Measuring local, salient inequality in the UK

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ESCoE – 12th May 2021

Introduction

- What are the consequences of economic inequality for attitudes and behaviour?

- Scholarly work dominated by macro (national/regional) perspective

- A number of (inter-related) problems with this:
  - Perceptions of inequality drive attitudes and behaviour, but people substantially mispredict extent of national inequality
  - Social psychology suggests that inequality is experienced locally (reference groups, social comparisons, distributional knowledge)
  - Macro-level inequality obscures wide variation of local inequality

- Local, salient inequality is important but has been neglected

This paper

- Develop measure of inequality for UK that is:
  - local (neighbourhood-level)
  - perceptually-relevant
- Problem: no geographically-granular income/wealth data for UK
  - Decennial census does not request this information
  - Household surveys do not allow for reliable neighbourhood-level estimates
- Solution:
  - Obtain data on real and estimated housing values – covering 26.6 million unique addresses (91% of UK residential houses)
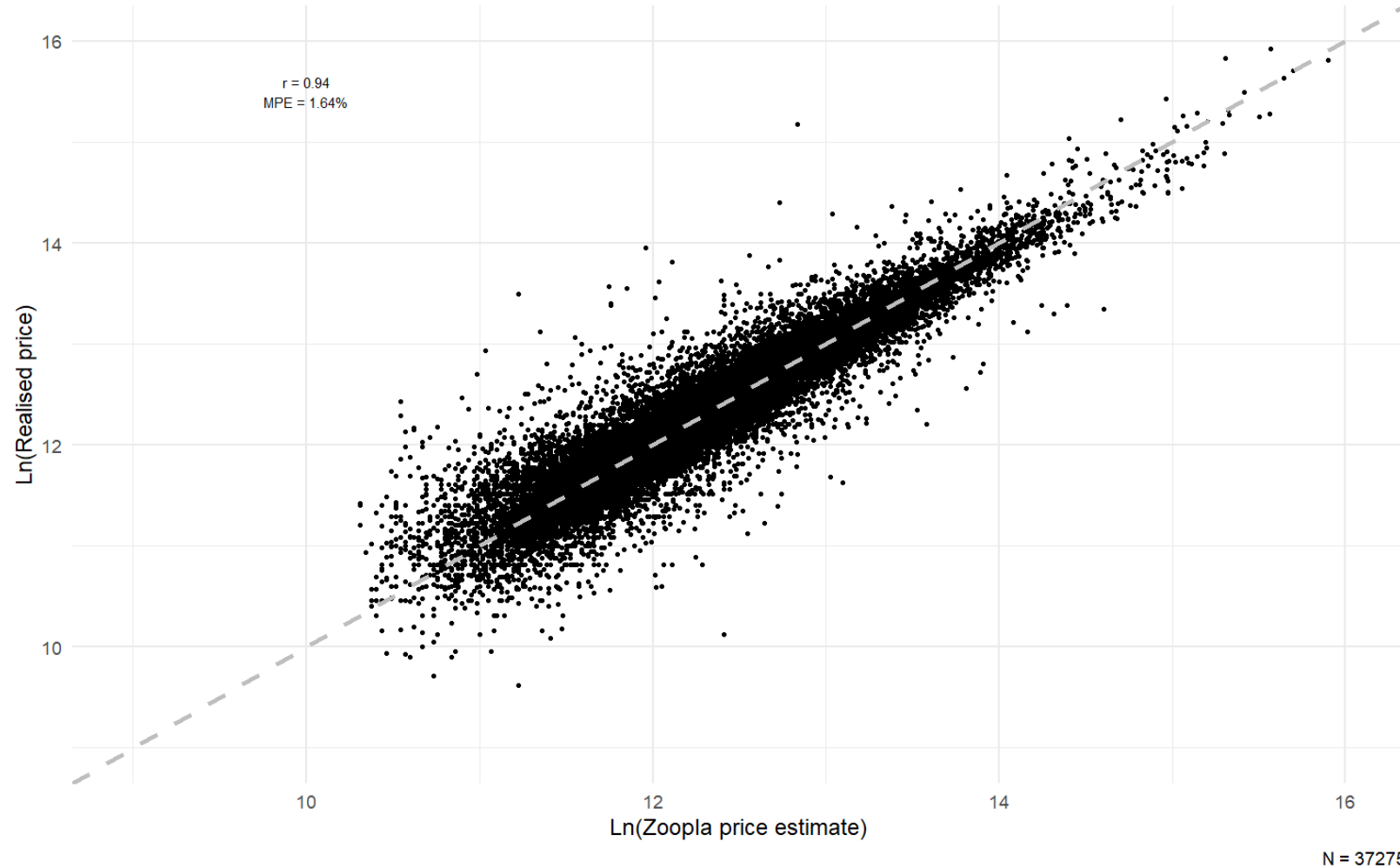
Data on housing values

1. Zoopla:
   - Point in time housing value estimates (Sept 2019)
   - 23 million observations

2. Land Registry:
   - Realised prices (1995-2019)
   - 24 million observations
   - Grouped into 5 year windows (~4.8 million observations per window)
   - Each observation corrected for inflation by local authority and house type (adjusted to end of window)

- How low can we go? Size of data allows for reliable estimates down to the LSOA (Lower Super Output Area)
  - N = 42,619
  - Mean population = ~1400
  - Observations per LSOA: M = 538.8, SD = 197.8

How good are Zoopla price estimates?

Should we use housing values to estimate inequality?

- Drawbacks:
  - Housing value does not necessarily align with income/wealth
  - Don't observe which house is owned/rented or occupied/un-occupied
- In defence:
  - Housing constitutes majority (~60%) of total wealth in UK
    - Wealth and Assets Survey, Wave 5
  - Economic historians use archaeological data on housing size distribution and information on property tax and rents to estimate historical/ancient inequality
    - Soltow & Van Zanden (1998); Stephan (2013); Alfani et al (2020); Alfani (2021)
  - Perceptions are more relevant than objective inequality for attitudes and behaviour
    - Cruces et al (2013); Davidai (2018); Bobzien (2020)

Salience of housing value inequality

- Is housing value inequality perceptually-relevant?
- Two surveys:
  - British Election Study (2015)
    - N = 12,193
    - MSOA level markers
    - Estimate level of income inequality in local community on a scale from 1 ("Differences in income are very small") to 7 ("Differences in income are very large")
  - Representative sample of UK respondent (2019)
    - N = 1,106
    - Recruited via Qualtrics
    - Postcode information
    - Representative on age, gender, income
    - Allows for additional important controls, e.g. Social Dominance Orientation (Ho et al., 2015), Personal Relative Deprivation (Callan et al., 2011)

BES results

- Random intercept model
- Controls:
  - average housing value,
  - population density,
  - income,
  - political orientation,
  - education,
  - age,
  - gender

	Dependent variable:	
	Perceived local inequality	
	(1)	(2)
Gini	0.108***	0.080***
	(0.010)	(0.013)
Controls	No	Yes
Observations	12,192	7,780
Log Likelihood	-17,233.300	-10,928.180
Akaike Inf. Crit.	34,474.600	21,898.350
Bayesian Inf. Crit.	34,504.240	22,044.500

Note: *p<0.1; **p<0.05; ***p<0.01

Regression coefficients are standardised.

Standard errors in parentheses
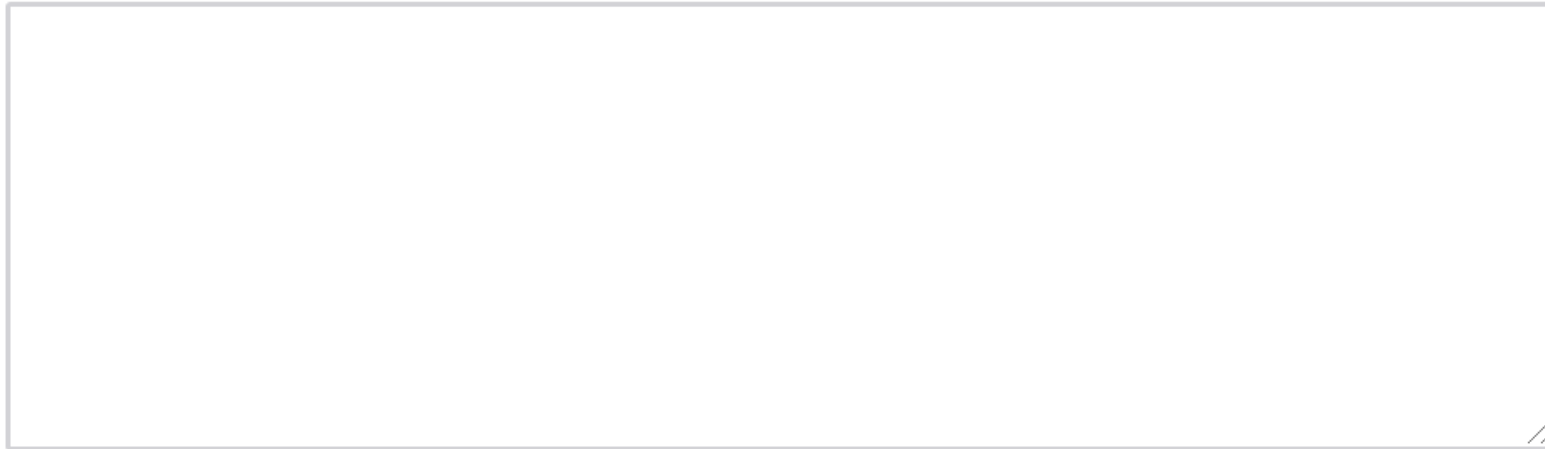
Representative survey results

	Perceived local inequality			
	LSOA	LSOA	MSOA	MSOA
	(1)	(2)	(3)	(4)
Gini	0.077**	0.085**	0.092**	0.092***
	(0.036)	(0.036)	(0.036)	(0.035)
SDO		0.042		0.043
		(0.035)		(0.034)
PRDS		-0.156***		-0.143***
		(0.032)		(0.032)
Controls	Yes	Yes	Yes	Yes
Observations	999	999	1,003	1,003
Log Likelihood	-1,420.085	-1,412.730	-1,425.736	-1,419.988
Akaike Inf. Crit.	2,866.169	2,855.461	2,877.472	2,869.976
Bayesian Inf. Crit.	2,929.957	2,929.062	2,941.312	2,943.638

Note: *p<0.1; **p<0.05; ***p<0.01
Regression coefficients are standardised.
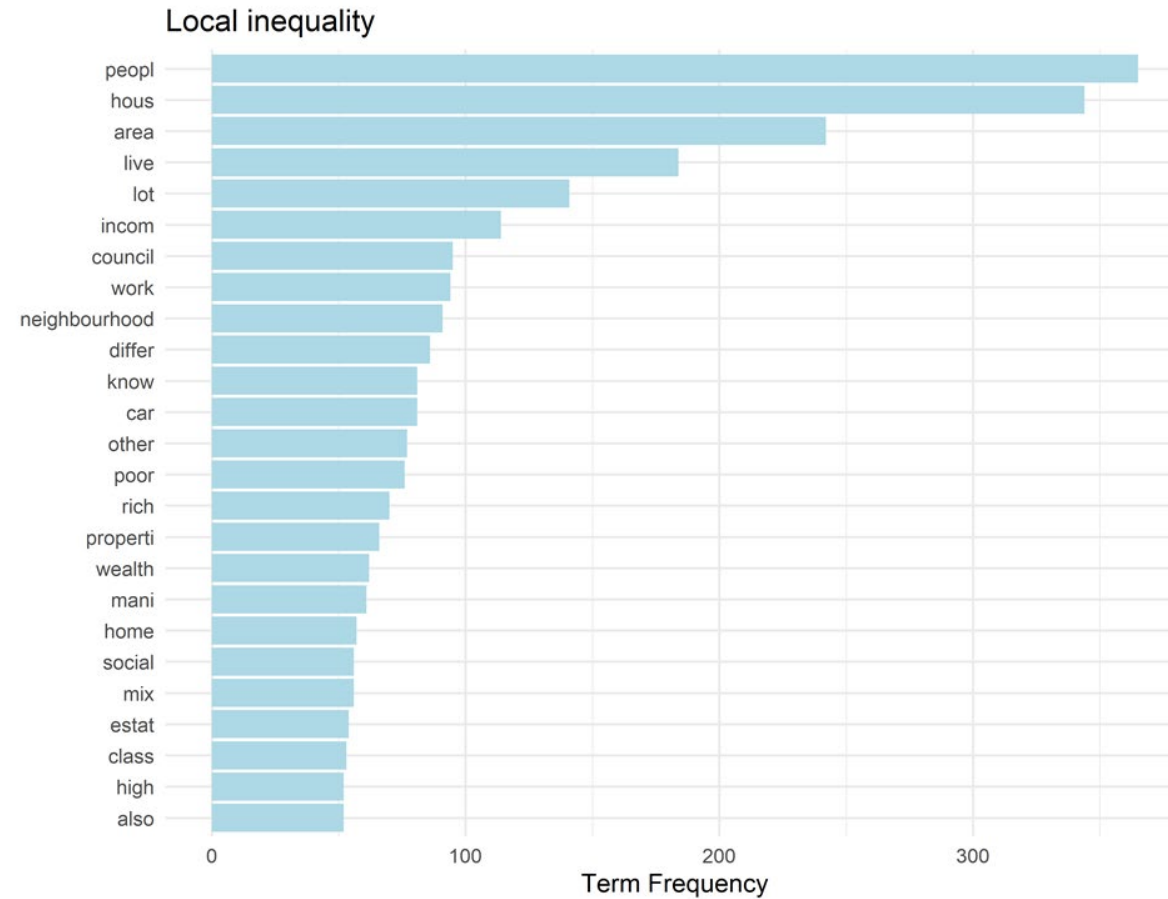Standard errors in parentheses

Free text box

Why do you view inequality in your **local neighbourhood** in that way?

Please use the box below to explain in a few sentences what it is about your neighbourhood which prompted you to answer the way you did.

What are people mentioning?

Local inequality

Housing discrepancies -> perceptions local inequality

- Dictionary comparison:
  - Housing related: estate, council, house, housing, home, property, rent
 - Income related: income, earn, wage, salary, job, unemployed

- Example sentences:

"There's a huge mix of council estates and multimillion pound houses next door to eachother."

"There's areas with poor people and government housing and areas with fancy big houses."

"There are obviously some people who have a higher income as can be seen by the cars they drive and things like that."

"I don't really know about other people's income and wealth so can only really base it on state of properties"

Housing related	Income related
475	287

Neighbourhood (LSOA) level inequality
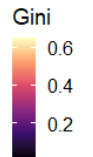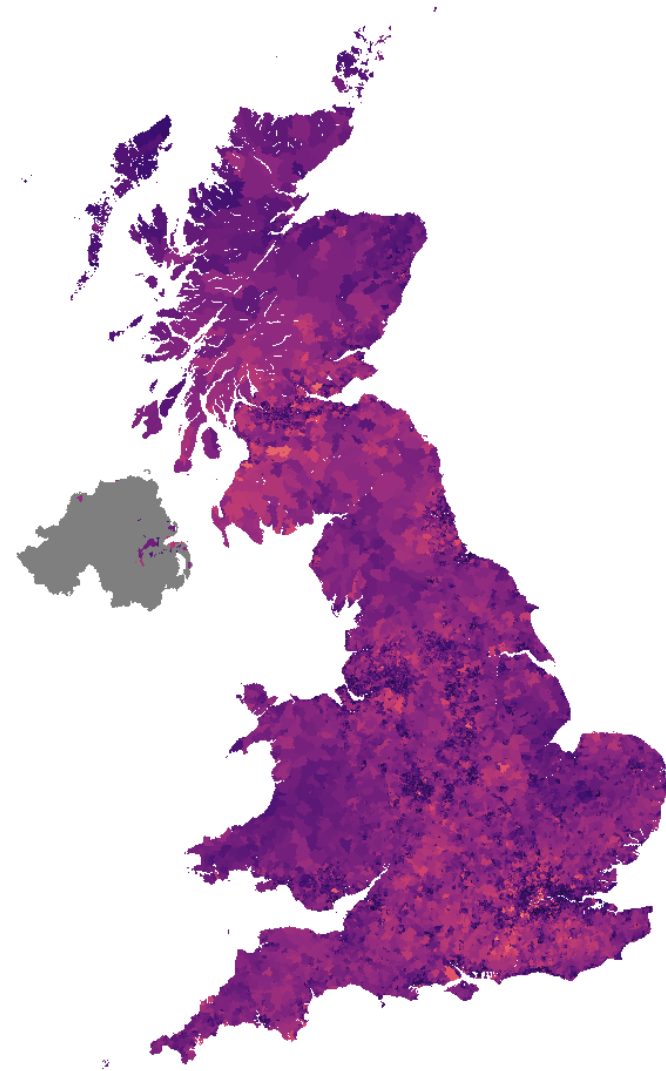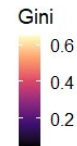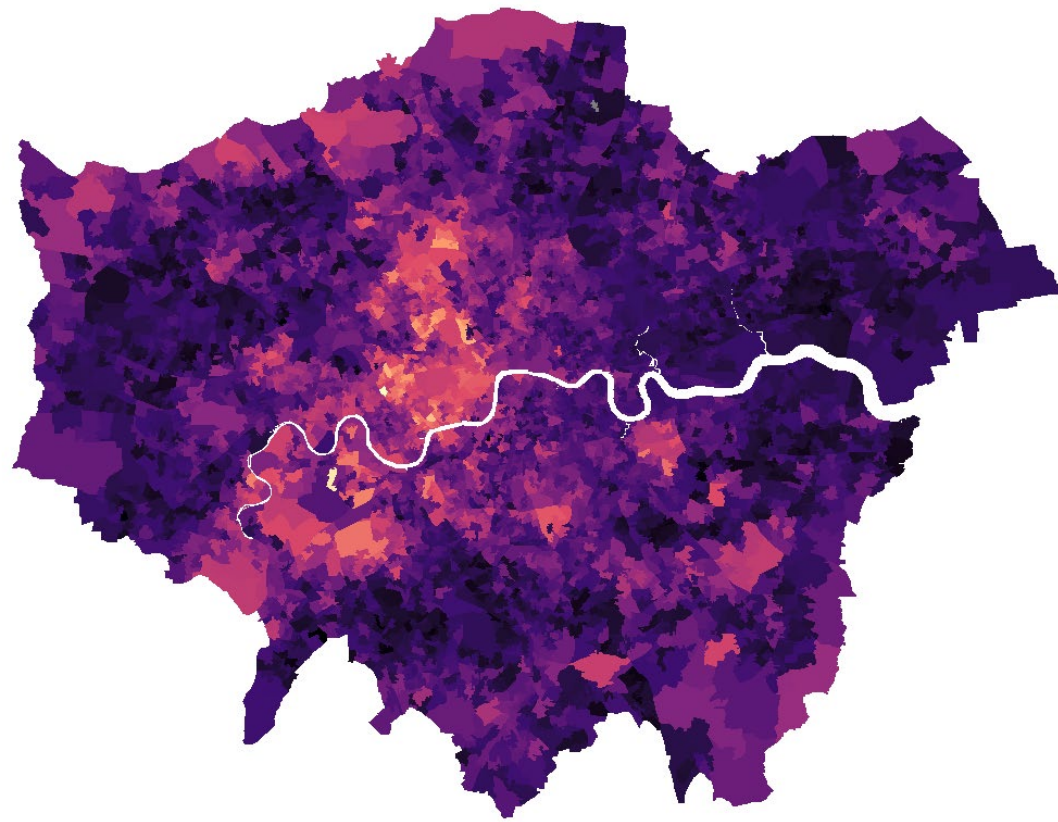
City-level inequality

- Cities (pop >= 100k, N = 77)

| City	Population	Gini	Median	Top1	9:1	9:5	5:1
Top 10							
Greater London	9791957	0.356	432000	8.260	3.908	2.262	1.728
Belfast	341035	0.355	148000	6.657	4.300	2.324	1.850
Greater Glasgow	968033	0.351	130000	5.321	4.769	2.385	2.000
Edinburgh	488095	0.339	226000	5.306	4.120	2.279	1.808
Aberdeen	213725	0.331	152000	4.869	4.092	2.342	1.747
Greater Manchester	2551155	0.327	149000	5.766	3.890	2.141	1.817
Burnley	151732	0.326	87000	4.707	4.239	2.241	1.891
Falkirk	103003	0.321	104000	4.121	4.276	2.385	1.793
Sheffield	683577	0.316	136000	4.908	3.844	2.176	1.766
Accrington/Rossendale	126031	0.316	102000	4.672	3.930	2.196	1.789
Bottom 10							
Crawley	181620	0.231	298000	3.737	2.677	1.752	1.528
Chelmsford	110655	0.230	332000	3.352	2.854	1.711	1.668
Worcester	102290	0.229	202000	3.387	2.732	1.718	1.591
Gloucester	151914	0.229	200000	3.247	2.814	1.660	1.695
York	154123	0.227	214000	3.857	2.549	1.692	1.507
Swindon	187059	0.227	199000	3.195	2.766	1.696	1.631
Lincoln	114842	0.223	155000	3.435	2.569	1.690	1.520
Basingstoke	107996	0.221	254000	3.387	2.593	1.756	1.477
Medway Towns	244765	0.220	231000	3.110	2.710	1.701	1.593
Luton	259057	0.204	234000	2.967	2.574	1.551	1.660

Large variation of inequality within cities

- Taking a city-level view can obscure different inequality lived experiences

- City-level inequality (red-dot) typically at higher end of neighbourhood-level range

  - Suggests within-city segregation i.e. areas tend to be rich and equal, poor and equal
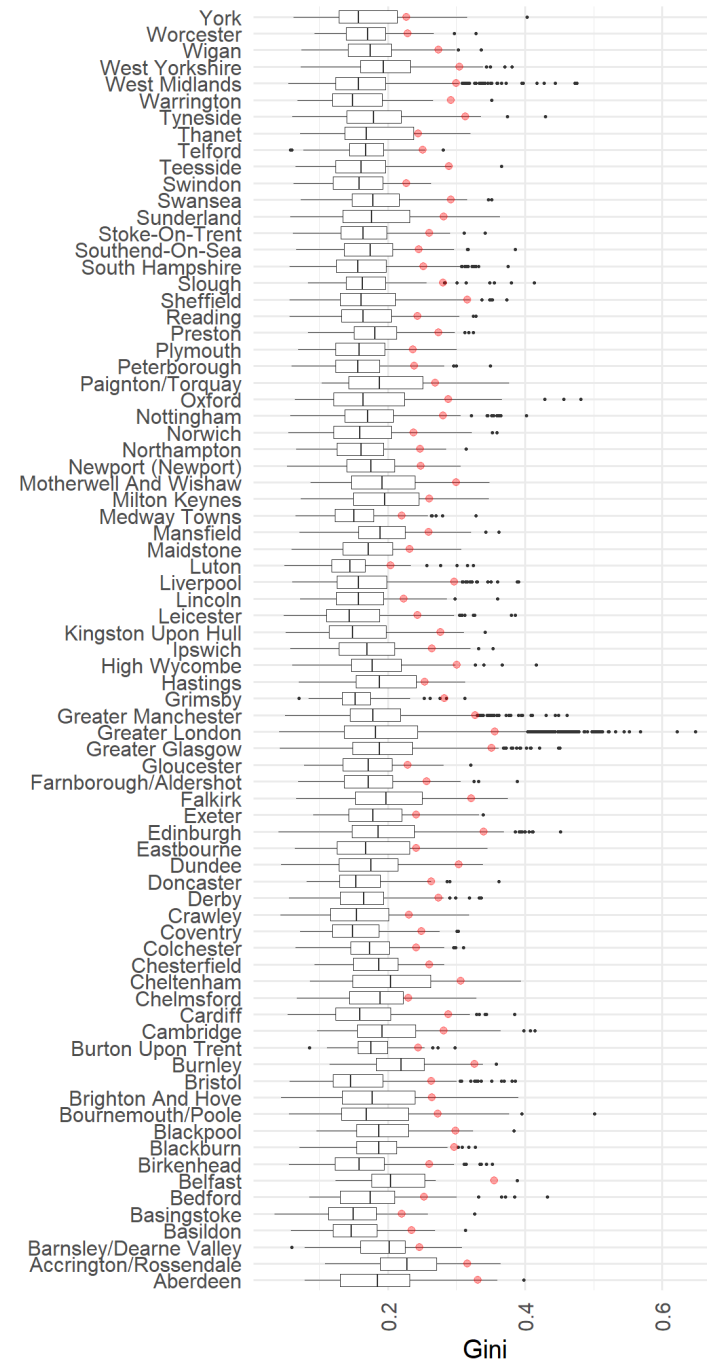
Changes in LSOA-level inequality: 1999-2019

- Using Land Registry data
  - Only for England & Wales
  - Subject to at least 50 observations in 1995-9 or 2015-9

- M = -0.18, SD = .044

- General negative trend in line with evidence of slight decline in UK income inequality over period

- Might reflect greater economic segregation by neighbourhood

Gini change
percentage points
0.20
0.15
0.10
0.05
0.00
-0.05
-0.10
-0.15
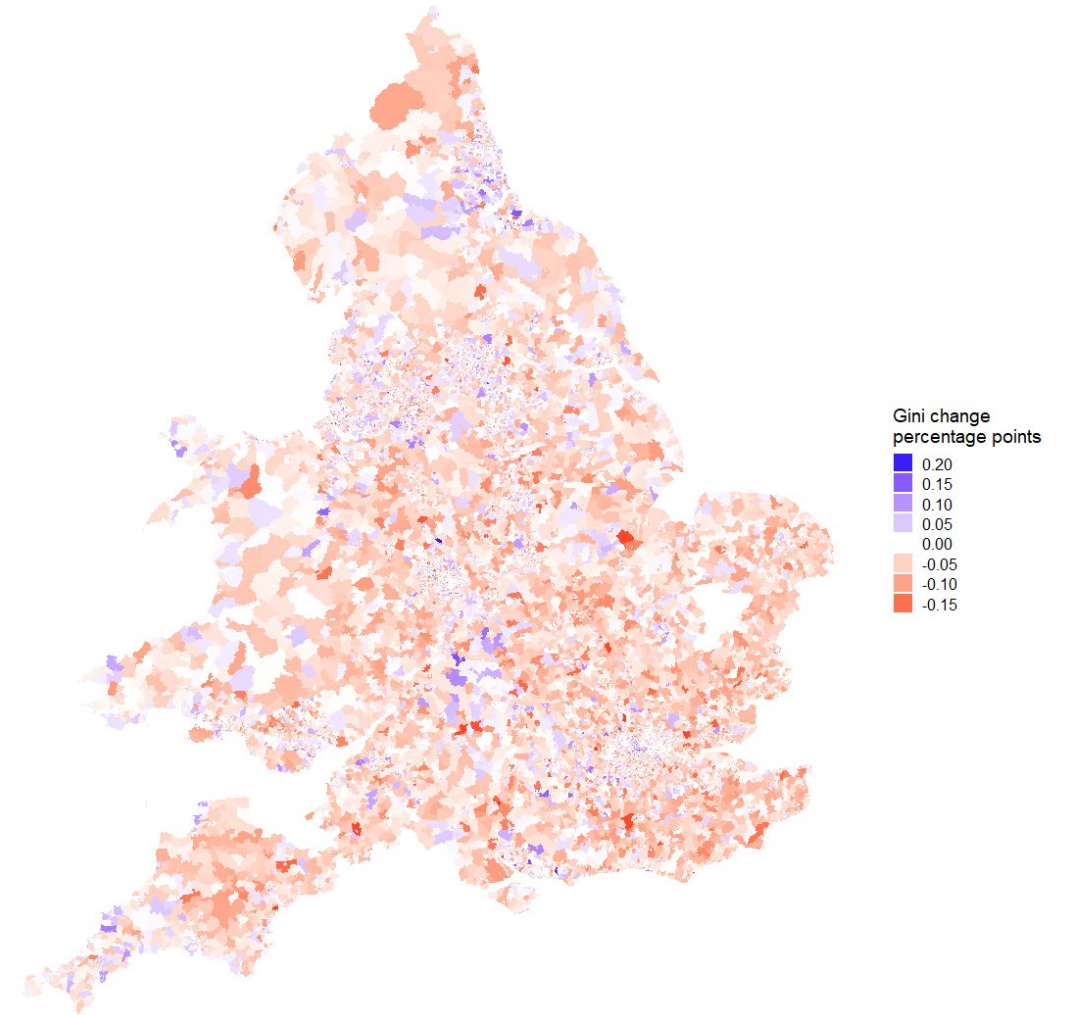
Changes in city-level inequality: 1999-2019

- Mean change = -.024, SD = .022

City	Gini change	Gini change (%)	Top 1% change	9:1 change	9:5 change	5:1 change
Top 10						
Oxford	0.036	13.086	0.017	0.237	0.048	0.080
Blackpool	0.014	4.937	0.004	0.368	0.053	0.142
Cheltenham	0.013	4.168	0.007	0.159	-0.025	0.095
Cambridge	0.012	4.358	0.001	0.170	0.008	0.079
Sheffield	0.011	3.736	-0.002	0.374	0.126	0.068
Liverpool	0.011	3.724	0.002	-0.099	0.101	-0.165
Cardiff	0.005	1.957	-0.002	0.144	0.110	-0.025
Teesside	0.004	1.323	-0.003	0.097	0.058	-0.015
Grimsby	0.004	1.354	-0.003	0.254	-0.097	0.249
Exeter	0.002	0.815	0.002	-0.006	-0.051	0.043
Bottom 10						
Colchester	-0.048	-17.085	-0.011	-0.468	-0.388	0.105
Leicester	-0.049	-17.399	-0.010	-0.698	-0.189	-0.207
High Wycombe	-0.051	-15.596	-0.007	-0.676	-0.384	0.005
Blackburn	-0.053	-15.326	-0.010	-1.314	-0.250	-0.373
Telford	-0.054	-18.662	-0.005	-0.889	-0.289	-0.192
Hastings	-0.054	-17.039	-0.008	-1.257	-0.266	-0.363
Coventry	-0.058	-19.950	-0.010	-0.858	-0.202	-0.284
Medway Towns	-0.059	-22.319	-0.006	-0.780	-0.339	-0.138
Slough	-0.061	-18.456	-0.022	-0.358	-0.312	0.081
Basildon	-0.067	-23.794	-0.005	-1.156	-0.343	-0.313

Conclusion

- First ever granular estimates of economic inequality in the UK using data on tens of millions of housing values

- Verify that housing value inequality is perceptually-relevant across two surveys

- Descriptive analysis:
  - Wide variation of neighbourhood-level inequality across UK and within cities
  - Inequality has reduced on average over the last 20 years (at both neighbourhood and city-level)

- This data can help shed light on questions around the consequences of economic inequality

- Post-publication will provide data publicly (on request ahead of that)

Thanks for listening!

Feel free to get in touch: j.suss@lse.ac.uk

Why does local inequality matter?

- Social psychological / behavioural science lens:
  - Social comparison theory (Festinger, 1954)
  - Relative deprivation theory (Runciman 1966)
  - 'Neighbourhood effects' (Johnston et al, 2004; Galster, 2012)
    - Observation and knowledge accumulation,
    - Foster social networks,
    - Sources of contagion and comparison
- Cross-discipline empirical support for the importance of local inequality for:
  - Redistributive preferences (Sands, 2017; Sands & de Kudt 2020);
  - Political behaviour (Bartle et al, 2017);
  - Intergenerational mobility (Chetty & Hendren, 2018);
  - Subjective wellbeing (Luttmer, 2004; Ifcher et al, 2018)
- Laboratory/online experiments also suggest importance of salient/localised inequality for attitudes and behaviour
  - (Nishi et al., 2015; Hauser et al., 2016; Kuziemko et al., 2014)