

Comparison of TUNDRA (MSOA and LSOA) between 2010-14 and 2012-16 cohorts

Number and proportion that change quintile

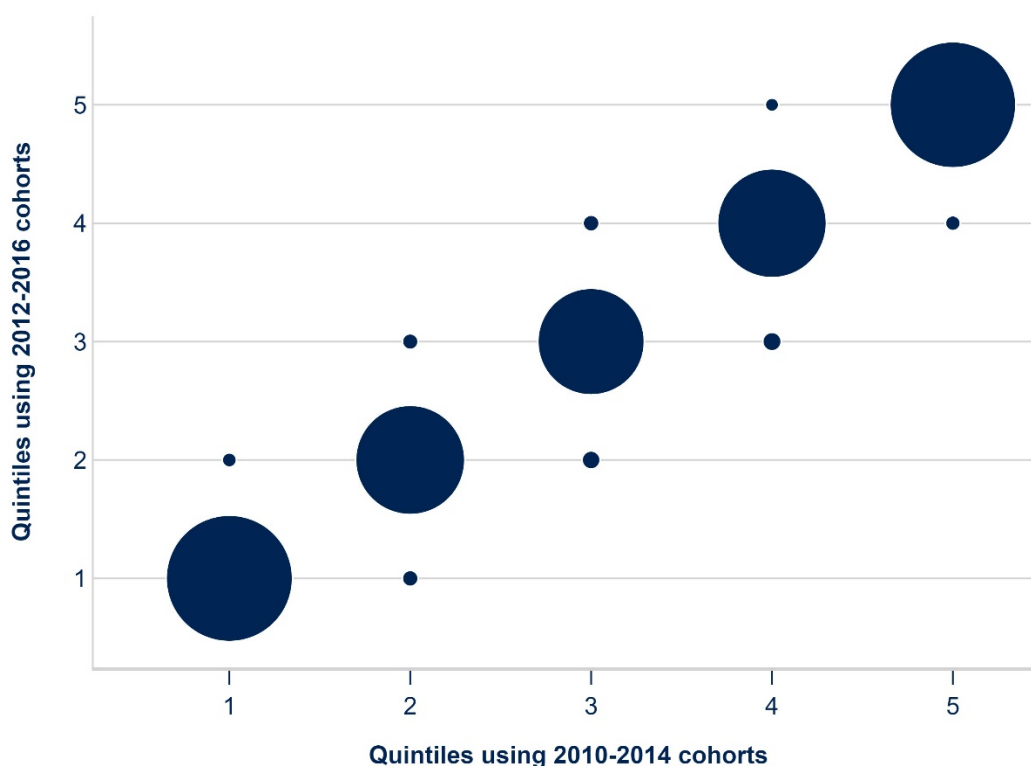
Middle Super Output Area (MSOA)

There are approximately 81.3 per cent of MSOAs (81.9 per cent of pupils) which do not change quintiles under TUNDRA based on 2012-16 cohorts compared to 2010-14 cohorts. Table 1 shows 9.8 per cent of MSOAs (9.6 per cent of pupils) have moved down one quintile, while 8.9 per cent of MSOAs (8.5 per cent of pupils) have moved up one quintile. The proportion of areas and pupils that have moved more than one quintile is minimal.

Table 1: Number and proportion of MSOAs and pupils in these MSOAs that change quintile between 2012-16 and 2010-2014 Key Stage 4 cohorts

Quintile change	Number of MSOAs	Proportion of MSOAs	Number of pupils	Proportion of pupils
-1	660	9.8%	158,230	9.6%
0	5,501	81.3%	1,348,230	81.9%
1	601	8.9%	139,620	8.5%
2	1	0.0%	90	0.0%
Total	6,763	100%	1,646,170	100%

Figure 1: Number of pupils in each MSOA quintile using 2010-14 and 2012-16 cohorts



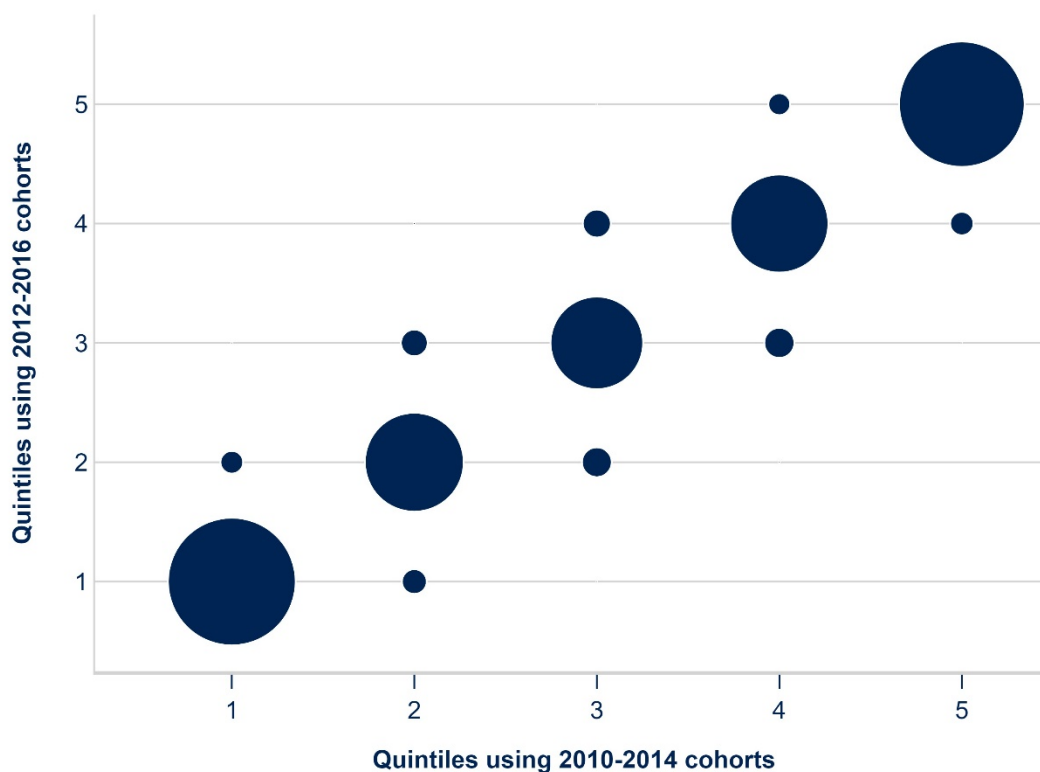
Lower Super Output Area (LSOA)

Compared to MSOAs, a higher proportion of LSOAs changed quintile between TUNDRA based on 2010-14 cohorts and 2012-16 cohorts. 14.8 per cent of LSOAs decreased by one quintile (14.3 per cent of pupils) and 13.8 per cent of LSOAs increased by one quintile (13.2 per cent of pupils). There is also a lower proportion of LSOAs (70.7 per cent) and pupils (72.0 per cent) that did not change quintile. Additionally, a small number of areas and affected pupils change by more than one quintile.

Table 2: Number and proportion of LSOAs and pupils in these LSOAs that change quintile

Quintile change	Number of LSOAs	Proportion of LSOAs	Number of pupils	Proportion of pupils
-2	96	0.3%	3,855	0.2%
-1	4,681	14.8%	234,315	14.3%
0	22,350	70.7%	1,176,265	72.0%
1	4,363	13.8%	215,230	13.2%
2	124	0.4%	4,375	0.3%
3	1	0.0%	20	0.0%
Total	31,615	100%	1,634,060	100%

Figure 2: Number of pupils in each LSOA quintile using 2010-14 and 2012-16 cohorts

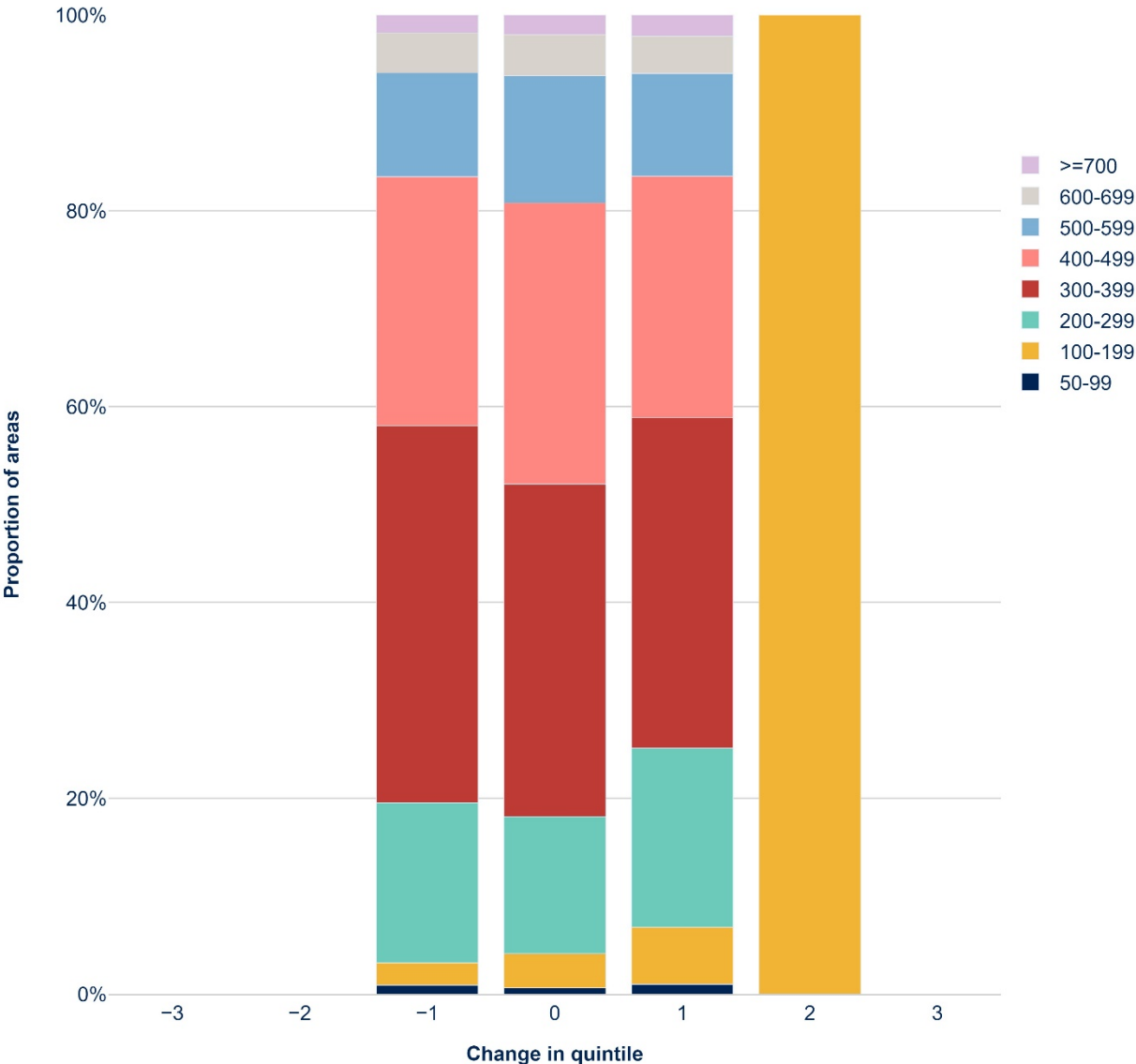


Relationship between population and quintile change

Areas with a lower population are more susceptible to changes in quintile. This is because statistical random variations between the cohorts used to create TUNDRA will have a larger impact on the participation rate calculated for the area. This is shown in Figure 3 and Figure 4 which show the proportion of pupils belonging in each age group experiencing a change in quintile for MSOA and LSOA respectively.

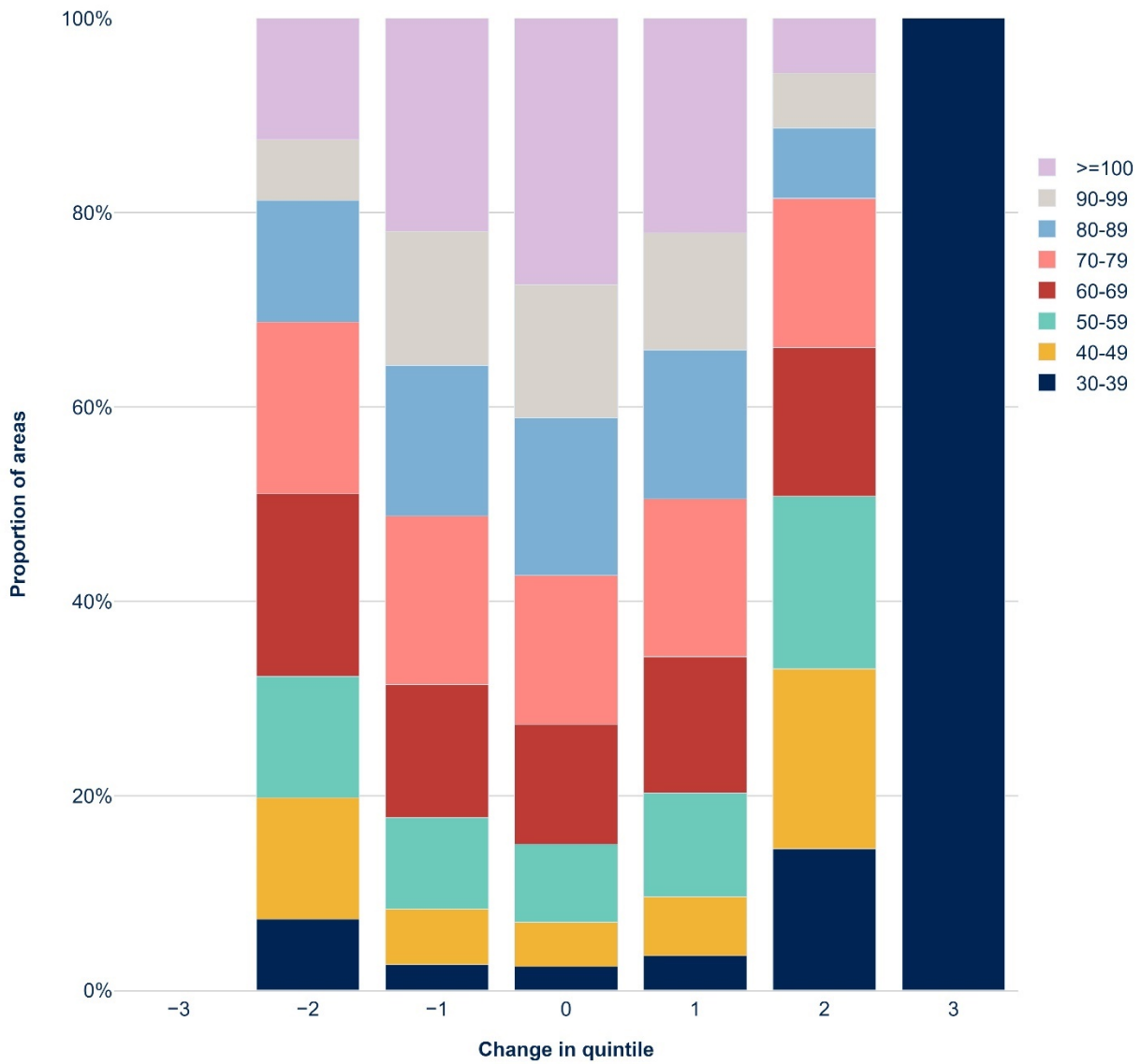
Figure 3 shows that MSOAs which change by two quintiles all have lower populations of 100-199 pupils. Additionally, MSOAs which do not change quintiles tend to be areas with larger populations than those that change one quintile.

Figure 3: Proportion areas by population and change in quintile (MSOA)



Similarly in Figure 4, which compares the population breakdown for quintile changes in LSOAs, areas which change more quintiles tend to have lower population. This is most evident in LSOAs which increase by three quintiles, all of which have a population lower than 40 pupils.

Figure 4: Proportion areas by population and change in quintile (LSOA)



Do LSOAs that change quintile also change MSOA quintiles?

An MSOA may consist of many LSOAs, meaning that multiple LSOAs can be grouped together to form one MSOA. Figure 5 shows the number and proportion of pupils who change LSOA and MSOA quintile.

Most pupils who do not change LSOA quintiles also do not change MSOA quintiles (83.9 per cent). Although fewer pupils who change LSOA quintiles change MSOA quintiles, many do not. For example 64.7 per cent of pupils whose LSOA quintile has decreased by two, and 69.7 per cent of pupils whose LSOA quintile has increased by two, did not see a change in their MSOA quintile. For pupils whose LSOA quintile has decreased or increased by one, this proportion is higher (76.3 per cent and 77.6 per cent respectively).

Pupils who have changed LSOA as well as MSOA quintiles are more likely to experience change in the same direction. For example, pupils in areas with decreased LSOA quintiles are more likely to also have decreased MSOA quintiles.

Figure 5: Number and proportion of pupils who change LSOA quintile and also change MSOA quintile

Change in LSOA quintile	Change in MSOA quintile							
	-1		0		1		2	
	Number of pupils	%	Number of pupils	%	Number of pupils	%	Number of pupils	%
-2	2,325	34.6	4,345	64.7	50	0.8	.	.
-1	79,655	20.5	296,015	76.3	12,230	3.2	.	.
0	162,195	8.4	1,621,195	83.9	148,745	7.7	70	0
1	15,355	4.3	277,445	77.6	64,810	18.1	.	.
2	.	.	5,325	69.7	2,245	29.4	70	0.9
3	.	.	35	100