

Exploring submarket trends in London: a constrained spatial interaction modelling analysis

Neelam Kundi¹, Adam Dennett¹ and Faisal Durrani²

¹University College London, ²Cluttons

Project Background

This study investigates the characteristics of the London housing market and the effects of variables such as house price and accessibility on commuter distance through spatial interaction modelling. Observations from Cluttons data show that the housing market in London is characterised by high prices and turnover. Furthermore, it may be that on closer inspection of the capitals' regions there could be more desirable areas for people to live in to commute to work. This is a complex market to delve into. A new geography is formed to provide an improved outlook to niches within London, offering another perspective on areas and allowing for Cluttons and census data to be utilised in new ways to uncover and explore microtrends for a deeper understanding of a remarkable urban centre.

Data and Methods

The submarket categorisation utilised by Cluttons for real estate grouping and analysis form the basis of the methodology. As this geography has not been represented before, a map has been created using Thiessen polygon analysis and overlaid with Census boundary data at the medium super output area level.

To explore the relationship between house price and migration flows, constrained spatial interaction models are used. Variables for the interaction model are arranged to ensure the coefficients obtained from the model are informative. Variables determined to be most useful include an accessibility index, relative medium house price and mean net weekly income (destination to origin ratio).

Attraction constrained models allow insight into the number of people that have left a given area, and aims to explore which variable explain people's destination choice. Production constrained models allow insight into the number of people arriving at a destination, and aims to explore which variables explain their origin. The two constrained models form one set - three sets of these models are run, the first explores the entire research area which consists of Submarkets and Travel to Work Areas (TTWAs). The second explores only submarket areas using all variables. The third is also based on the submarket area, but uses Cluttons data on property prices.

Key Findings

The first set of models looking at movement between submarkets and TTWAs show that although the most important variable in dictating flows for the production constrained model is house price to net annual income ratio, people have an aspiration to live in more expensive areas rather than commute into London from surrounding TTWAs. The attraction constrained model shows that people living in submarkets have a desire to move to more affordable places such as Slough and Heathrow, both of which hold the highest estimates. In other words, living in London is an incentive to move out towards the TTWAs.

Similar trends are seen in the next two sets, where submarkets such as Hammersmith are an attractive destination for those looking to enter the London housing market. However, those already residing in these submarkets will be looking to move into a more attractive, and often higher priced submarket such as Holland Park. These results link in with existing literature on the property desirability which suggests such trends, where an individual's desirability changes based on their changing financial position.

The results suggest the presence of a property ladder within London whereby South Eastern and South Westerns submarkets are more affordable and therefore are more attractive as destinations for those who move from TTWAs or cheaper submarkets. Prime Central London appears to be the most favoured origin, with residents less likely to move away despite ever increasing property prices.

Value of the Research

The study allowed for a new geography to be created based on Cluttons property price data per submarket. From this data visualisation could be carried out to provide an insight into the net flows of people between submarkets and then using spatial interaction models to find variables which best explain these flows. Furthermore, modelling origin emissiveness and destination attractiveness valuable trends in the Submarkets gives evidence of a clear housing ladder effect within the capital, which is becoming increasingly difficult to move up due to high property price to income ratios