

## Springboard Data Science Career Track

### *Case Study - London Housing (4.3)*

*John Arancio*

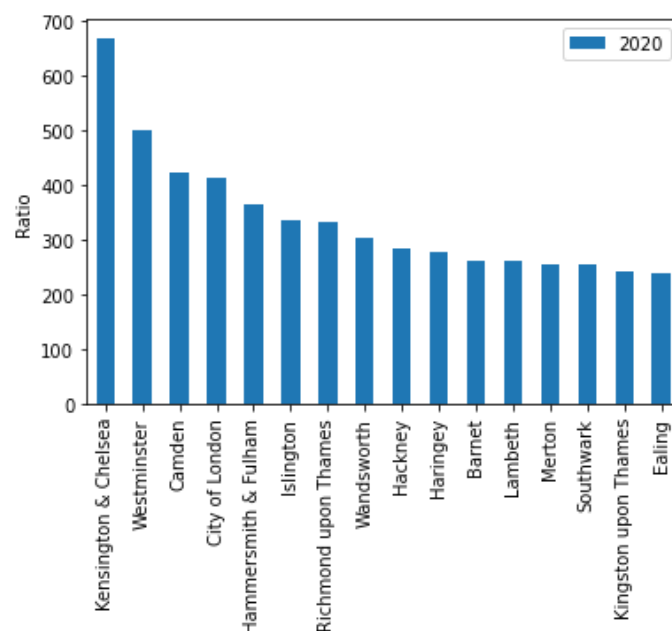
*October, 2020*

## **Conclusions**

After completing the case study and comparing the ratios between the 32 different boroughs of London over the past two decades (2000-2020). I found that Kensington & Chelsea had the highest average price increase over the past two decades which was depicted by the composed ratios (669.0). Westminster followed behind (501.0), then Camden (424.06), next City of London (414.0), and then Hammersmith & Fulham (364.0) at the end of the top five boroughs. The least expensive over the past two decades out of the 32 boroughs is, Bexley (170.0).

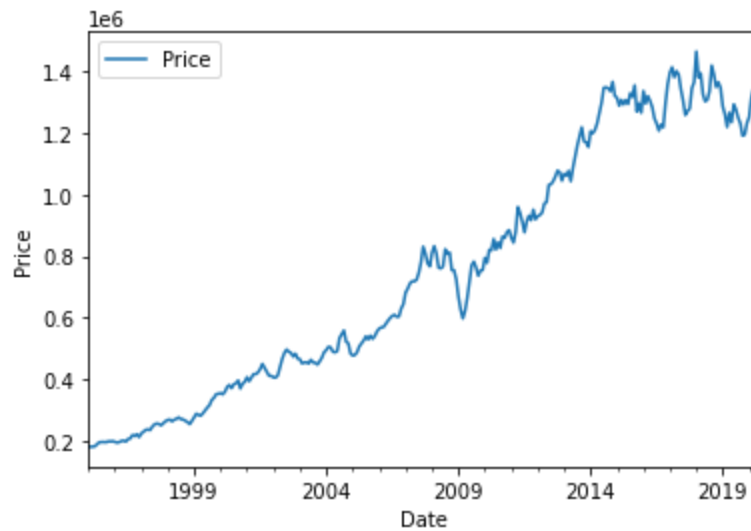
Other trends were noticeable given that there was a clear right skewed distribution once the data was visualized using a bar graph. As you move toward the median nearing the right side of the graph you can see that there is little to slight change of price increase looking at the more least expensive boroughs over the last two decades. When continuing further down the list of boroughs you can see less prominent price increases and a more consistent price pattern.

### **Top 16 boroughs:**

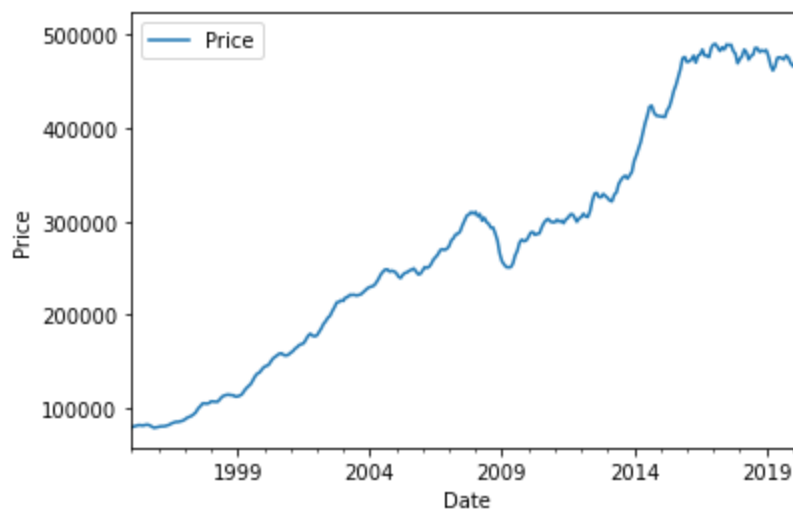


However, if you examine each borough's price from 1998 to 2020 individually you can see that Kensington & Chelsea has a more volatile housing market whereas Ealing (approx. median) and Bexley (least expensive overall) have a more consistent trend of prices increasing over time. Kensington & Chelsea might be the most expensive but they seem to be more prone to sharp fluctuations regarding price.

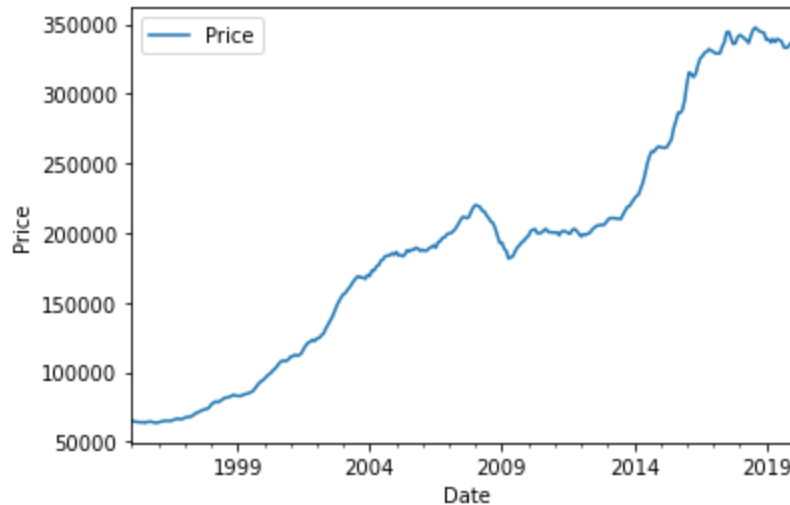
#### Kensington & Chelsea:



#### Ealing:



**Bexley:**



## Process

I arrived at these conclusions by filtering and cleaning the raw data provided on the London boroughs average prices ranging from 1995 to 2020. After cleaning the data I was able to single out the average prices between 2000 and 2020 and produce a ratio of comparison for each of the 32 boroughs. By identifying the average price of housing in 2020 and comparing it to the year 2000, I could then form a bar graph from the ratios that depicted which boroughs increased in price over time.

## Challenges

One of the biggest challenges I faced was transforming the data and restructuring it to better allow me to achieve the task that was at hand. I struggled with the “melting” stage, which I believe I was simply overthinking it. To overcome the challenge I referred back to the previous lessons and used the many resources available online such as Stackoverflow and Geeks for Geeks.

Fortunately, during this case study, there wasn't one individual task that I was not able to overcome.

## Further Investigation

After reviewing the results and contemplating the conclusions I drew, I think it would be interesting to look more into other cities' boroughs and their average prices. By doing that we could possibly compare and contrast the total ratios from each city in the said dataset. I think by investigating that deeper, we'd be able to have a better understanding of the housing market regionally or globally and will likely draw conclusions foreshadowing where the market will trend in the near future. It might also be interesting to examine the data regarding average income per household within each borough. By doing so I believe that it would provide even more insight into why certain boroughs became more expensive overtime and might account for the more dramatic fluctuations seen on a micro scale.