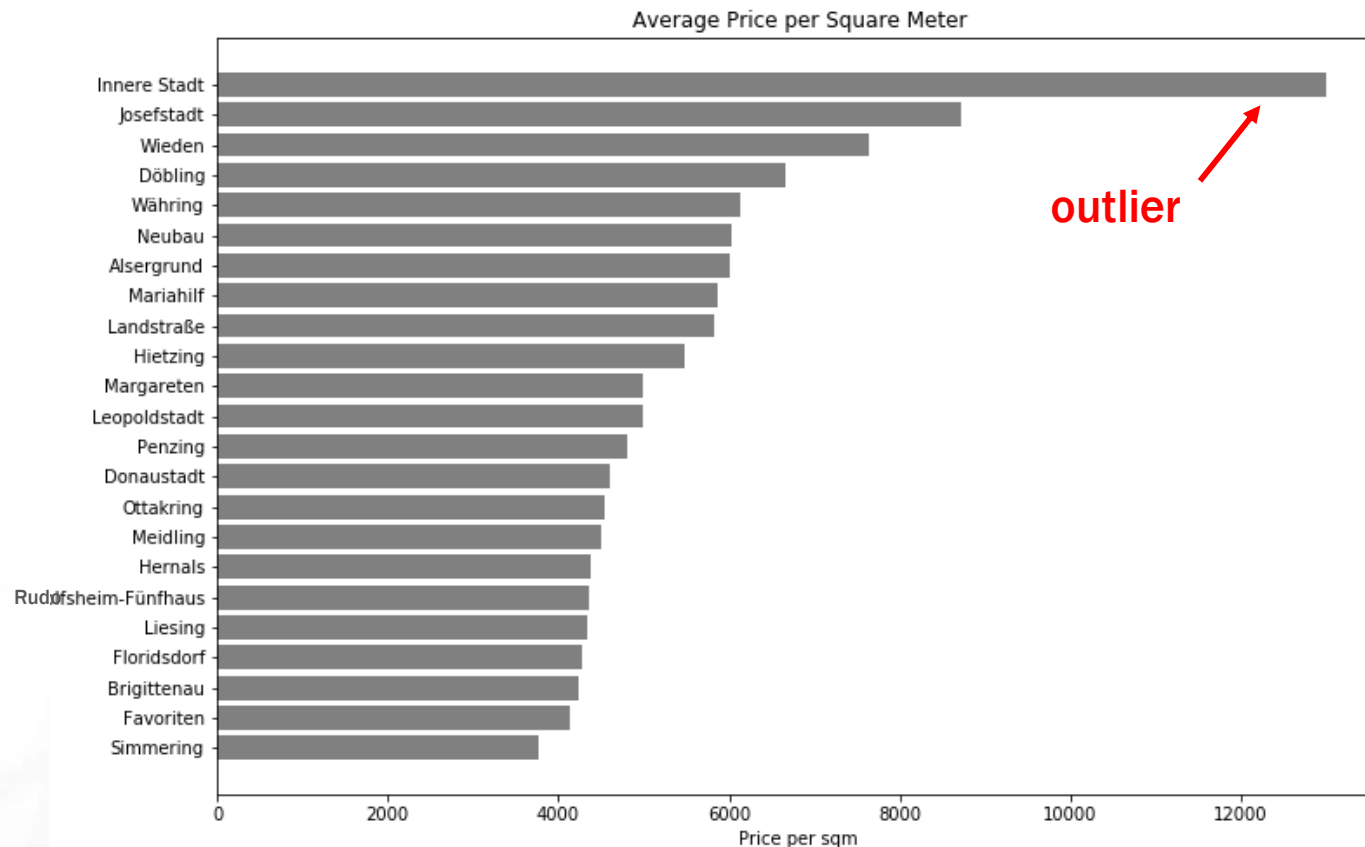


- Foursquare Location Data for Vienna
(source: foursquare.com)

FOURSQUARE

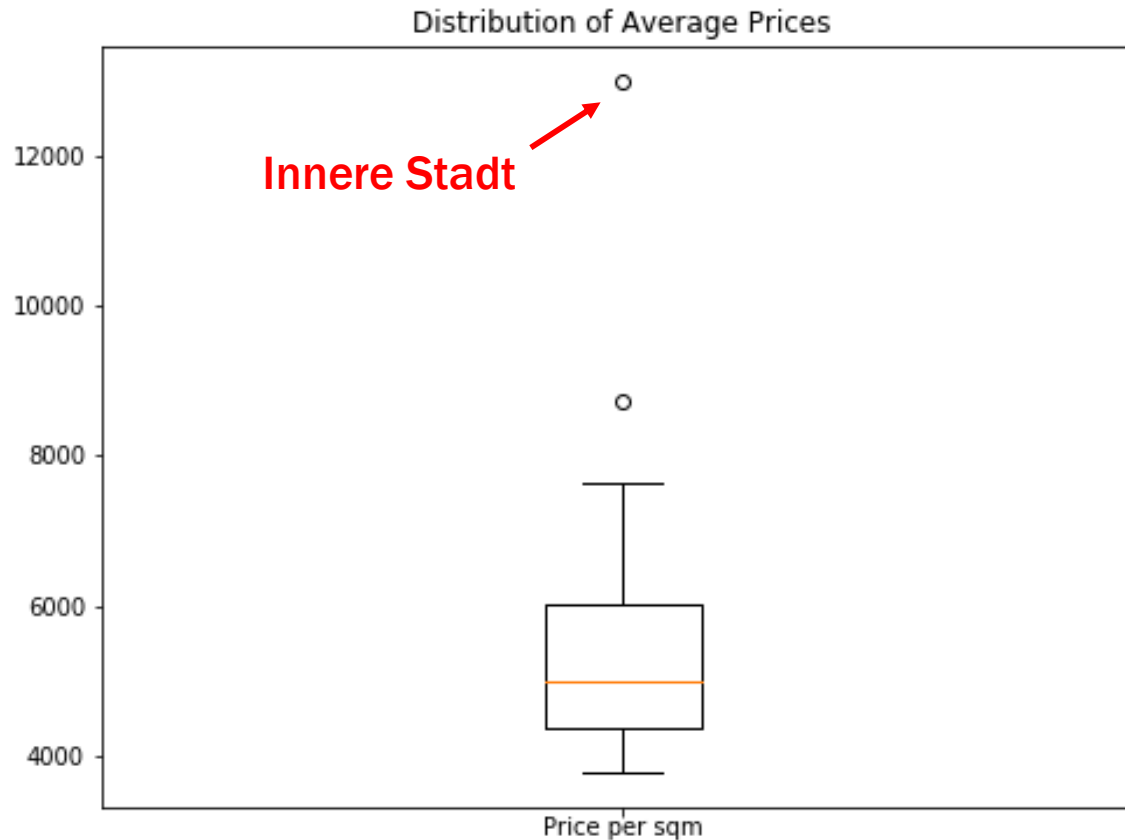
Methodology – Descriptive Analysis

- Bar Chart:



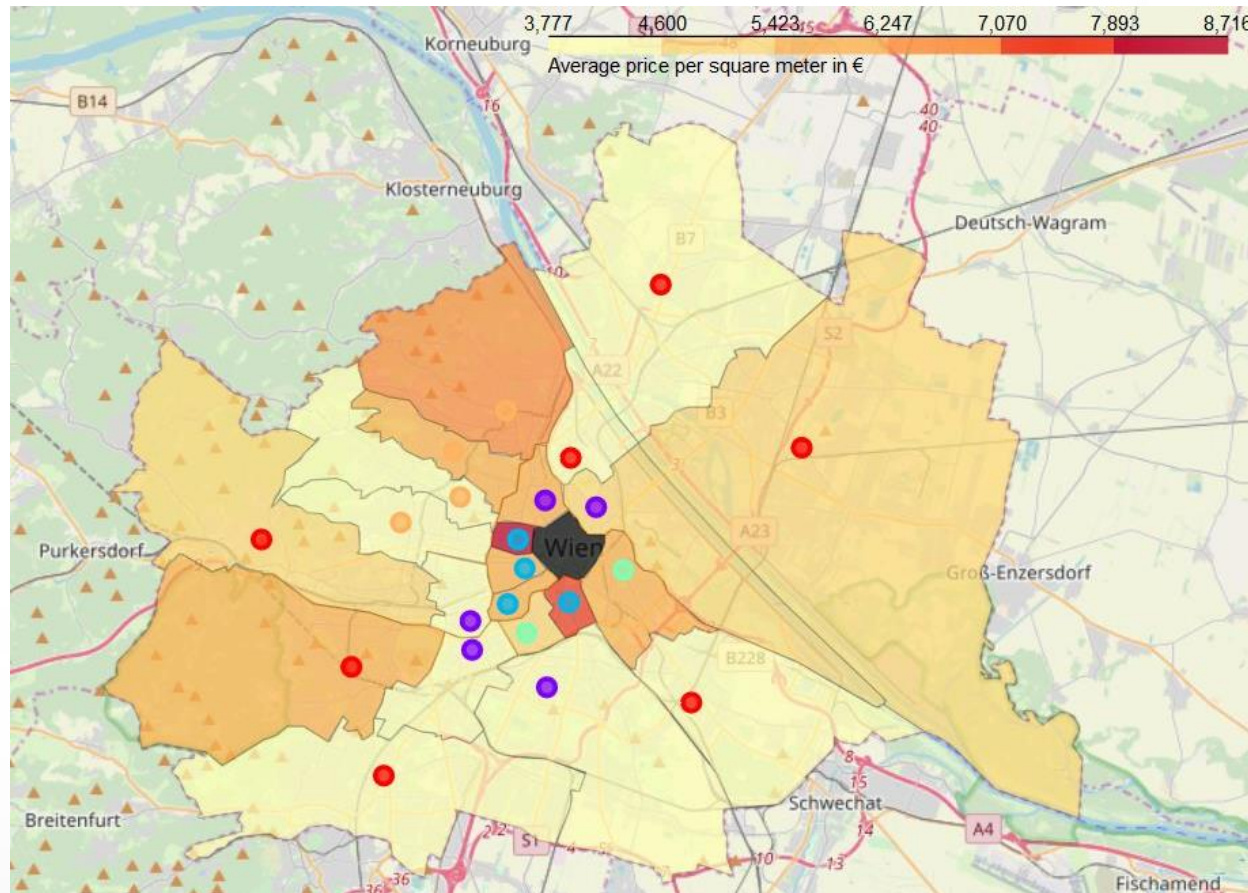
Methodology – Descriptive Analysis

- **Box Plot:**



Methodology – Descriptive Analysis

- Choropleth Map & Clustering (excluding „Innere Stadt“ as outlier):



Methodology – Descriptive Analysis

- Clusters were derived using the top 10 occurrences in location data of the respective district:

	District	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	Alsergrund	Café	Hotel	Coffee Shop	Restaurant	Pizza Place	Austrian Restaurant	Tapas Restaurant	Palace	Pakistani Restaurant	Falafel Restaurant
1	Brigittenau	Restaurant	Austrian Restaurant	Nightclub	Bar	Supermarket	Park	Kebab Restaurant	Middle Eastern Restaurant	Cocktail Bar	Mediterranean Restaurant
2	Donaustadt	Grocery Store	Supermarket	Electronics Store	Asian Restaurant	Botanical Garden	Chinese Restaurant	Restaurant	Climbing Gym	Flower Shop	Fast Food Restaurant
3	Döbling	Austrian Restaurant	Park	Wine Bar	Italian Restaurant	Chinese Restaurant	Café	Supermarket	Bakery	Ice Cream Shop	Beer Garden
4	Favoriten	Hotel	Restaurant	Liquor Store	Supermarket	Doner Restaurant	Drugstore	Eastern European Restaurant	Fast Food Restaurant	Coffee Shop	Monument / Landmark

- Iterating through k-means clustering, it showed that 5 clusters are optimal to classify the similarities between districts

Methodology – Descriptive Analysis

- **Remarks:**
 - As this analysis is primarily geared towards people who already live in Vienna or are familiar with the peculiarities of the city, the public and individual transport system as well their personal regional preferences, I desist from describing the different clusters in detail and let the segmentation speak for itself.

Results

- Central districts tend to have higher prices and are fairly similar to each other with regards to location data
- Districts exist with still very high proximity to the city center, but significantly lower prices
- Prices rise again towards city boundaries

Discussion

- Within all clusters, significant differences in prices can be found without sacrificing much of the amenities offered
- Aside from north-western Vienna, similarly to the center, border districts seem to be fairly homogenous as well when it comes to location data, however there are also differences in prices
- As the analysis primarily covers districts interesting for housing purposes, the central district „Innere Stadt“ (marked black) was excluded from the analysis due to being an outlier. However, as almost 120,000 Viennese commute to this district for work every day, proximity remains very desirable

Conclusion

- There are opportunities to choose districts with similar characteristics for a lower price throughout all clusters
- Interested parties should first decide which category of districts they would be interested in and afterwards proceed with analyzing the cheapest candidate
- As Foursquare is not the primary location data platform used in Austria, it would probably be more fruitful to carry out the analysis with data from Google Maps. However, as the objective of the project was to use the Foursquare API, the results still yield valuable insights.