

Greater London



Greater Manchester



AN ANALYSIS OF
NEIGHBORHOODS,
EARNINGS AND
HOUSE PRICES

INTRODUCTION

When deciding on a location private individuals need to take account earning potential, taxes, housing costs, general cost of living and the surrounding neighbourhood.

The objective of this project is to investigate and compare median incomes, house prices and neighbourhoods for two metropolitan areas (London and Manchester) in the UK.

Whilst government statisticians, decision makers and business have the means to use and understand data to draw inference most private individuals do not.



DATA REQUIREMENTS

The data for the neighbourhoods will be scraped of their respective Wikipedia pages. GeoPy will be utilised to gather the Latitude and Longitude of the respective neighbourhoods.

ForeSquare will be used to retrieve the types of venues present in each neighbourhood. A K-Means cluster algorithm from scikit will determine the clusters based on the frequency of types of venues in each neighbourhood.

Data from the (ONS) on median earnings and house prices whilst tax and mortgage data will be sourced to calculate net tax and net income. Any rows with a value of NaN will be either renamed or dropped.

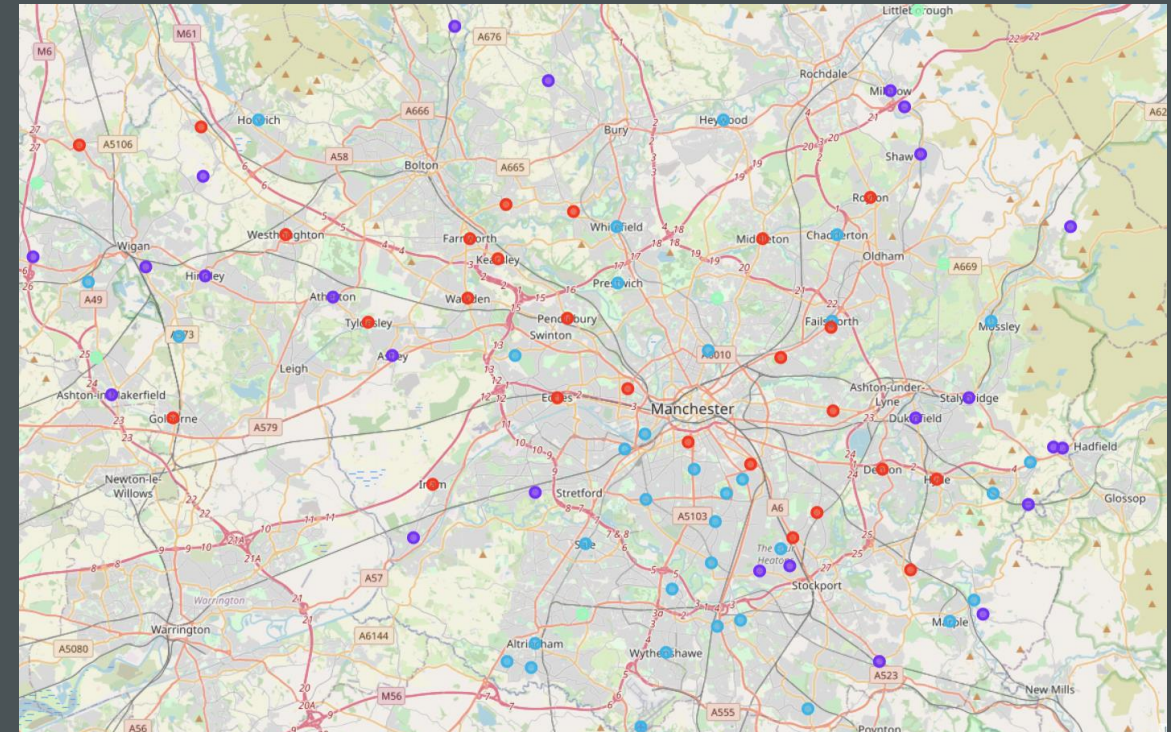
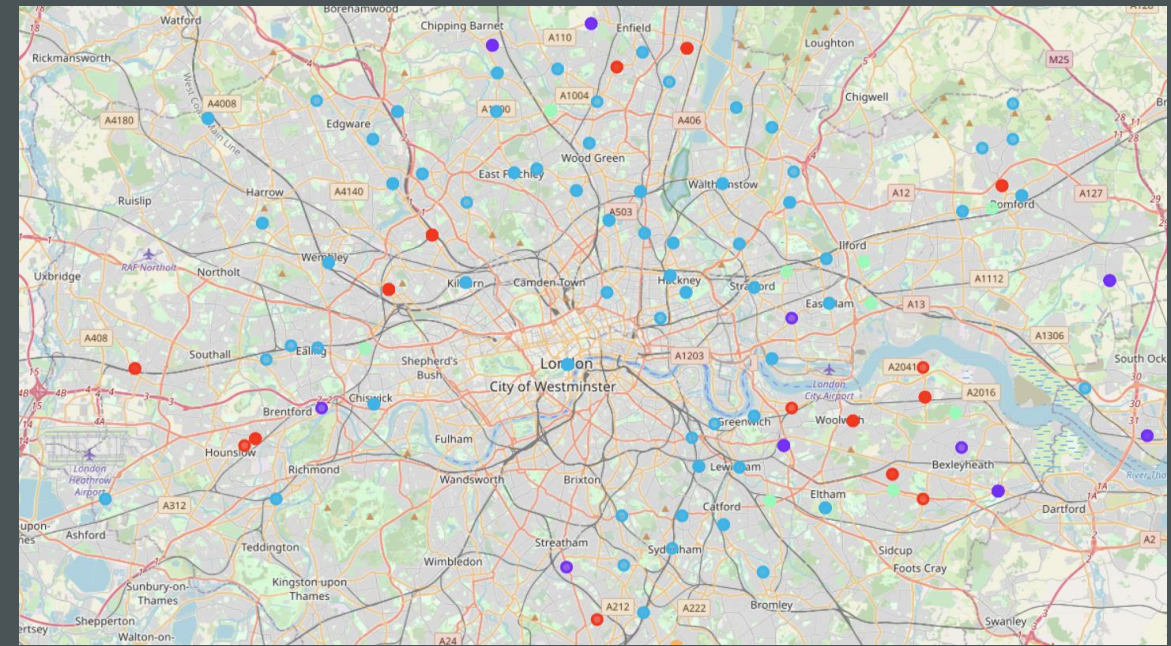


NEIGHBOURHOOD CLUSTERS

Both Greater London and Greater Manchester have a diversity of neighbourhoods according to the cluster.

Greater London has a higher number of diverse neighbourhoods.

The placement of the neighbourhood has some visual correlation with median house prices in the next slide



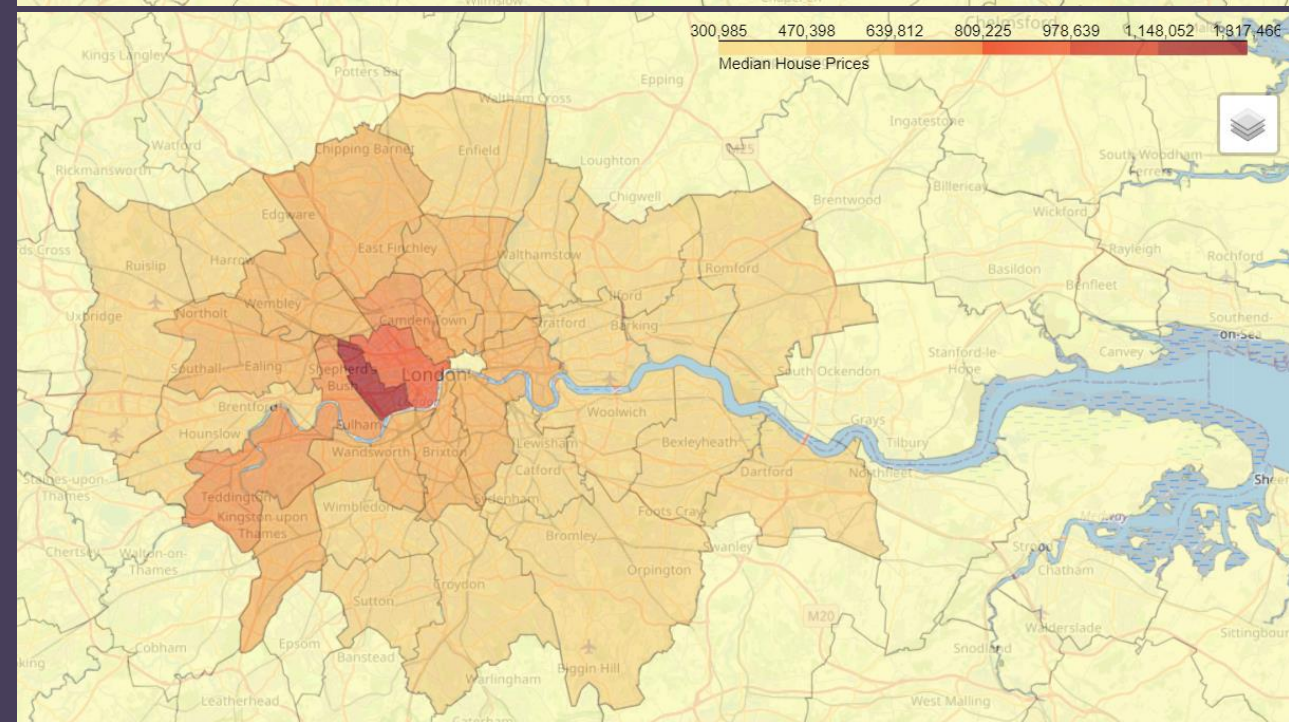
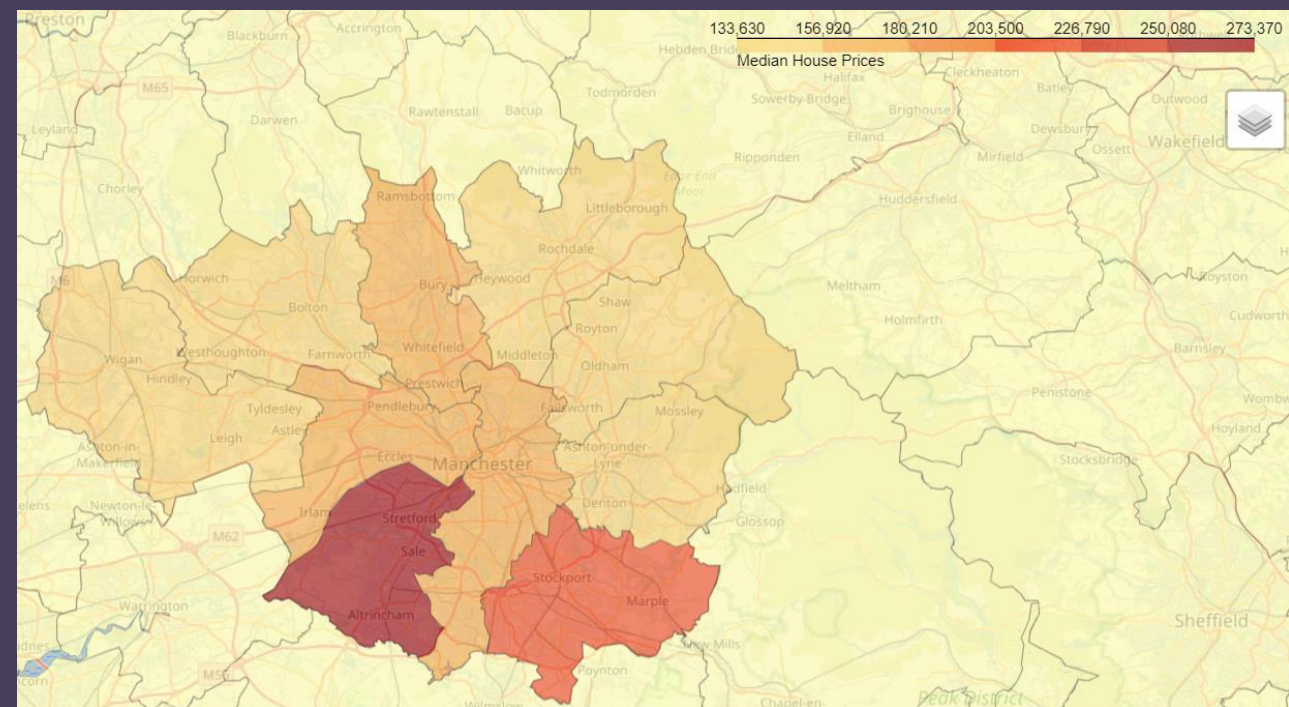
(Colour of clusters changed from Python workbook for viewing)

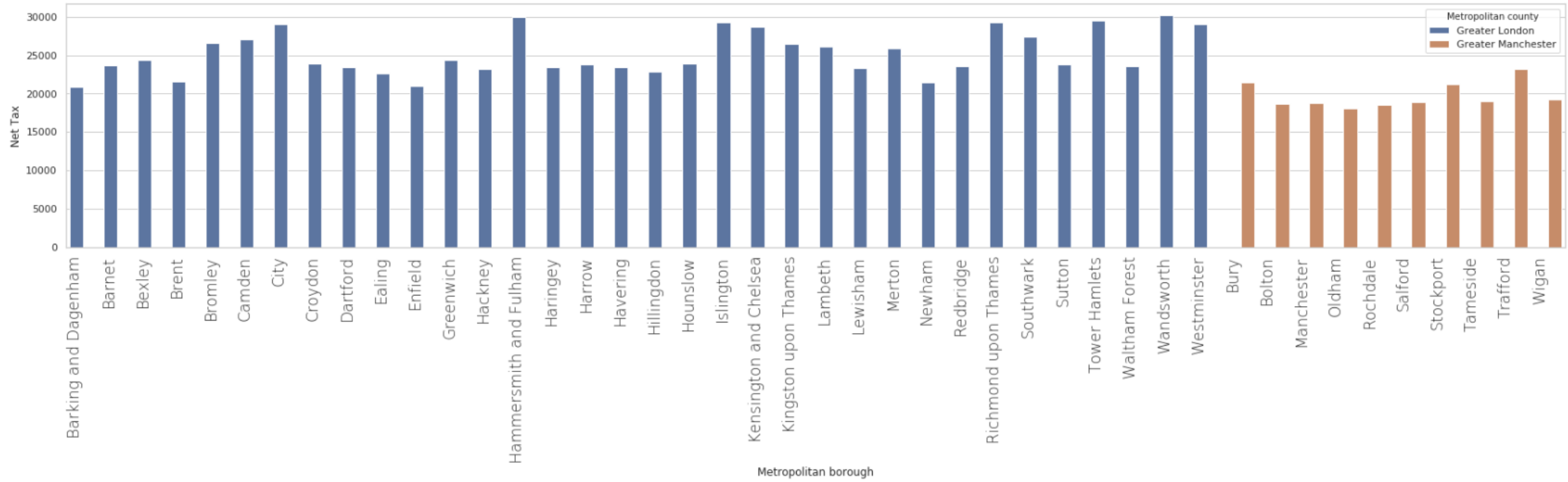
MEDIAN HOUSE PRICES

Both Greater London and Greater Manchester have a range of median house prices according

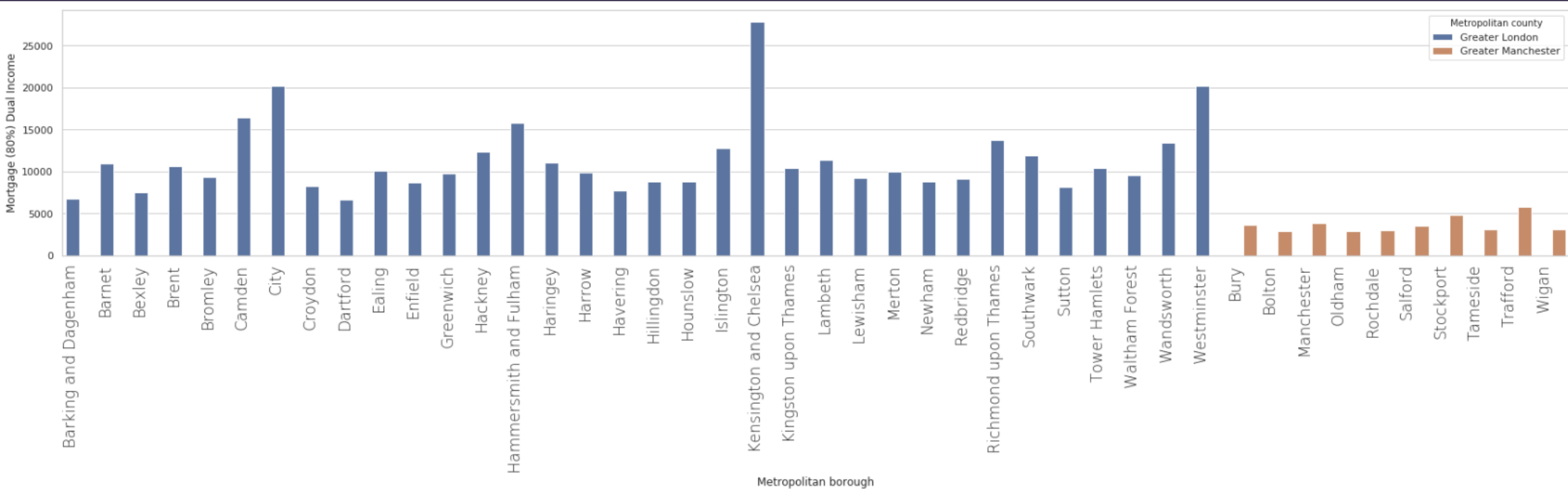
In Greater London, this concentration is around the centre-west and inner south west. In Greater Manchester, this concentration is in the centre-south and south.

The spread of price both as an absolute and percentage is greater in Greater London.



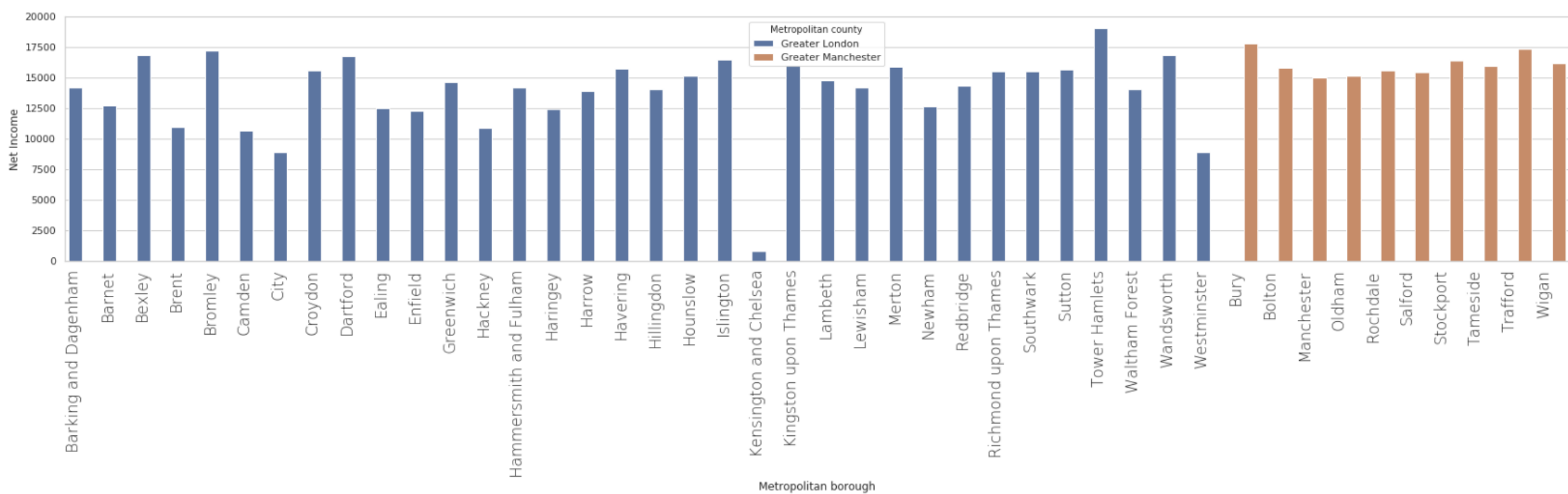


Some metropolitan boroughs of Greater London comparable to Greater Manchester in net tax earnings



The extremity of the median house prices compared to median earnings (the ratio) significantly degrades the estimated net income after mortgage costs.

The estimated monthly mortgage payment, even based on a dual income basis, is at least double in Greater London compared to Greater Manchester.



The net tax median earnings cannot make up for this and thus the estimated net income, all things equal, for most metropolitan boroughs in Greater Manchester is at least comparable to Greater London.

CONCLUSION

There is comparable diversity between neighbourhoods of Greater London and Greater Manchester such that migration should not cause loss of access to diverse venues.

There is at least rough parity, all things equal, between most boroughs in Greater Manchester and Greater London in terms of net income.

The higher median earnings in Greater London are insufficient to cover tax and median house prices compared to Greater Manchester but the upper two deciles are likely better off.



FURTHER RESEARCH

Whether broadly similar neighbourhoods are feature across other countries' major cities and whether there are identifiably unique variables in global cities.

Is there a pattern in cities with higher median earnings where the top two deciles are significantly richer and whether this has negative connotations on the bottom 50%?

To what extent does is productivity inherent to location. What agglomeration cause productivity improvements and what is their respective weightage? Are there discrete factors e.g. social, political?

