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Policy Paper 4

Housing Space Change in England

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Introduction

PopChange (Population Change and Geographic Inequalities in the UK, 1971-2011) is an Economic and Social Research Council (ESRC) funded project which has developed geographically-consistent sets of counts from the Censuses of Britain for 1971, 1981, 1991, 2001 and 2011, and also administrative data for 2015 and 2017.

These counts are provided for common standard 2011 Census areas (lower layer super output areas; LSOAs, with an average population of 1614 people in 2011) and also grids, so that changes through time can be explored.

Here, LSOAs for England are the focus. This briefing focuses on changes in housing space in small areas within England between 1971 and 2017.

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Key points

• At the national level, growth in the number of dwellings between 2001 and 2011 outpaced population growth, but the population grew faster than the housing stock in the London region as a whole and in some parts of every other region.

• The most pronounced trends in overcrowding between 1971 and 2011, and between 2001 and 2011 specifically, were increases in outer London.

• The number of rooms per person declined in much of the wider south east between 2001 and 2011.

• Between 1971 and 2011, average household size increased most in parts of London, Birmingham, Bradford, and Oldham.

• In some neighbourhoods in London and the south east generally, there was a smaller number of dwellings per person in either 2015 or 2017 than in any of the three Census years for which data are available (1991, 2001, and 2011).

Measures of housing space

This briefing focuses on three measures of housing space:

1. Dwellings per person: total dwellings / total persons (including non-household residents)

2. Overcrowding: percentage of households with more than 1 person per room

3. Rooms per person: total rooms / total persons

These measures are distinct but inter-related. The degree of similarity can be measured using the Spearman's rank correlation coefficient (indicated by *r*) of LSOA-level values. Coefficients close to -1 or 1 suggest that the two measures are strongly related, while values close to zero indicate that the measures are unrelated.

There is a strong relationship (with a correlation coefficient (*r*) of -0.83) between overcrowding and rooms per person, and weaker correlations between overcrowding and average household size ($r = 0.21$), and between average household size and rooms per person ($r = 0.30$).

When the number of rooms per person in a household falls below 1 (or equivalently, persons per room rises above 1) it is considered overcrowded. An area with a highly unequal distribution of housing may therefore have an overcrowding problem even if its values on the other measures are not unusual.

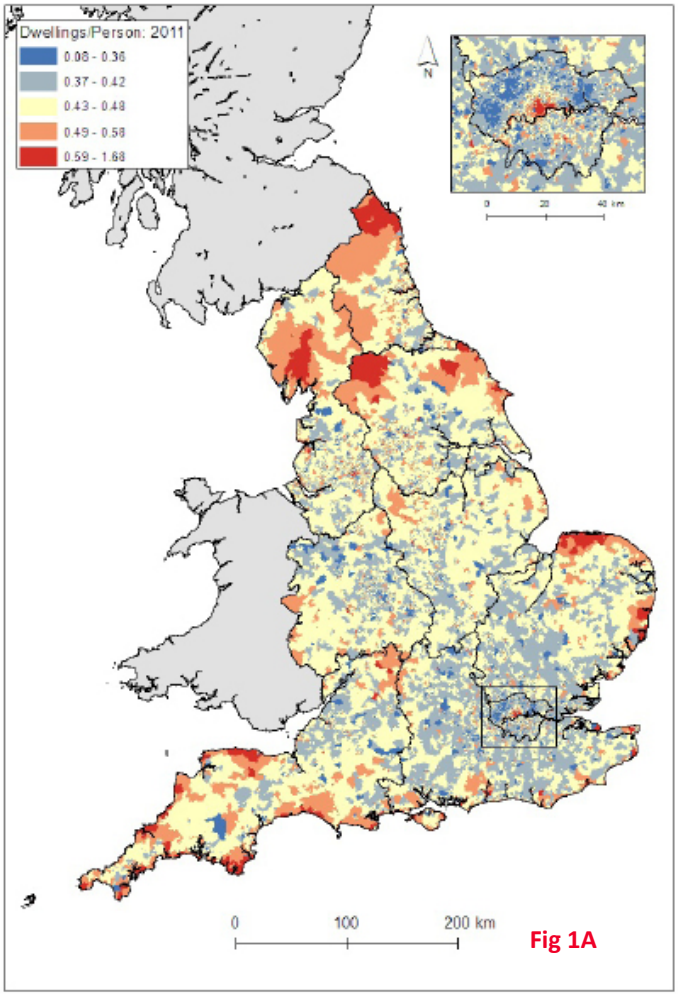
Dwellings and residents

In England as a whole, the number of dwellings grew 8% between 1991 and 2001, while the number of people grew 4.5% - indicating a growing amount of space per person (see Table 1).

Between 2001 and 2011, both dwellings and people grew by 8%. London stands out as the only region where growth in people outpaced growth in dwellings in both decades. In every other region, however, there were some neighbourhoods where housing growth failed to keep up with growth in the population.

Table 1. Dwellings and persons, 1991, 2001 and 2011.

	Dwellings			Persons		
Region	**1991**	**2001**	**2011**	**1991**	**2001**	**2011**
East	2,092,532	2,307,867	2,531,907	5,051,235	5,388,140	5,846,965
East Midlands	1,633,309	1,796,637	1,971,514	3,951,045	4,172,174	4,533,222
London	2,911,421	3,090,364	3,358,163	6,672,713	7,172,091	8,173,941
North East	1,072,138	1,114,933	1,178,269	2,542,049	2,515,442	2,596,886
North West	2,792,017	2,944,984	3,143,898	6,723,170	6,729,764	7,052,177
South East	3,097,324	3,391,885	3,694,388	7,485,034	8,000,645	8,634,750
South West	1,967,464	2,180,719	2,401,289	4,605,717	4,928,434	5,288,935
West Midlands	2,078,133	2,224,648	2,376,728	5,146,780	5,267,308	5,601,847
Yorkshire and the Humber	2,020,433	2,154,706	2,319,910	4,832,396	4,964,833	5,283,733
England	19,664,772	21,206,743	22,976,066	47,010,138	49,138,831	53,012,456



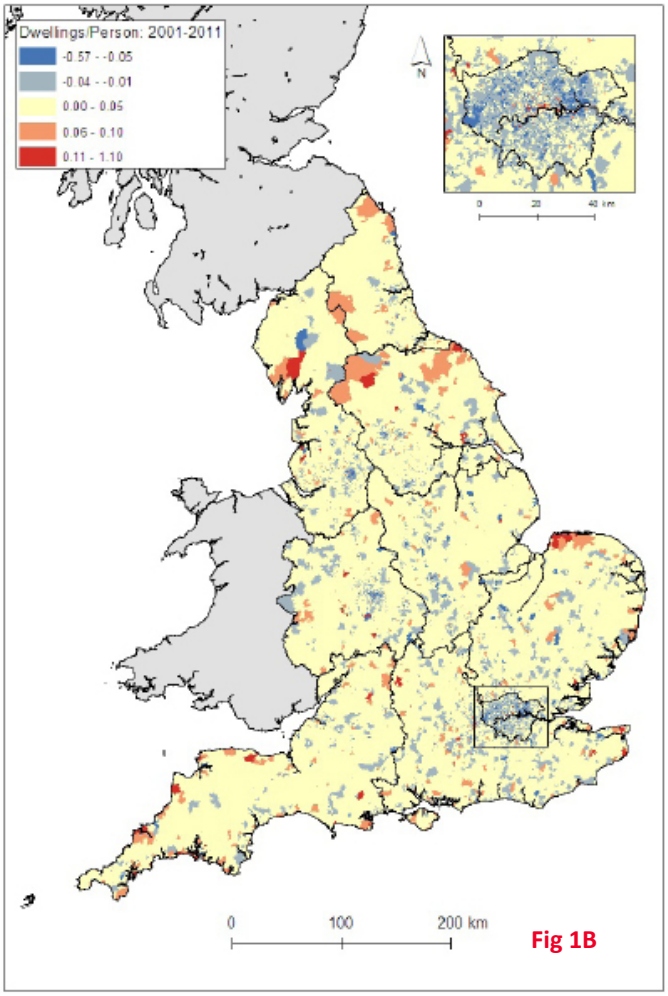


Figure 1. Dwellings per person: (A) 2011, (B) 2001-2011

In 2011, the numbers of dwellings per person was generally smaller in urban and suburban areas than elsewhere (see Figure 1A).

The largest decreases in dwellings per person between 2001 and 2011 were in outer London and in other urban areas including Birmingham (Figure 1B).

Between 2001 and 2011, both dwellings and people grew by 8% in England.

Overcrowding

Overcrowding declined markedly between 1971 and 2001 (see Table 3) only to increase again between 2001 and 2011, corresponding to counter-urbanisation (the spread of population from areas with higher densities) between 1971 and 1981, followed by a gradual reversal from 1981 to 2001, and then a large one from 2001 to 2011.

In 2011, overcrowding was at considerably higher levels in outer London and in Birmingham, as a well as some other urban areas, than elsewhere (see Figure 2A). By far the most marked change between 1971 and 2011 was in outer London where there were large increases (Figure 2B).

Taking the period 2001 to 2011 specifically, large increases in overcrowding are evidenced in London but also in Birmingham (Figure 2C).

In 2011, overcrowding was at considerably higher levels in outer London and Birmingham as well as in some other urban areas.

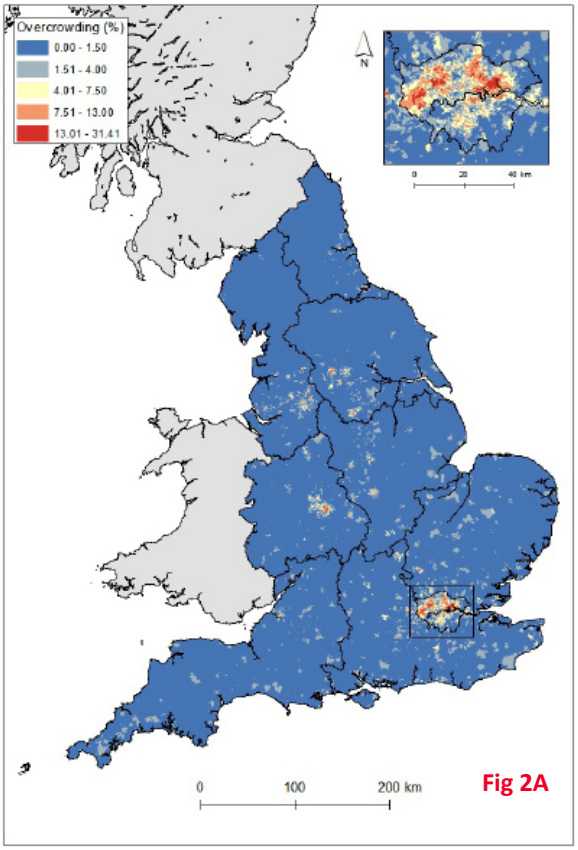
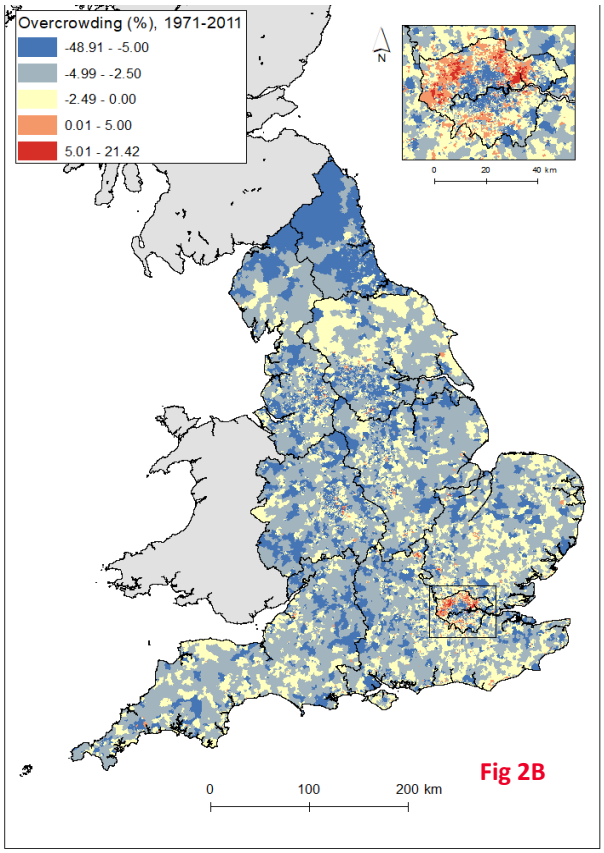
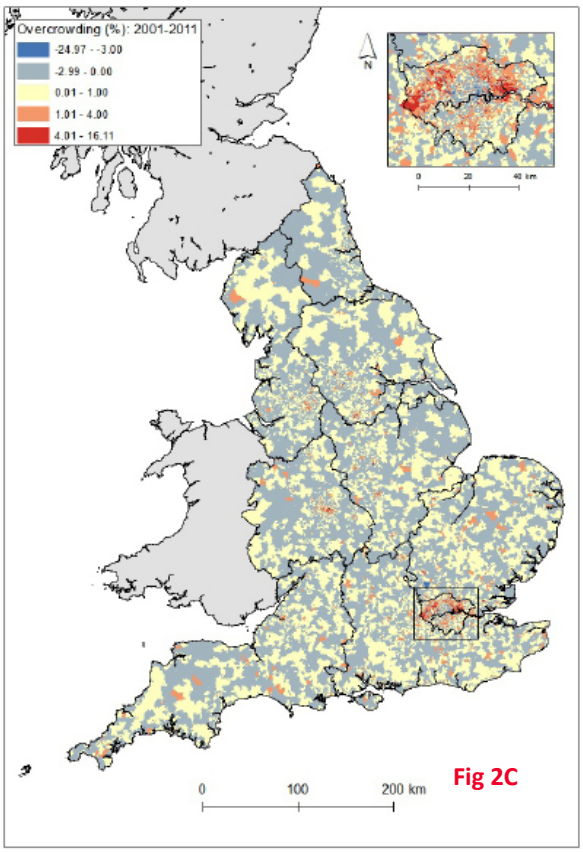


Figure 2. Overcrowding (%): (A) 2011, (B) 1971-2011, (C) 2001-2011





Region	1971	1981	1991	2001	2011
East	4.31	2.30	1.49	1.22	1.44
East Midlands	4.99	2.84	1.58	1.21	1.33
London	8.43	5.28	4.12	4.97	5.84
North East	8.44	3.95	1.60	1.20	0.99
North West	6.31	3.63	1.93	1.45	1.35
South East	4.39	2.39	1.67	1.31	1.57
South West	4.44	2.23	1.44	1.00	1.13
West Midlands	6.76	3.98	2.37	1.81	1.87
Yorkshire and the Humber	5.86	3.42	1.92	1.56	1.63
England	6.05	3.39	2.11	1.89	2.10

Table 2. Percentage of households overcrowded (> 1 persons per room), 1971-2011.

Rooms per person

The spatial distribution of the number of rooms per person (Figure 3A) broadly mirrors the map of overcrowding, although there are some distinctive features. The number of rooms per person are clearly fewer in LSOAs in urban areas than elsewhere. For the period 1971 to 2011 (Figure 3B), the number of rooms per person decreased, or increased by only a small amount, in many urban areas. The most obvious trend in the number of rooms per person between 2001 and 2011 (Figure 3C) is a decrease in London and parts of the south east.

Figure 3. Rooms per person: (A) 2011, (B) 1971-2001, (C) 2001-2011

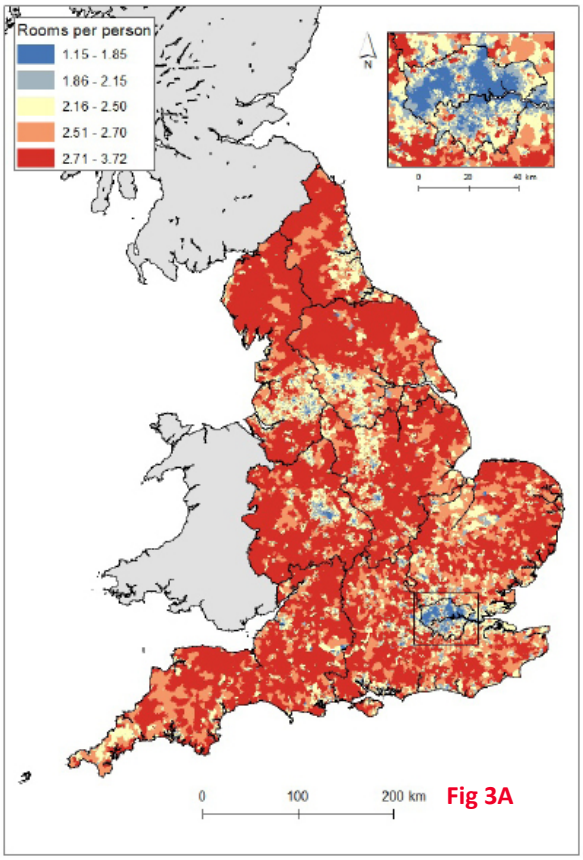


Fig 3A

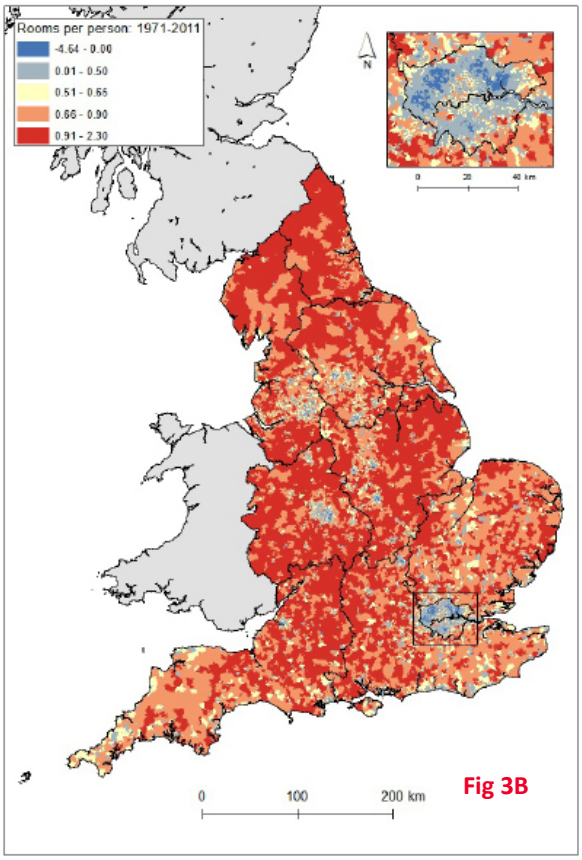


Fig 3B

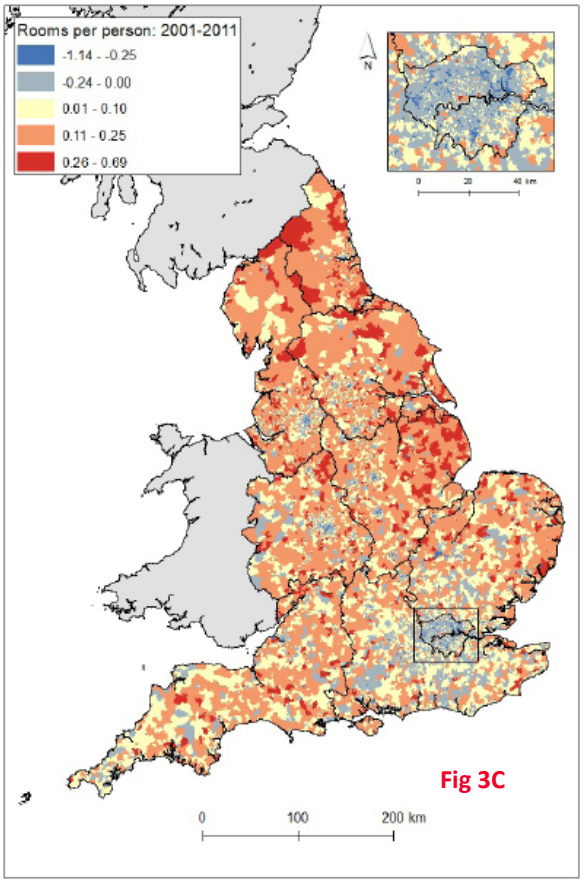


Fig 3C

Dwellings per person after 2011

In this section, administrative data for 2015 and 2017 are used to add to the analyses of Census data.

The data are mid-year estimates of the number of people (Office for National Statistics (ONS) data), and counts of dwellings (Valuation Office Agency (VOA) data).

It is important to stress that these data are different in nature to Census data, although the patterns they show are considered robust.

Figure 4 shows (A) dwellings per person in 2011-2017 (in practice, 2017 figures for 2017 are subtracted from 2011 figures), (B) minimum year (the Census or administrative data year with the smallest number of dwellings per person).

London and the south east ...had a smaller number of dwellings per person in either 2015 or 2017 than in any of the three Census years...

There are no clear spatial trends to changes in dwellings per person between 2011 and 2017 (Figure 4A), although the geography of minimum dwellings/person has some distinct features including a large number of LSOAs in London and the south east generally which had a smaller number of dwellings per person in either 2015 or 2017 than in any of the three Census years for which dwellings data are available (1991, 2001, and 2011) (Figure 4B).

This is a graphic depiction of the degree to which housing provision is falling behind population growth in these areas.

Figure 4. Dwellings per person (A) in 2011-2017, (B) minimum year.

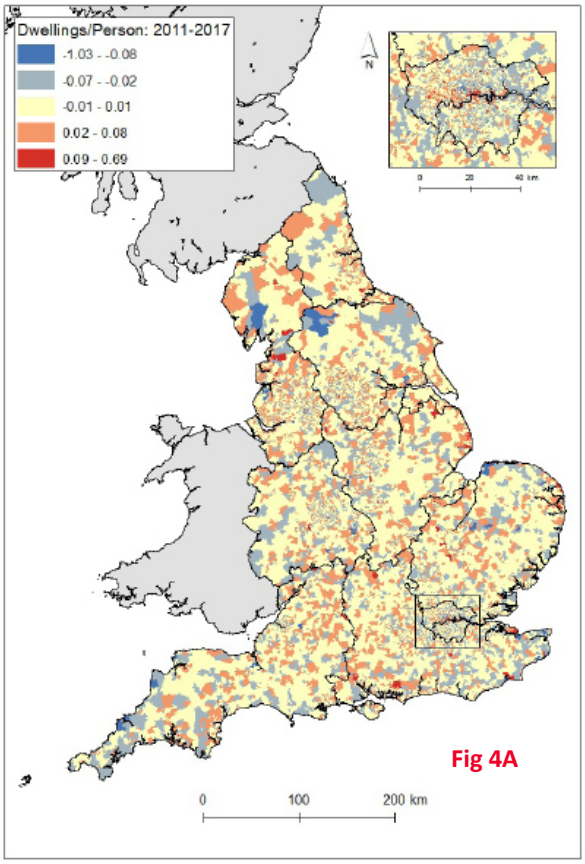


Fig 4A

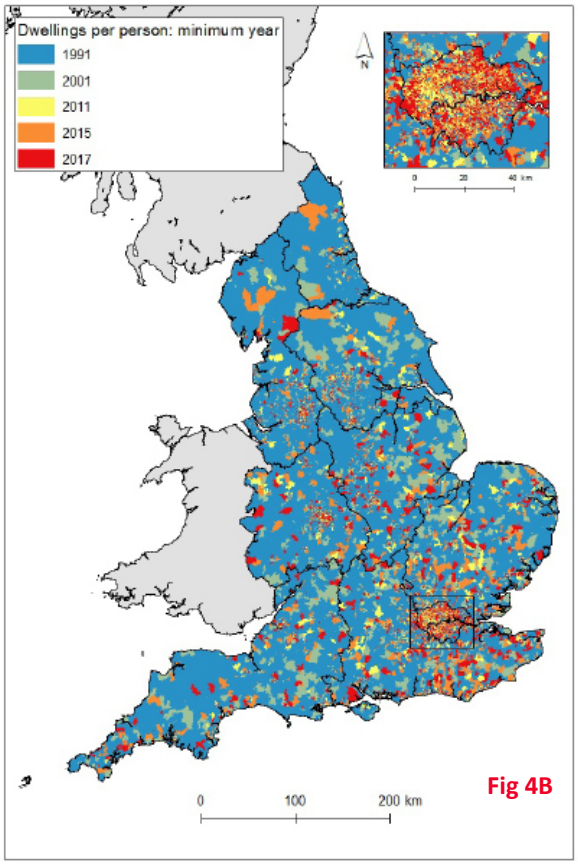


Fig 4B

Changes in Dwellings per Person

Figure 5 below shows histograms of change in dwellings per person – specifically, dwellings/ person 2001 minus 1991, 2011 minus 2001, and 2017 minus 2011, at LSOA level for each of the regions of England.

The contrast between London and all of the other regions is obvious for all three time periods – with the number of dwellings per person in the majority of LSOAs in London decreasing over all three time periods.

In the other regions, the majority of LSOAs saw increases in dwellings per person – although there is considerable variation.

All regions include LSOAs with declining numbers of dwellings per person.

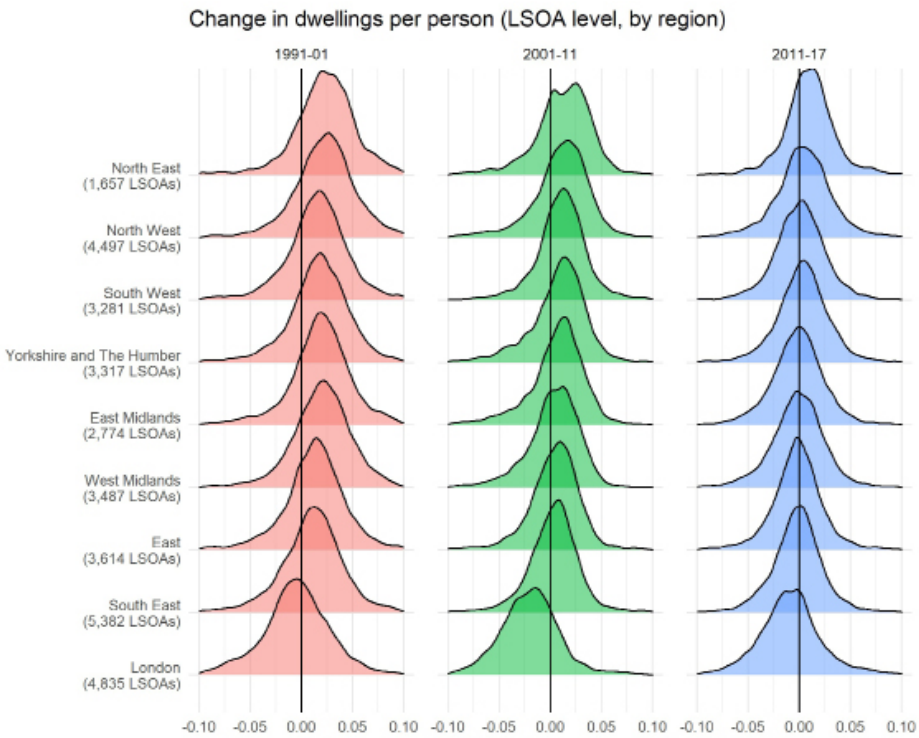


Figure 5. Change in dwellings per person: Dwellings/person 2001 minus 1991, 2011 minus 2001, 2017 minus 2011.

Citation:

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The Office for National Statistics are thanked for provision of the data on which the analyses were based. Office for National Statistics, 2011 Census: Digitised Boundary Data (England and Wales) [computer file]. ESRC/JISC Census Programme, Census Geography Data Unit (UKBORDERS), EDINA (University of Edinburgh)/Census Dissemination Unit. Census output is Crown copyright and is reproduced with the permission of the Controller of HMSO.

Note: The PopChange data values for 1971 to 2001 are estimates (so, there may be large margins of error for some population counts).

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