

Income Poverty at Small Area Level

On November 10th 2010, the Office for National Statistics released estimates of the proportion of households in poverty at MSOA¹ level. These are based on Family Resources Survey (FRS) data and the Department for Work and Pensions (DWP) publication *Households Below Average Income* derived from FRS Data. These are the first set of such estimates and relate to the 2007/08 period. In future, statistics will be released alongside the estimates of average household income at small area level.

The measure of poverty used in the production of these estimates is the proportion of households below 60 per cent of the UK median net equivalised² household income after housing costs. In 2007/08 this was equivalent to an income of £199 per week for a couple with no children.

Results

Ranking all MSOAs in London according to the proportion of households in income poverty gives a median proportion for the capital of 24 per cent, joint second highest of all regions with the North East. Wales had the highest proportion of MSOAs in poverty at 25 per cent. The South East and East regions had the lowest median proportions at 16 and 17 per cent respectively (See Chart 1).

Chart 1: Median Percentage of Households in Income Poverty, 2007/08.



Source: *Households in Poverty 2007/08*, Office for National Statistics.

Chart 2 shows the distribution of households in poverty after housing costs for MSOAs in London. Relative to other regions³, London's distribution is much flatter with a more graduated taper meaning there is a significant percentage of MSOAs in London where the proportion of households in income poverty is particularly high. Nearly a third of MSOAs in London have at least three in ten households in income

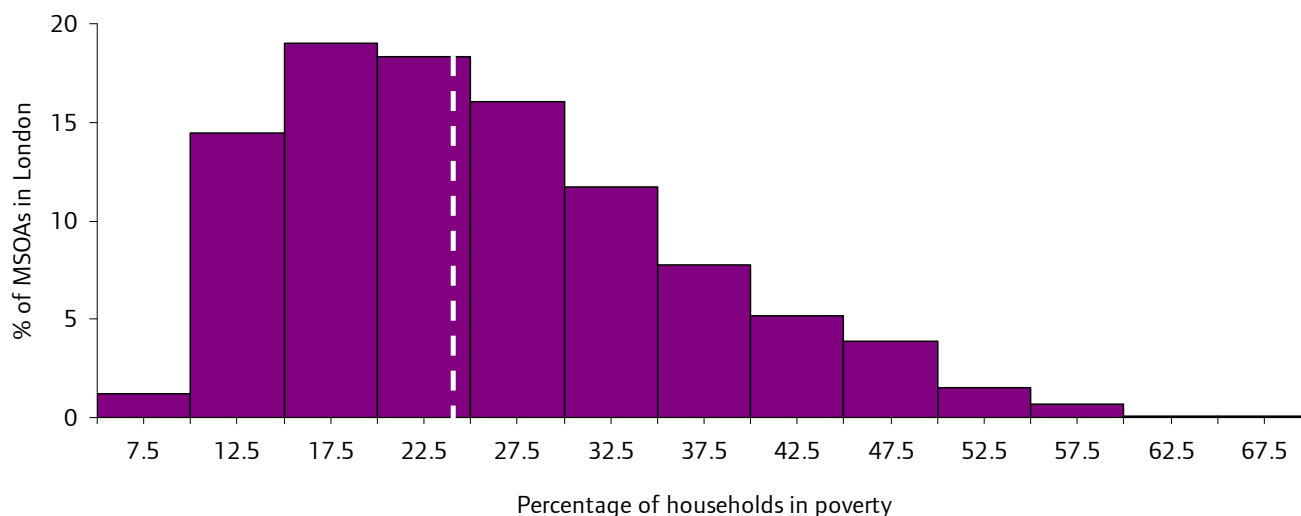
¹ Middle Super Output Areas are a statistical geography created by the ONS and typically comprise around 7,500 residents. There are 983 of these in London, compared to 624 wards inc City.

² Equivalised income estimates take into account the size and composition of a household and reflect the idea that a larger household would require a larger income than a smaller household in order to achieve an equivalent standard of living.

³ See page 5 of the article *Understanding household income poverty at small area level*, Robert Fry, ONS. Linked to at the end of this update.

poverty, the highest of any region and 27 percentage points higher than the South West – the lowest region. More than half of all households were below the line in nearly one in forty small areas, a proportion second only to the West Midlands.

Chart 2: Distribution of the Percentage of households in poverty by MSOA, London, 2007/08



Source: *Households in Poverty 2007/08*, Office for National Statistics.

Table 1 shows the spread of income poverty using percentiles and ratios. These percentiles are calculated from the MSOAs within each region. A tenth of all MSOAs in London had fewer than 14 per cent of their households in poverty. At the upper end of the distribution ten per cent of MSOAs had more than 41 per cent of households in income poverty. The ratio of these two numbers is a widely used measure to assess spread or polarisation within a distribution. For London this ratio is 3.0, substantially higher than any other region (See Table 1). This picture is reinforced by the ratio between lower and upper quartiles (25th and 75th percentiles) of 1.86 in London, again clearly the highest of any region.

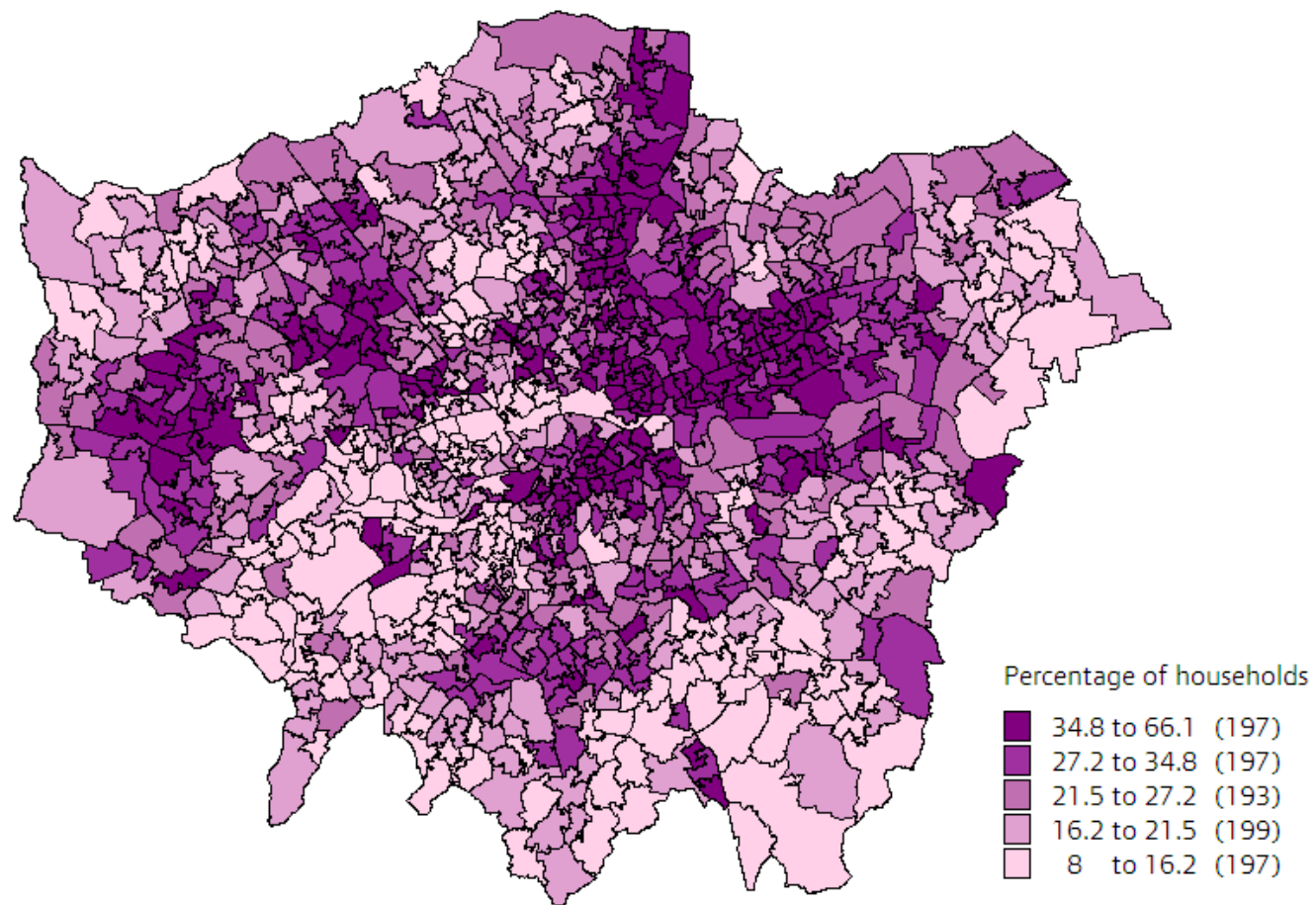
Table 1: Thresholds and Ratios for MSOA percentage of households in poverty, 2007/08

	Percentiles				Ratios	
	P10	P25	P75	P90	P75/25	P90/10
North East	17	20	31	35	1.56	2.09
North West	13	16	26	33	1.65	2.52
Yorkshire and The Humber	13	15	25	33	1.66	2.64
East Midlands	14	16	26	33	1.60	2.36
West Midlands	13	16	28	36	1.74	2.70
East	12	14	22	27	1.58	2.37
London	14	17	32	41	1.86	3.00
South West	13	15	22	26	1.47	2.04
South East	11	13	21	27	1.66	2.53
Wales	17	22	28	32	1.28	1.82
All MSOAs	13	15	26	33	1.69	2.62

Source: *Households in Poverty 2007/08*, Office for National Statistics

Within London, concentrations of households in income poverty are clearly defined. Within both Tower Hamlets and Newham more than seven in ten MSOAs have concentrations of households in income poverty among the worst 20 per cent in London (See Map 1). That is, at least 35 per cent of households in these areas are in income poverty. Further, almost half of MSOAs in Southwark and Hackney rank in the top 20 per cent of MSOAs in London. In contrast, none of the MSOAs within Richmond upon Thames have a proportion of households in poverty greater than the London Median of 24 per cent.

Map 1: The Proportion of Households in Income Poverty, MSOA, 2007/08



Source: *Households in Poverty 2007/08*, Office for National Statistics

It is important to note the effect of equivalisation when discussing these estimates. Newham in particular has a higher average household size than London as a whole and therefore the household income estimate is pulled lower as a greater income is required to achieve the same quality of life. This could also apply in Tower Hamlets, where despite a lower average household size, there are known areas where household size is much larger than the average for the local authority. Along with Barking and Dagenham, the four boroughs listed comprise five of the ten highest local authority rates of household income poverty in England and Wales. Although Barking and Dagenham doesn't have as high a proportion of MSOAs in the top quintile as the other four boroughs, it is the relatively high level of poverty across all MSOAs, which causes overall rate to be so high. Other Local Authorities with clear concentrations of household income poverty include Ealing, Hillingdon, Brent and Enfield.

Background

Housing costs

Unlike the model-based income estimates, only one measure is produced for the estimates of the proportion of households in poverty; this is the proportion of households in poverty after housing costs (AHC). Research was also conducted on a model for the proportion of households in poverty before housing costs (BHC). This is not included in this release as this model was found to have less stability over time than the AHC model. Further development work on this model is currently being carried out by ONS. Therefore the data presented in this *update* are always based on income after housing costs.

Modelling and limitations to the estimates

The model-based approach to producing the estimates is based on determining a relationship between households below 60 per cent of UK equivalised median income as measured by the FRS and HBAI, and administrative data for MSOAs. The FRS and HBAI do not cover every MSOA and so once a relationship is established between the administrative data and the FRS and HBAI data, the administrative data (available for every MSOA) are used to estimate the proportion of households below 60 per cent of the UK median income. This process is called 'borrowing strength' and produces a set of unbiased and consistent small area estimates that could not be produced from either source in isolation.

The main limitation of the estimates for small areas is that they are subject to uncertainty due to survey sampling and the modelling process. ONS has produced confidence intervals associated with the estimates to make the accuracy of the estimates clear. The model-based confidence intervals provide a range for the proportion of households in poverty for each MSOA, which indicates the uncertainty or precision of each estimate. This uncertainty is a measure of potential departure for each MSOA from the fitted model; the confidence intervals indicate the ranges that for approximately 95% of MSOAs will contain the true value.

Link to ONS article:

<http://www.statistics.gov.uk/articles/RegionalTrends/rt43-poverty.pdf>

Data available at:

<http://www.neighbourhood.statistics.gov.uk/dissemination/>

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