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Housing cost increases, relative income stagnation and housing space inequalities: non-whites in London, 2001-2011.
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Housing cost increases, relative income stagnation and housing space inequalities: non-whites in London, 2001-2011.

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London’s housing prices have increased over recent decades at a much faster rate than income creating financial and quality-of-life problems for many of its inhabitants. This increase has occurred during a period of population growth, much of it of immigrant lower-income individuals, families and households and their descendants who are members of London’s burgeoning ethnic minority populations. This paper explores whether members of such groups have suffered disproportionately from those problems and have had to respond by changing their patterns of housing consumption. It concludes that densification, whereby housing is occupied at higher densities, has been a common response to the problems, but that it has been experienced more than elsewhere in neighbourhoods where members of the ethnic minority groups are concentrated.

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Introduction

We live in a world class city yet we face the harsh reality that thousands of Londoners are experiencing the blight of overcrowding – overcrowding which creates stressful lives for families, causes ill health, limits our children’s potential, and stifles our economy. ... The overcrowding rate for black and minority ethnic (BME) households in London is about four times that for white British households. This is not just a result of larger average family sizes in some ethnic minority groups, as BME households of any given size have at least twice the overcrowding rate of equivalent white British households.1

World cities, according to many commentators, are becoming increasingly polarised between the rich and the poor, between those in well-paid occupations and those – many of them in service industries servicing the former group – with low incomes, many earning at or below what is considered a ‘living wage’ and working on zero-hour contracts that give little or no security of either employment or income. Many in the latter category are members of ethnic minorities who have migrated to the world cities to better their life chances but find themselves trapped in, relative, poverty. Their situation has been exacerbated in many places by rapid housing cost inflation, relative to incomes, which raises questions regarding how such low-income residents cope with those rising costs. This brief paper addresses that issue with empirical data from one leading world city – London.

Much recent writing about London has focused on changes to its socio-economic and demographic characteristics and their impacts on the urban spatial structure (on which see Manley et al., 2015). Its economy has become increasingly dominated by service industries, both the ‘professions’ – such as financial services, IT and the law – and the myriad semi- and unskilled occupations that facilitate their operations – such as catering, cleaning, public transport and hospitality. This has generated an ongoing polarisation of the population, into the skilled, well-paid professions on the one hand and the lower status, largely-white collar occupations on the other, alongside members of the ‘traditional working classes’ employed in manufacturing and other blue-collar occupations. Associated with these socio-economic changes have been demographic shifts as an increasing proportion of the lower status jobs are taken by members of ethnic minority populations, many of them recent arrivals in the city.
London has also experienced major housing market changes. Growth of the high-income middle-class population component has stimulated increases in property values and prices — for both owner-occupancy and renting — that have outpaced increases elsewhere in the country outwith the city’s commuting hinterland. This shift has been exacerbated because London has become a favoured location for investment in high value new homes by ‘absentee’ owners (Whitehead, 2015, 151), who use its property market as a safe deposit for their wealth, in the expectation of continuing capital gains. Such investments have knock-on effects throughout the city’s housing stock, well away from the favoured locations.

Together, these trends have suggested to some academic commentators that the poor and the working class are being squeezed out (see Hamnett and Butler, 2013; Davidson and Wyly, 2012, 2013), forced to migrate beyond the suburbs to places where housing is cheaper and from which long-distance commuting is both time-consuming and expensive. The 2011 census data showed that this has not been the case in London, however, where the ‘working class’ — as defined by the National Statistics Authority — increased both absolutely and relatively between 2001 and 2011 (Manley and Johnston, 2014). Furthermore, members of the main Black and Minority Ethnic (BME) groups, whose proportion of the metropolitan population and workforce increased substantially over that decade (Johnston et al., 2013), are concentrated in the lower-skilled, lower-paid service industries there. (According to the 2011 census, 31 per cent of London’s non-white workforce were employed in wholesale and retail trade, transport, and accommodation and food service industries, compared to 21 per cent of the white workforce; a further 14 per cent of non-whites were employed in human health and social work activities, compared to 9 per cent of whites. In terms of occupational status, 40 per cent of whites had jobs classified as either higher or lower managerial, administrative and professional, compared to 26 per cent of non-whites.)

Given the growth in property values and prices over the decade, how have members of those ethnic minority groups been able to remain living in London — other than by accepting that housing costs take up an increasing share of their, relatively low, disposable incomes? This paper addresses that question by looking at changing density of occupance as a strategy that has enabled members of BME groups to continue living in London.

**London’s changing housing market**

Office for National Statistics’ data show that over the decade from 2004, the mix-adjusted house price index for London increased from 120 to 240 — a doubling which occurred at a time when incomes for the majority of the workforce changed very little. A rapid increase in prices was stalled by the onset of the economic crisis in 2008, but the previous peak was reached again within three years, and the subsequent increase was very rapid after 2013 (Figure 1).

This appreciation in house prices varied across London, but substantial increases were the norm everywhere, as illustrated in Figure 2, where prices are shown on a log scale to take account of the substantial absolute differences across the 32 boroughs. Figure 2a shows the median price for all dwellings annually for the period 2001-2013, with the near-parallel pattern of the 32 lines indicating similar rates of growth across the boroughs; a similar pattern is shown in Figure 2b for terraced homes only. Thus, for example, between 2001 and 2013, just as the median price for terraced homes in two of most expensive boroughs (Kensington & Chelsea and Hammersmith & Fulham) increased from £929,000 and £400,000 respectively to £2.83m. and £1.16m. (increases of 204 and 199 per cent respectively) so in the two boroughs with the cheapest such homes (Barking & Dagenham and Newham) the increases respectively were from £94,000 and £113,000 respectively to £190,000 and £240,000 (102 and 112 per cent). The housing market was becoming increasingly spatially polarised:
prices were highest in London’s inner west suburbs and were increasing at half the rate – but still doubling – in the lower-valued eastern sector.

Rental costs increased at substantial rates, too, and more uniformly across the city. Figure 3 shows the trend in local authority rents for those boroughs which retained their housing stock over that full period. In Barking and Dagenham, for example, the average weekly rent was £54.52 in 2001-2 and £90.39 twelve years later – an increase of 76 per cent – and in Kensington & Chelsea there was a rise of 62 per cent – from £66.44 to £107.60. Over the same period, private rents increased at slightly higher rates (Figure 4): 88 per cent in Barking & Dagenham and 111 per cent in Kensington & Chelsea.

**Coping with higher housing costs**

Incomes varied across London, as did changes in income (Figure 5). In 2000 the median annual income reported by taxpayers in Kensington and Chelsea – London’s most prosperous borough (excluding the City of London) – was £18,200: a decade later it was £37,200, an increase of 104 per cent; Newham, on the other hand, had a median of only £13,300 at the former date and £17,600 at the latter – an increase of only 32 per cent. All boroughs had a similar trend; incomes increased, but at nothing like the rate for housing costs.

So how could low-income Londoners, including members of its burgeoning BME communities, cope with this increased differential between housing costs and incomes? For owner-occupiers the issue would not arise unless they wished to move, since their only housing costs would be those of servicing a mortgage (and interest rates were low for much of the period) plus paying local property taxes that were linked to an outdated property revaluation in 1991 and were held down with increasingly rigorous caps on the levies that local governments could raise. But the situation was different for renters, who like those buying a home in London for the first time faced high and growing housing costs relative to incomes.

One coping mechanism in such situations is to reduce housing costs per person, by either moving into smaller dwellings or – perhaps more readily – sharing existing space by increasing the density of occupancy. This can be done, for example, either by sharing housing costs across more individuals within a family – such as one or more grandparent moving in with their children and, perhaps, grandchildren, some of whom might be working and able to contribute to housing costs – or by subletting part of a property to non-family members. The result of either would be a reduction in the space available per person – living at higher densities in order to cope with the increased housing costs – as would also be the case if property-owners decided to benefit from the appreciation in values by sub-dividing their properties and ‘requiring’ their tenants to live at higher densities. Whatever the process, the result is what Gordon (2015) terms ‘densification’; he estimates that about 60 per cent of growth in the number of immigrants across London’s neighbourhoods can be accounted for by them living at greater densities per room: ‘the average occupation of a given number of rooms by new migrants from poor countries was about 2.5 times that of established residents in the locality…. By contrast, it seems that new arrivals from rich countries did not significantly alter densities of occupation, while additions to the UK-born population had only a modest one’ (Gordon, 2015, 48). Densification is very much a feature of the BME populations according to this analysis.

Tunstall (2015) has shown that over much of the twentieth century relative space inequality – variations in the number of rooms per person – narrowed somewhat and the average situation improved so that even at the lowest 10th percentile households were living at one room per person. Between 1991 and 2011, however, the situation of the least well-provided for did not improve; the
10th percentile in terms of rooms per person remained at one, whereas the 90th percentile increased from 3 to 5 rooms per person over the same two decades. Until 1991, housing space increased for all, both relatively and absolutely: in 1911, 48.7 per cent of households lived at ratios of more than one person per room, whereas in 2011 that percentage was only 3.7. Smaller families, smaller households, and larger dwellings all contributed to that change, but the benefits became less widely distributed after 1991. In 1911 some 15 per cent of households lived in conditions that were below 60 per cent of the median housing space, and in 1991 that percentage had fallen to five. But over the next two decades it increased, reaching almost 15 per cent again by 2011.

Tunstall speculated that this recent reverse shift could result from several trends: changes in the distributions of housing and household sizes; growth in the number of people and households (and hence in average household size); and operation of the housing markets – how individuals and households are distributed across the housing stock and its size differentials. Over the last two decades, the majority of new housing comprised dwellings with 7-8 rooms, and many existing – relatively large – homes were extended. But there was no comparable increase in the number of smaller homes, affordable – especially in the private (ownership and rental) sectors – by lower-income households. And yet, in London, these smaller homes were becoming increasingly expensive.

Extending Tunstall’s analysis, the next section explores whether this early-21st century change in housing space inequalities can be observed in London, in particular in the areas where members of the BME groups are concentrated – an Office for National Statistics paper having indicated that they were over-represented in over-crowded properties. Across England and Wales, there were some 1.1 million overcrowded households, of which just under half had a member of a BME group as the household reference person; compared to this, only just over 11 per cent of under-occupied dwellings had BME household reference persons. In London, such households were three times more likely to be in overcrowded dwellings, according to those criteria, than households with a White British reference person.

Mapping housing density in London: 2001-2011

For this exploration we employ data taken from the 2001 and 2011 censuses at the smallest spatial scale – the Output Areas (OAs). Most of the OAs used for the 2001 census were deployed again in 2011, and using the available information we have reworked the 2011 areas into a constant set of 24,033 OAs covering both censuses. They had an average population of 296 in 2001 and 338 a decade later.

As a number of recent studies have shown (Johnston et al., 2014, 2015), London’s ethnic minority groups are concentrated into certain parts of the city, notably the outer northwestern suburbs and a sector extending eastwards from the city centre to the periphery, as well as in many of the inner-city boroughs. Their proportion of the total population in each OA is shown for each of the dates in Figure 6. For 2001 (Figure 6a) the OAs are divided into quintiles according to the percentage of their population recorded than as non-white: the main concentrations are in the northwest (mainly Indians and Pakistanis), east (Bangladeshis and Pakistanis), immediately south of the river in central London and in a salient extending north (mainly Black African and Black Caribbean). By 2011 the non-white percentage of the population had increased markedly (from 21 to 40). Figure 6b maps its distribution, using the same class boundaries as Figure 6a (i.e. the 2001 quintiles) to stress that increase. Non-whites were largely concentrated in the same areas, but at much greater relative densities.

Three further pairs of maps for 2001 and 2011 suggest a clear link between the distribution of BME persons and the geography of high density housing in London at both dates. Figure 7 shows the
mean number of persons per household in each OA in 2001 and 2011, using the same mapping strategy as for Figure 6. (Figure 7a shows persons per household in each OA in 2001, by quintiles, and Figure 7b uses those same five classes for the 2011 map.) In general, households were on average larger in the outer suburbs and smaller in the inner city areas, but in addition there was apparently a correlation between those two distributions and those of the non-white population in Figure 6: in general, the larger the latter group as a proportion of the local population, the larger the average household size (the correlation – \( r \) – between the two variables for 2001 was 0.33 and for 2011 it was 0.38).

Over the 24,033 OAs as a whole, the average household size was 2.39 in 2001 and 2.52 in 2011; as a recent report recognised, this has reversed a several-decades-long trend for the average to decline, an alteration that it puts down to the failure of housing supply to keep pace with demand (Wilson, 2015). Regression analyses show, however, that an average OA with 20 per cent of its population non-white had 2.32 persons per household in 2001 and 2.34 in 2011; for an OA with 80 per cent of its population non-white, the average household would be 0.5 persons larger in each year (2.82 and 2.95 respectively).

Not only are the areas where they are concentrated and, by implication, the BME groups themselves, characterised by larger households; in addition there are significant differences between non-white and white households. In 2011, 34 per cent of London’s households with a white reference person comprised a single person only, with 52 per cent comprising a family and 14 per cent some other structure (e.g. containing at least one person not related to the reference person); for non-white households, the percentages were 27, 80 and 21. Non-whites were much less likely than their white counterparts to live in single-person households and more likely to be in either family or other household types.

The next two figures look at separate indices of overcrowding. The first (Figure 8) maps the ratio of the average household size in each OA to the average number of rooms per dwelling; the larger the ratio the denser the occupation (or the more crowded the average dwelling). Again, the correlation with the distribution of the BME groups is clear; the areas with the highest ratios (i.e. the most overcrowded dwellings) were predominantly those with the highest percentages of their population non-white. Over London as a whole, the mean value for this measure was 0.508 in 2001 and 0.535 a decade later (with standard deviations of 0.09 in each year). Correlations provide very clear evidence of greater overcrowding in OAs with large percentages of non-whites: the \( r \) value for 2001 was 0.69 and for 2011, 0.75. Regression analysis shows that in OAs that were 60 per cent non-white the average over-crowding value was 0.61 in each year (i.e. more than one standard deviation higher than the London average); in those that were 80 per cent non-white, it was 0.68 (nearly two standard deviations above the mean in 2001 and a little less than that in 2011). The clear implication is that non-whites lived at higher densities – with less space per person – than their white counterparts.

Finally, Figure 9 uses a measure of over-occupation developed by the Office of National Statistics. A dwelling is given an occupancy rating based on the number and age of the residents and the number of rooms: a rating of -1 indicates that it has insufficient bedrooms relative to the composition of the household living there, whereas positive ratios indicate an ‘over-supply’ relative to the assumed demand. In 2011, 56 per cent of London’s dwellings with a white household reference person had occupancy ratings of 1.0 or greater, compared to 25 per cent for those with non-white reference persons: complementing that, the percentages with negative ratings were 7 and 19 respectively. Non-whites were more than twice as likely as whites to live in relatively crowded (i.e. over-occupied) dwellings, therefore, and whites were more than twice as likely to live in relatively spacious homes (‘under-occupied’).
The proportion of dwellings with a negative occupancy rating – with the implication that their occupants are living in (relatively) overcrowded conditions – is mapped for the two censuses in Figure 9. Once again, there are clear visual correlations with the distributions of non-white residents; the correlation between percentage non-white in an OA in 2001 and percentage over-occupied was 0.55; in 2011 it was 0.65. The mean value for London OAs in 2001 was 0.173 (with a standard deviation of 0.117), and in 2011 it was 0.205 (SD – 0.132), indicating a substantial increase in the density of dwelling occupancy over the decade. Compared to those figures, in OAs with 60 per cent of their residents non-white the average proportion of dwellings over-occupied was 0.347 in 2011.

These descriptive data provide strong circumstantial evidence that the parts of London where non-white group members are concentrated have the highest housing densities, and suggest that this relationship became stronger over the decade between the 2001 and 2011 censuses. As confirmation of the first of those conclusions, Tables 1-2 correlate the distribution of OAs according to the proportion of their population who were non-white and the proportion of their dwellings given an occupancy rating of -1. For the former variable, the OAs are grouped by deciles, allowing a focus on those neighbourhoods with relatively high BME proportions; for the latter, the grouping is into quintiles. Both tables show the percentage of OAs in each row – i.e. in each BME decile – in each of the five cells.

The pattern for both 2001 and 2011 is very consistent: moving down the rows the percentages in the higher quintiles for over-occupancy increase. Thus in 2001 (Table 1), almost two-thirds of the OAs in the lowest BME decile (with less than 6 per cent of their residents members of BME groups) are in the lowest quintile for over-occupancy, and only 1 per cent of them are in the highest quintile. This contrasts with those in the highest BME decile (where non-whites form over 55 per cent of the local population): here, only 1 per cent of the OAs are in the lowest over-occupancy quintile and 51 per cent are in the highest. With only slight differences in the percentages, that pattern is repeated in 2011 (Table 2). Despite the potential of committing the ecological fallacy, because the analyses use aggregate data for OAs, the circumstantial evidence that BME members in London on average lived at (increasingly) greater housing densities than their white counterparts is strong.

Finally, Table 3 looks at changes in the levels of over-occupancy, defined as the percentage change in the number of dwellings with an occupancy rating of -1; the OAs are grouped into quintiles, and cross-classified with the 2011 decile distribution of BME members. All OAs in the lowest quintile experienced a decrease in their number of dwellings over-occupied according to that criterion, therefore, whereas all those in the upper quintile experienced an increase greater than 13.8 per cent (or almost one-in-eight of their dwellings became over-occupied during the decade). Again there is a very clear pattern to the percentages – although not as extreme as in Tables 1-2; the more BME members in the local population, the larger the proportion of OAs which experienced an increase in the over-occupancy level. For example, of the OAs with the smallest BME shares (less than 0.12 of the population in 2011) over one-third (38 per cent) experienced a decline in over-occupancy levels and only 1-in-25 were in the quintile displaying the largest increases. By contrast, one-third of the OAs with the largest BME components to their population (more than 0.68) were in that quintile. The more non-white residents in a neighbourhood, the greater the likelihood of a substantial increase in the proportion of over-occupied dwellings there.

**Discussion and conclusion**

... increasingly, London’s poorer households, whether migrant or local, have little choice but to live in more crowded conditions in the private rental sector or to move further out. (Gordon et al., 2015, 215)
The majority of London’s households have faced substantial increases in housing costs relative to their incomes over the last two decades – a trend that the relative boom in housing prices has recently exacerbated (Figure 1). To cope with that situation most households have had to adjust their budgeting. Some may have absorbed the relative increase in housing costs with little difficulty but many will not have been able to, and have had to initiate major changes in their consumption of housing space. Among these more severely affected households, because they are concentrated into the lower-paid occupations, are many of the city’s non-white population; a recent study concluded that they are over-represented nationally in low-paid occupations and jobs marked by wage inequalities and are under-represented in the higher-paid occupations (Brynin and Longhi, 2015).

Because of their labour market situations, together with a general desire to cluster together in particular parts of the metropolitan area, London’s non-white residents are concentrated in districts and neighbourhoods with relatively low house prices and rents. Nevertheless, prices and rents have been increasing rapidly there recently, putting perhaps greater pressure on them than those with higher incomes, living elsewhere in the city, to adapt their housing consumption to cope with its growing relative cost. Analysis of relevant data here has suggested that this has involved a number of related strategies – such as the creation of larger households, many of which (compared to those of their white counterparts) apparently comprise either extended families or one or more members not related to the main residents (i.e. ‘lodgers’). The result is that many more of those households live below the norm set as a ‘bedroom standard’, certainly so when compared to the situation for households with white reference persons. Ethnic minority households in London have less space per person than their white counterparts – a difference that has grown recently – and are major sufferers from the growing housing space inequalities identified by Tunstall (2015). According to Tim Harford, ‘London prices have lost touch with London earnings’, and the data presented here suggest that on average ethnic minority groups have suffered most from that situation.

Housing demand is outstripping supply in London, creating financial and quality of life crises for many residents – with poorer households, many of whom are members of ethnic minorities, including recent immigrants, suffering more from their effects than members of relatively affluent groups. (Indeed, Goodhart – 2015, 158-159 – cites evidence that London ‘is one of the least good places to live in Britain on most counts’ and, specifically, has ‘greater ethnic inequality than elsewhere in Britain.’) To cope with those crises, many of the affected individuals, families and households have responded by living at higher densities, in most cases not in custom-built dwellings but by living at higher densities per room than previously within existing (many subdivided) dwellings. Until the problem of under-supply is tackled – especially by the provision of more affordable housing for low income groups (and there is little evidence of this currently happening: Wilson, 2015) – those crises will be exacerbated, and densification the common experience of London’s ethnic minorities.

Notes


2 One consequence of this is that the high prices – and consequent overcrowding as discussed in this paper – has been driving households – especially those comprising young families – to migrate from London to smaller cities: http://www.independent.co.uk/property/house-and-home/property/london-housing-high-prices-and-overcrowding-drive-thirtysomethings-to-provincial-cities-9894226.html. See also Soaita and McKee (2015).
Here, as in most studies, we define London as the area covered by the Greater London County Council with its constituent 32 Boroughs.

Beaverstock (2015: see also Beaverstock and Hall, 2012) has shown that about 25 per cent of what he terms London’s ‘city-type jobs’ have been taken up by foreign workers, but it is likely that relatively few of these are members of the BME ethnic minorities.

http://www.ons.gov.uk/ons/dcp171778_406254.pdf

Data for the small City of London are excluded.


http://data.london.gov.uk/dataset/average-income-tax-payers-borough/resource/392e86d4-f1d3-4f06-a6a5-7fcd0fd65948#

As an indication of how skewed incomes were, the mean there at the two dates was £58,200 and £137,000, an increase of 135 per cent.

Incomes were much less skewed in Newham: the means there were £15,800 and £22,000, (an increase, nevertheless, of 39 per cent, compared to 15 per cent for the median).

A recent survey shows that individuals in the lowest-paid service occupations – many of whom are members of BME groups – have incomes that are insufficient for them to obtain mortgages at the normal rates (e.g. a load of 4.5 times salary), with deposits that could take more than a century for them to save: see http://www.thisismoney.co.uk/money/mortgageshome/article-3222157/Professions-100-years-save-deposit-buy-home.html.

Another alternative, of course, is to move away from London and recent evidence suggests that increasingly the poor are finding that a necessary strategy: see http://www.ft.com/cms/s/2/b09c38ce-d4ba-11e3-bf4e-00144feabdc0.html.

The household reference person is identified in census returns as the person who provides the data.

More detailed maps of the distribution of individual ethnic groups are in Johnston et al. (2014).


The decile boundaries for proportion BME in 2001 were: 0.0636, 0.1009, 0.1385, 0.1810, 0.2314, 0.2909, 0.3589, 0.4427, and 0.5569. For proportion BME in 2011 they were: 0.1239, 0.1790, 0.2313, 0.2884, 0.3510, 0.4185, 0.4940, 0.5796, and 0.6830. For the over-occupancy quintiles in 2001 they were: 0.0625, 0.1228, 0.1880, and 0.2727. And for 2011 they were: 0.0769, 0.1539, 0.2301, and 0.3200.

The quintile boundaries for percentage change in the proportion of households with an occupancy level of -1 were: -3.13, +2.05, +7.04, and +13.78.

Padley has suggested that one-in-three Londoners lack the income to sustain a minimum standard of living: http://blogs.lse.ac.uk/politicsandpolicy/around-1-in-3-londoners-do-not-have-the-income-needed-for-a-minimum-standard-of-living/

http://www.ft.com/cms/s/2/b09c38ce-d4ba-11e3-bf4e-00144feabdc0.html.

References


Table 1. The distribution of non-white residents, by decile, across London’s OAs in 2001, cross-classified with that of the OAs’ occupancy ratings, by quintile: percentages of row totals.

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Table 3. The distribution of non-white residents, by decile, across London’s OAs in 2011, cross-classified with percentage change in the proportion of an OA’s dwellings with occupancy ratings of -1, by quintile: percentages of row totals.

<table>
<thead>
<tr>
<th>Decile/Quintile</th>
<th>Change in Occupancy Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1 (Lowest)</td>
<td>38</td>
</tr>
<tr>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>3</td>
<td>23</td>
</tr>
<tr>
<td>4</td>
<td>21</td>
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<td>5</td>
<td>18</td>
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<td>6</td>
<td>17</td>
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<td>7</td>
<td>17</td>
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<tr>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>10 (Highest)</td>
<td>17</td>
</tr>
</tbody>
</table>
Figure 1. Mix-adjusted average price index for London housing, February 2004-December 2014.
Figure 2a. Median Dwelling Prices, London Boroughs, 2001-2013.
Figure 2b. Median Prices for Terraced Houses, London Boroughs, 2001-2013.
Figure 3. Median Local Authority Housing Rents, 2001-02:2013-14, London Boroughs
Figure 4. Median Private Sector Housing Rents, 2001-2014: London Boroughs
Figure 5. Median Reported Taxpayer Income, 2000-2011, London Boroughs (excluding the City of London)
Figure 6a. The distribution of London’s non-white population, 2001.

Figure 6b. The distribution of London’s non-white population, 2011.
Figure 7a. The average number of persons per household in London, 2001.

Figure 7b. The average number of persons per household in London, 2011.
Figure 8a. The ratio of the average number of persons per household to the average number of rooms per dwelling in London, 2001.

Figure 8b. The ratio of the average number of persons per household to the average number of rooms per dwelling in London, 2011.
Figure 9a. The percentage of London dwellings over-occupied. 2001.

Figure 9b. The percentage of London dwellings over-occupied. 2011.