

What does Big Data tell us about the private rental sector: validating online rental advertising data, research from ONS and UBDC

Shaping Cities through Urban Analytics
An Urban Big Data Centre Showcase Event
Housing and Neighbourhoods workshop
28th November 2018

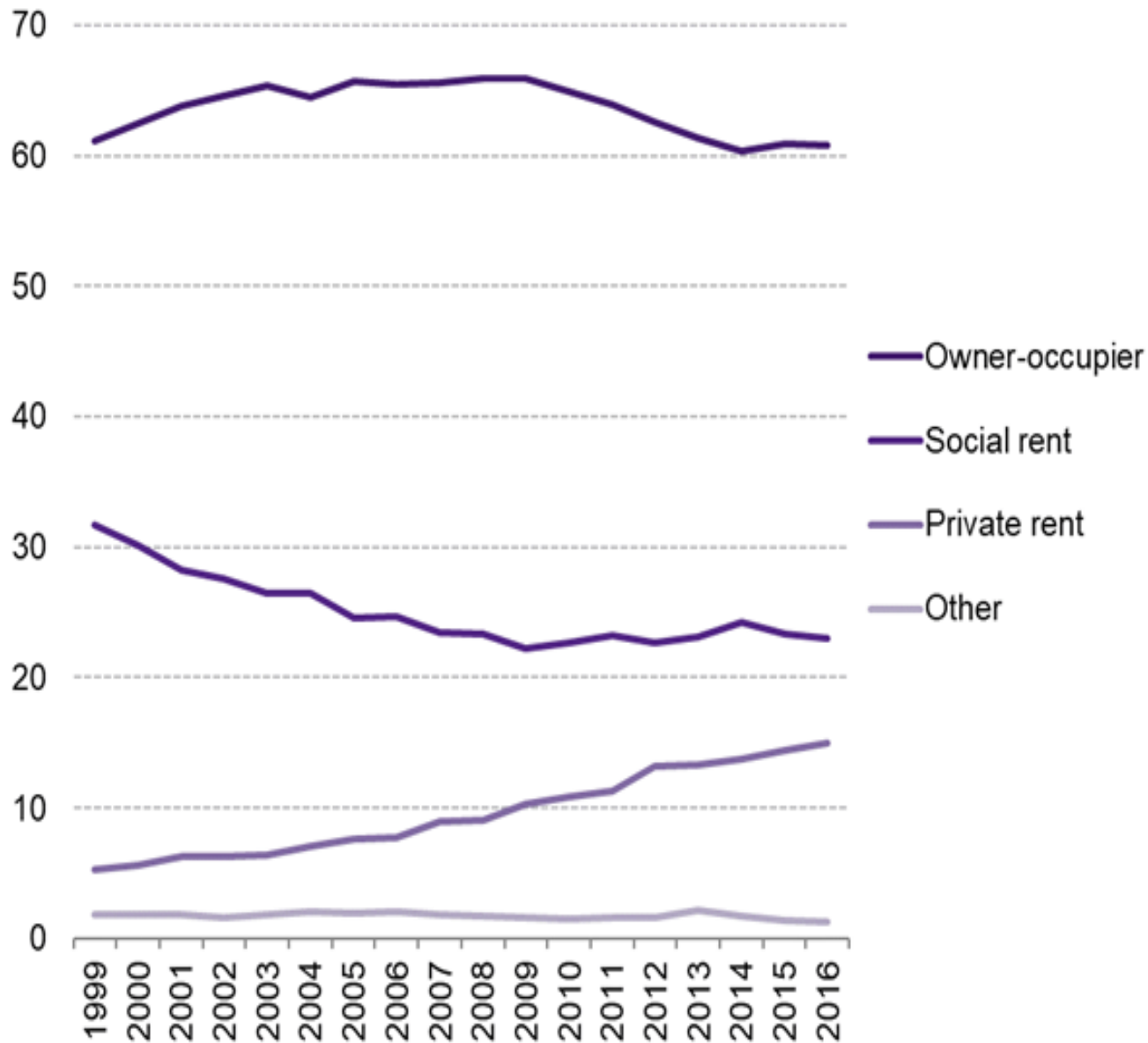
Mark Livingston, Nick Bailey, Christina Boididou



An ESRC Data
Investment



Tenure of Households 1999-2016



Sector Complexity

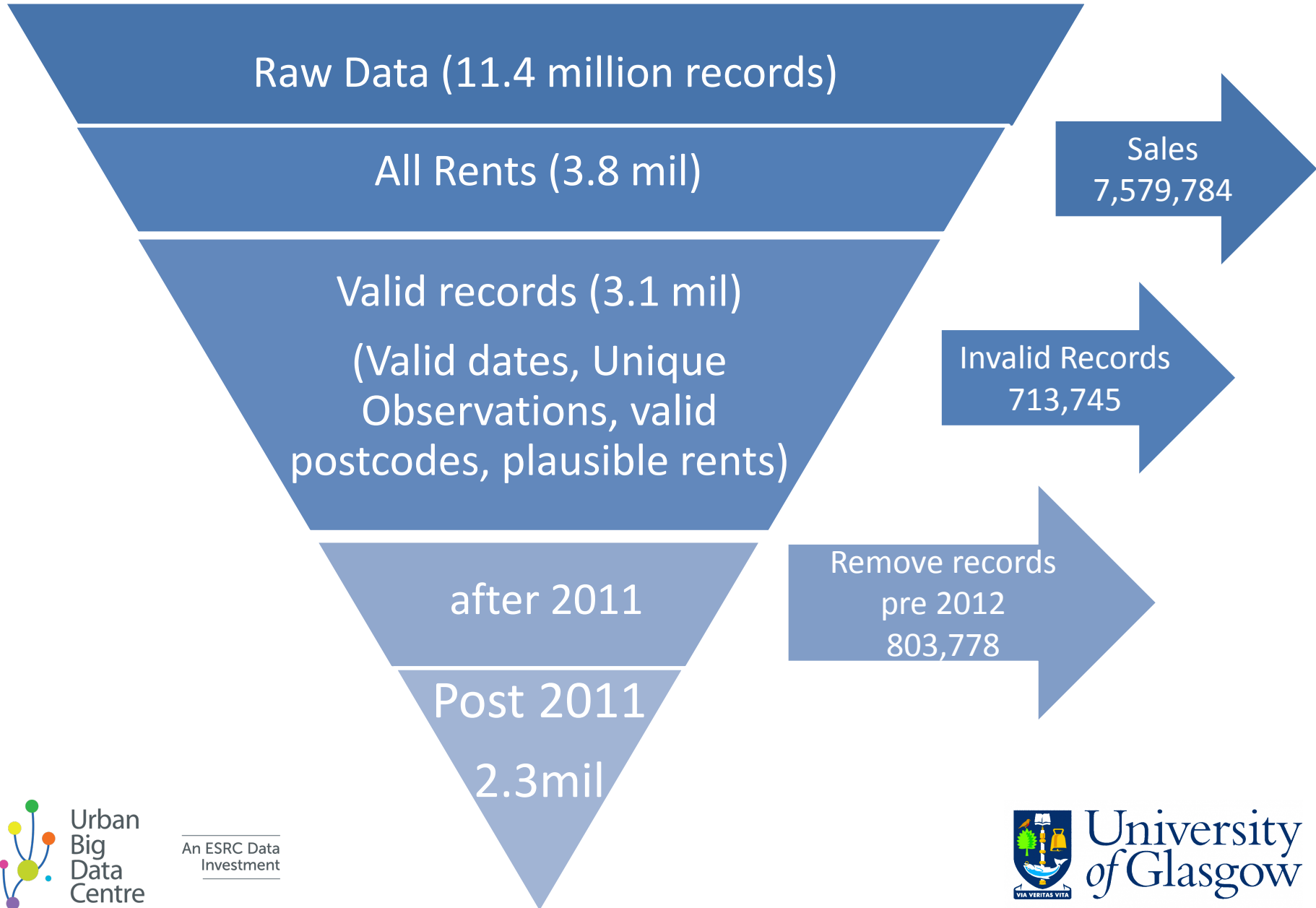


Source: Scottish Parliament Information Centre Briefing paper, <https://digitalpublications.parliament.scot/ResearchBriefings>

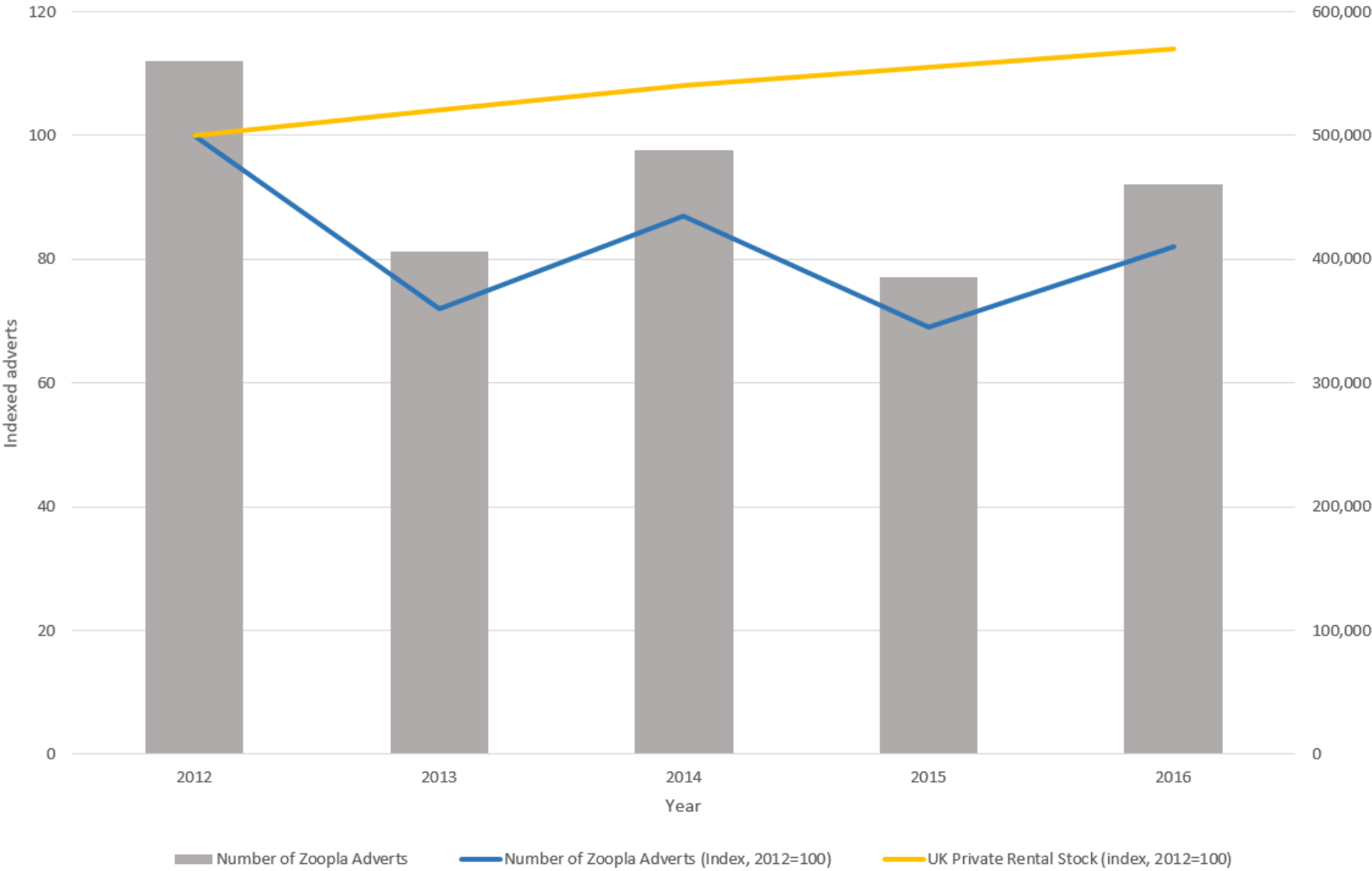
Accessing Zoopla Data

- Purchased a licence to access Zoopla both current and historical data (2009-2018)
- Accessed and downloaded via an Application Programming Interface (API)
- Non-trivial process making call using 27 million property ids
- Process took 8 Months to retrieve 2009 to 2016

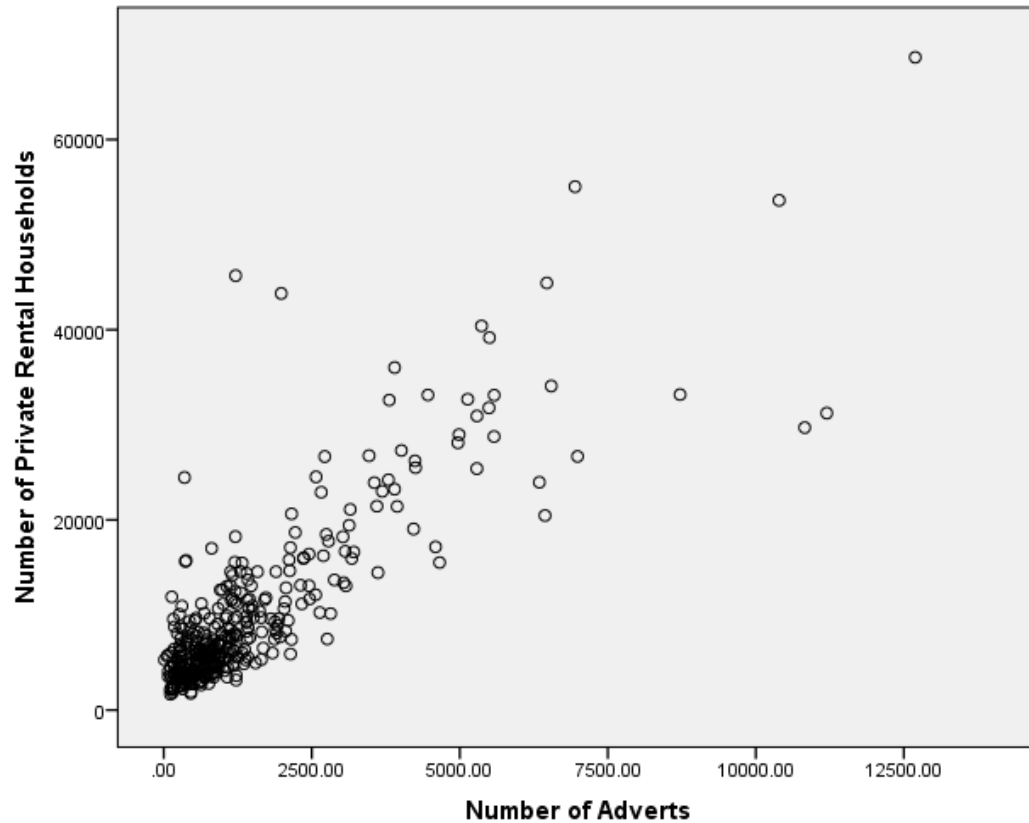
Data Cleaning



Zoopla adverts by UK Private rental stock

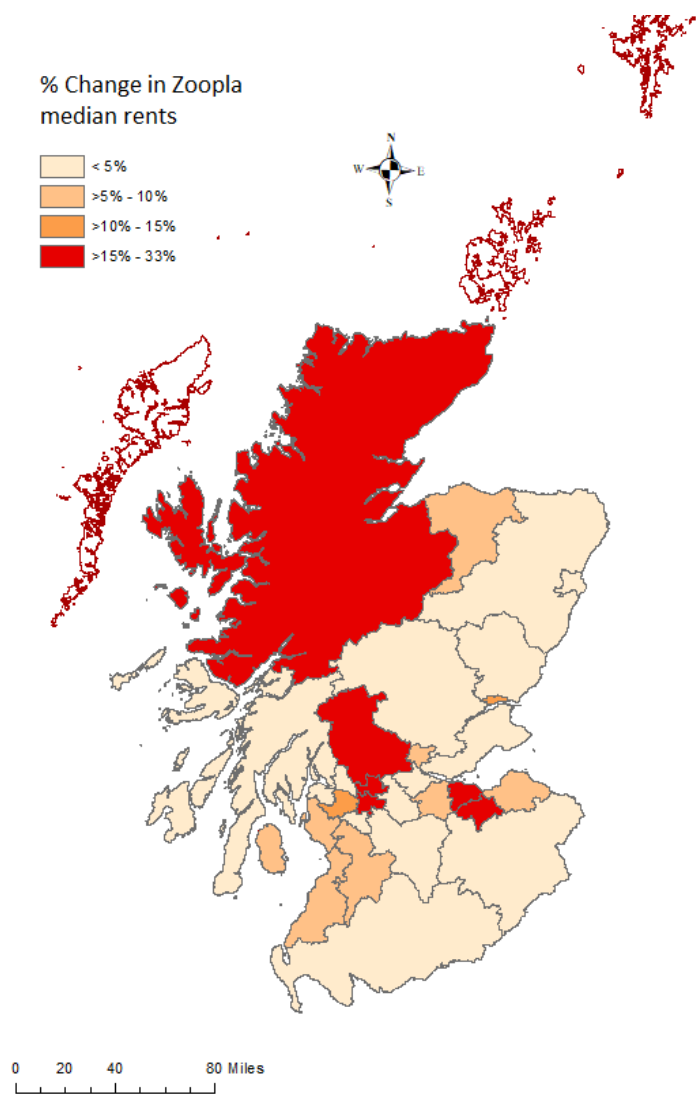


Scatterplot Private rental households (Census 2011) by number of adverts (2012)



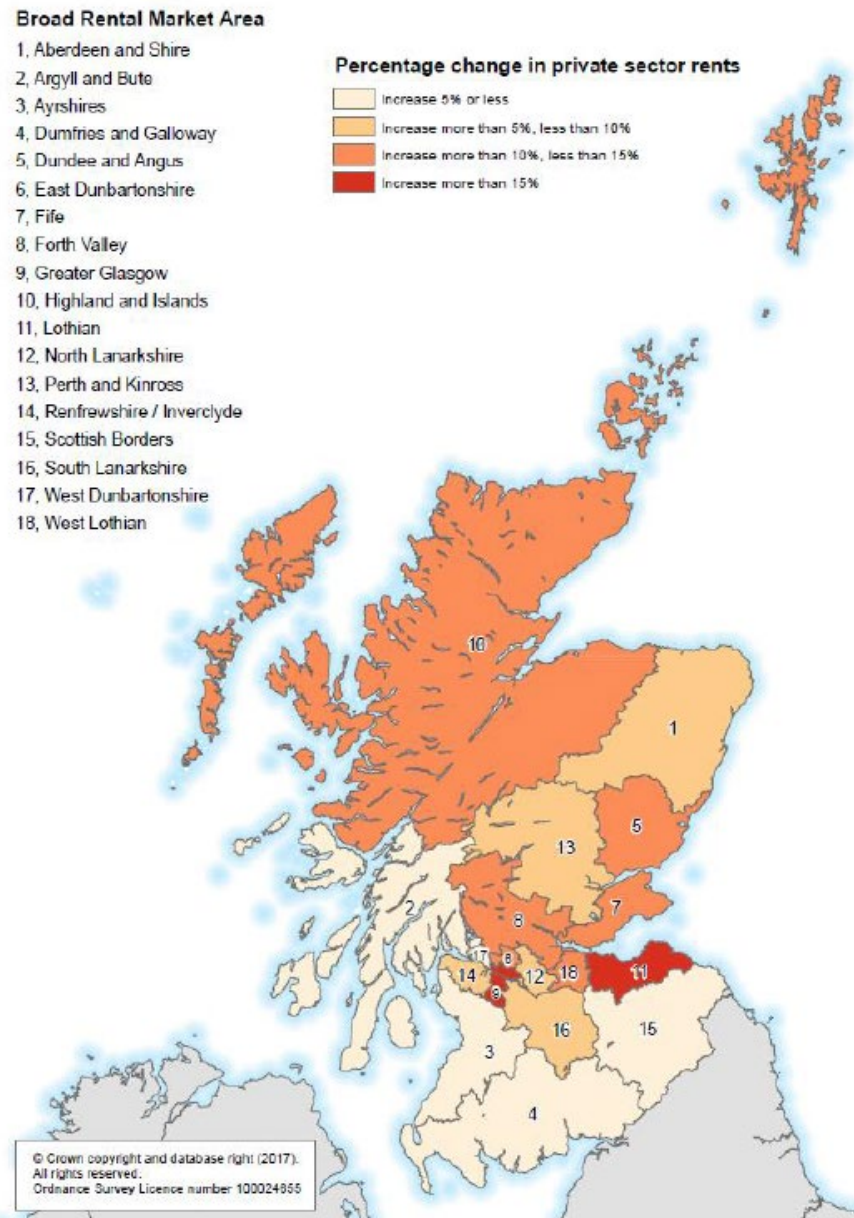
Zoopla Property Group PLC © 2018. (2018). *Zoopla Historic Data (UK to 2018)*. [data collection]. Urban Big Data Centre

Figure 6: Change in median monthly rent - 2012 to 2016



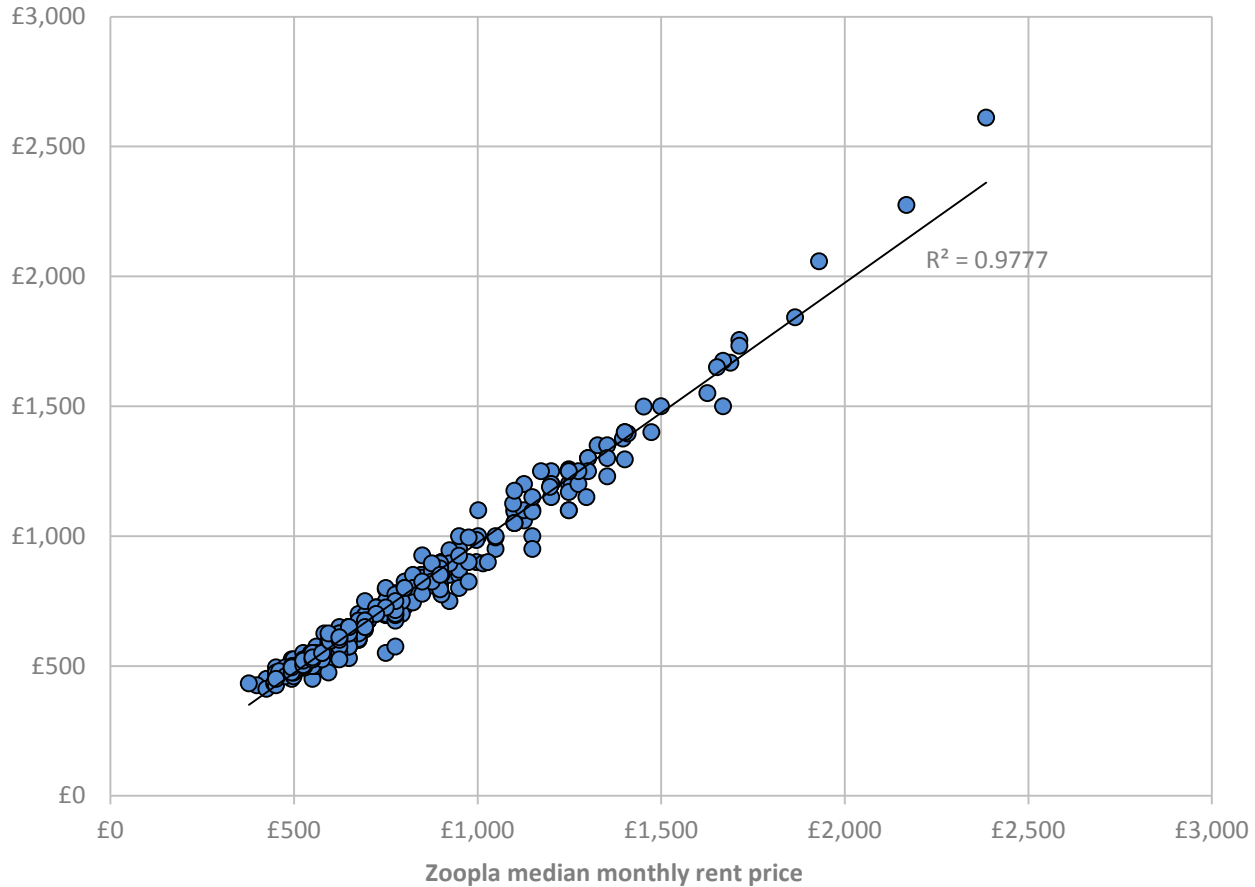
Zoopla Property Group PLC © 2018. (2018). *Zoopla Historic Data (UK to 2018)*. [data collection]. Urban Big Data Centre

Figure B: Percentage change in average (mean) rents for 2 bedroom properties between 2010 and 2017.



Local authorities in England, 2016

VOA median monthly rent price



Source: Office for National Statistics, Urban Big Data Centre, Zoopla

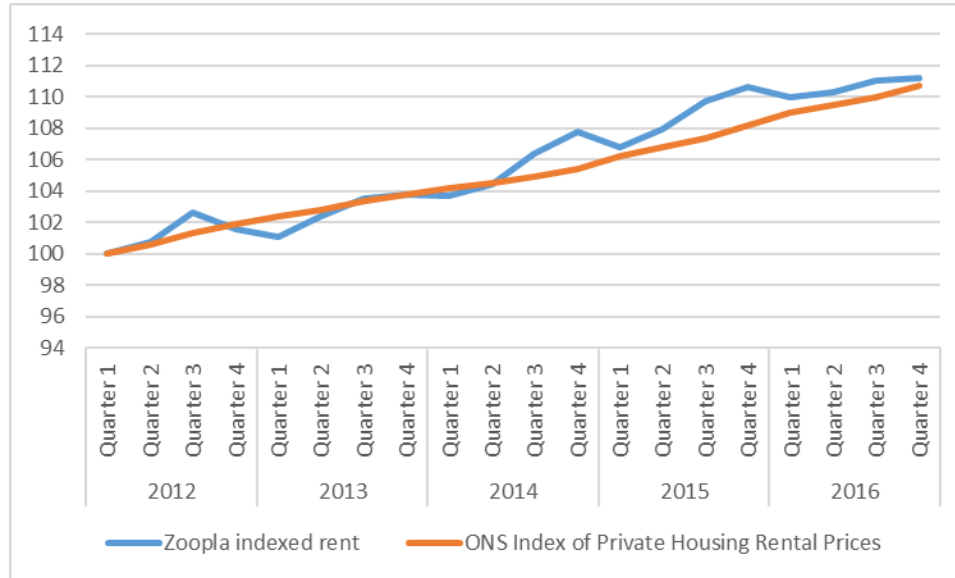


An ESRC Data Investment



University of Glasgow

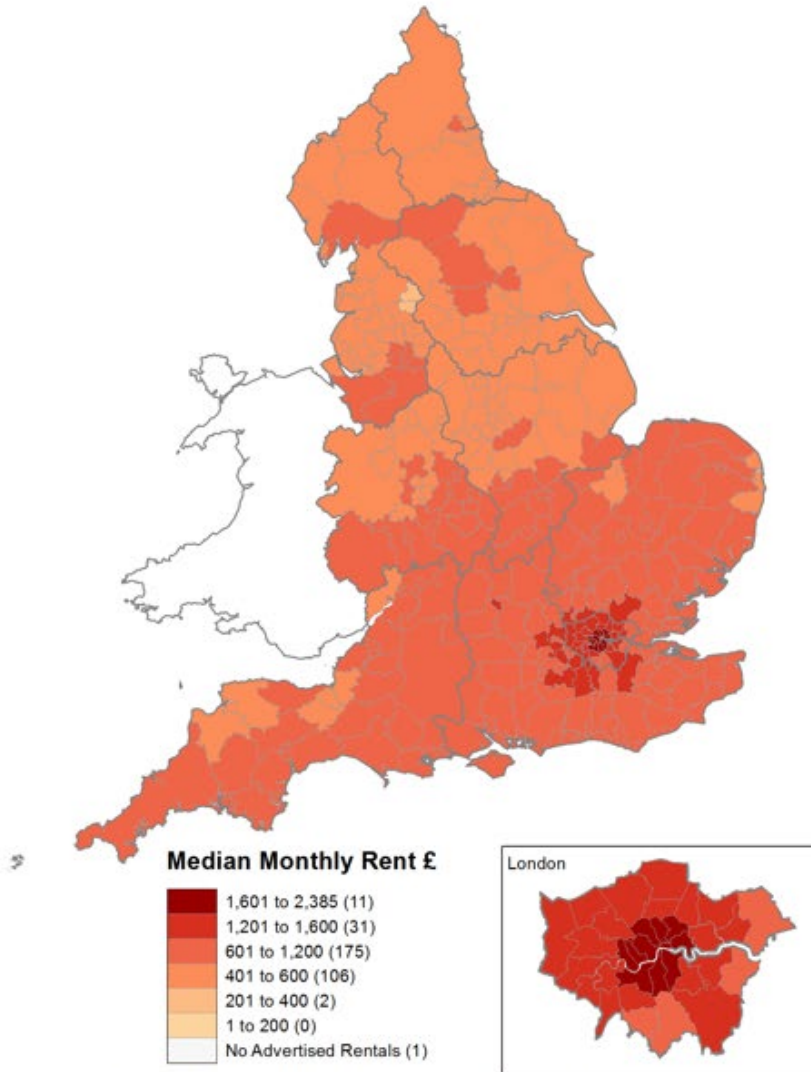
Figure 2: Rental indices from Zoopla data and ONS



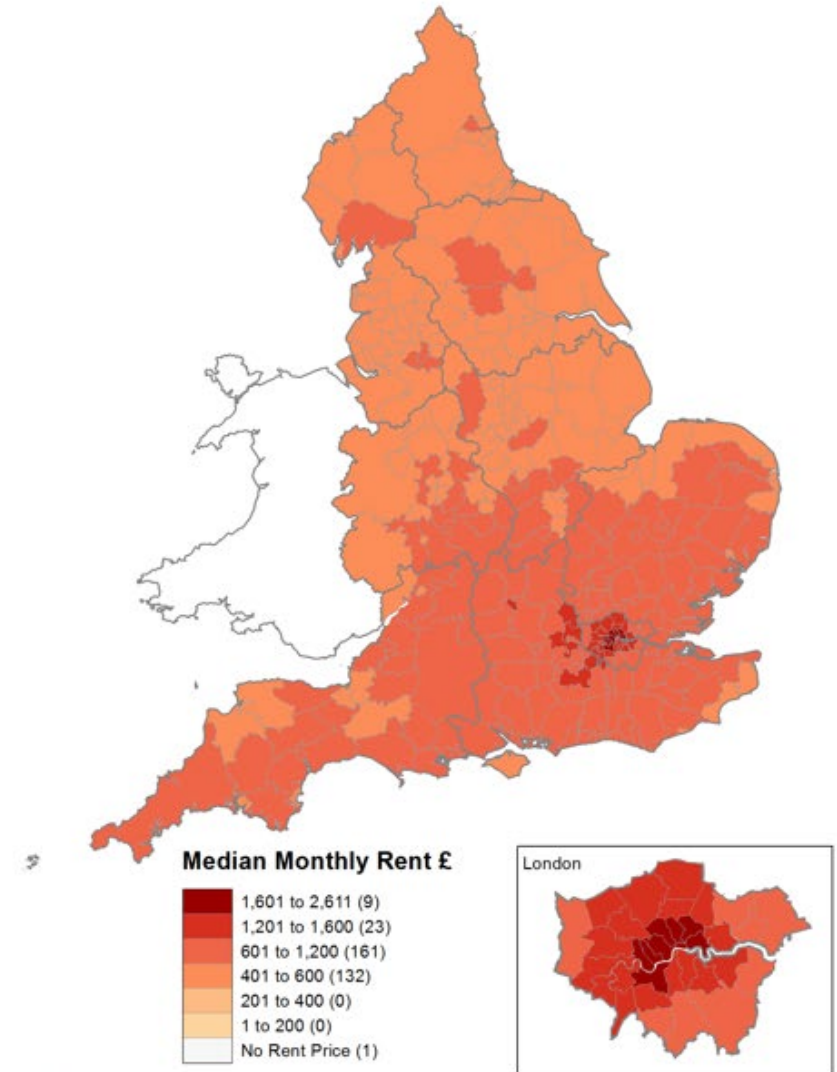
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Median monthly advertised rent for all dwellings, by Local Authority, England, 2016

Median monthly rent for all dwellings, VOA, by Local Authority, England, 2016



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Contains OS data © Crown copyright 2017



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Source: Office for National Statistics, Urban Big Data Centre, Zoopla, Valuation Office Agency

Conclusions

- Zoopla data is messy, requiring considerable cleaning
- Online adverts are not a good measure of turnover or stock
- Rental comparisons with other estimates shows high correlations
- These correlations appear to hold over time and spatially

Going forward:

- Will make comparisons with other online advertisers to assess coverage and evaluate possibilities of measuring turnover
- Plan to model with other data to improve estimates