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Unit 4 Case Study: London Housing
4.3.3 Summarize your findings

This study aims to answer:

> "Which borough of London has seen the greatest average increase in housing prices over the (approximately) two decades covered by the dataset?" (Springboard DSCT "Unit 4 Challenge – Tier 3 Complete.ipynb")

The dataset in question comes from the London Datastore.[1]

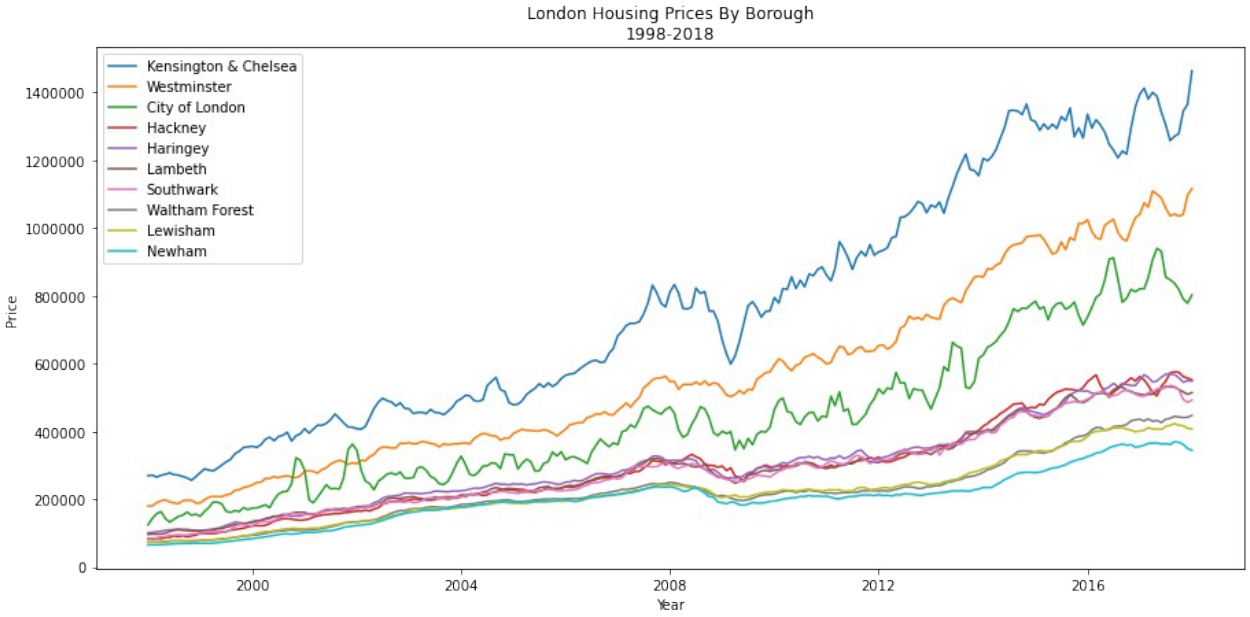
During the modeling section of the Jupyter Notebook associated with this project, instructional text suggests writing a function "comparing the price of a house in 2018 to the price in 1998" (Springboard DSCT "Unit 4 Challenge – Tier 3 Complete.ipynb"). As it pertains to this study, the phrase, "last two decades", refers to the years beteen 1998 and 2018, inclusive.

Average increase in housing price over this timespan is the average price of a house in a borough in 2018 expressed as a multiple of the average price of a house in that borough in 1998.

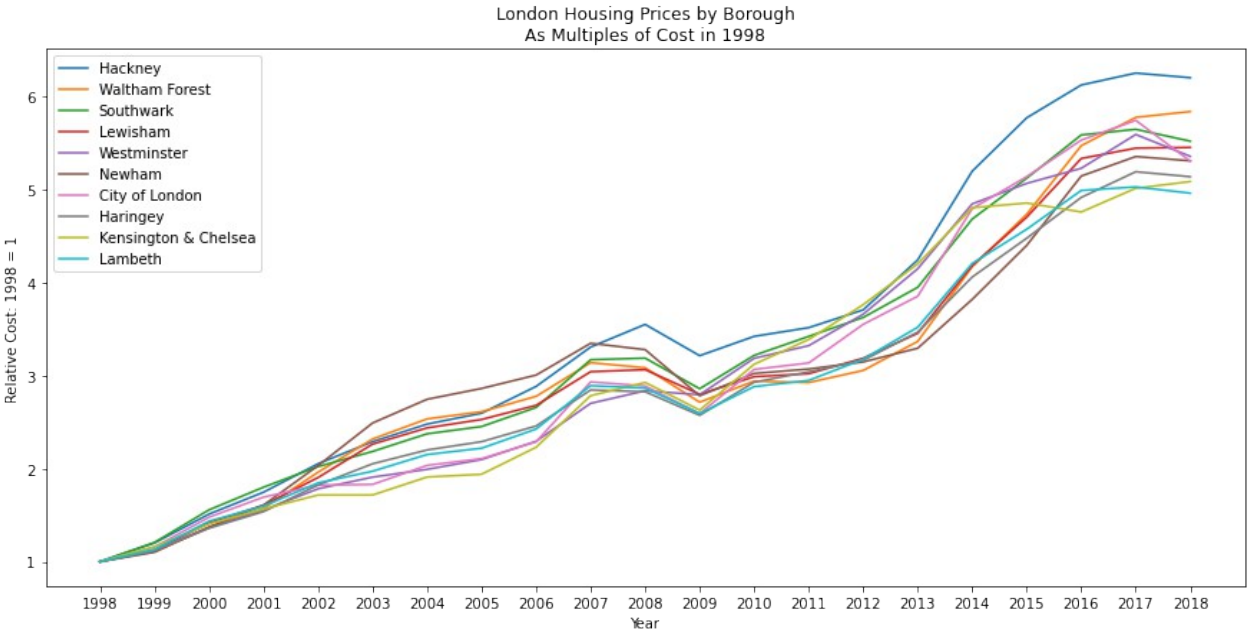
The average cost of houses increased for all locations included in this dataset. The relative increases in cost vary with location.

The provided data included records for municipal entites other than boroughs of London. The dataset was filtered by dropping records not matching boroughs listed on Wikipedia's list of London boroughs.[2] After various cleaning and transformation steps, boroughs were sorted by house price ratios. The borough with the highest increase in annual average house cost during the last two decades is Hackney. For this borough, the average cost of a house in 2018 was 619.83% of that in 1998. Below, a table depicts the boroughs with highest ratios, rounded to two decimal places.

Borough	House Price Ratio
Hackney	6.20
Waltham Forest	5.83
Southwark	5.52
Lewisham	5.45
Westminster	5.35
Newham	5.31
City of London	5.30
Haringey	5.13
Kensington & Chelsea	5.08
Lambeth	4.96



Above, a graph plots monthly average house prices for the boroughs with the highest price ratios over the last two decades. Below, a second graph depicts the same 10 boroughs, plotting annual average house prices relative to1998 average house prices over the same period.



Absent other metrics, few conclusions can be drawn from this analysis. Comparing this information to other data over the relevant time period might yield more useful insights, but such efforts exceed the intended scope of this project. My domain knowledge is insufficient to infer anything beyond what is already displayed above.

To estimate changes in housing affordability, I compared changes in house prices to changes in the UK consumer price index according to data provided by the World Bank.[3] I calculated a UK consumer price index ratio by dividing the value for 2018 by that of 1998. The price ratios for all boroughs exceeded the consumer price index ratio over the last two decades, suggesting an overall decrease in housing affordability for the city.

References

1
UK House Price Index
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Microsoft Excel File
https://data.london.gov.uk/download/uk-house-price-index/70ac0766-8902-4eb5-aab5-01951aaed773/UK%20House%20price%20index.xls

2
London Boroughs
Wikipedia
https://en.wikipedia.org/wiki/London_boroughs#List

3
Consumer price index (2010 = 100) - United Kingdom
The World Bank
International Monetary Fund, International Financial Statistics and data files
CC-BY 4.0
https://data.worldbank.org/indicator/FP.CPI.TOTL?end=2018&locations=GB&start=1998