

UK Carstairs Deprivation Scores from Census Data

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The Carstairs deprivation index (also called the Carstairs and Morris index) is a summary measure of area-based relative material deprivation first introduced in 1980's and based on data from the 1981 Census.

. Carstairs score comprises four census variables, which have been shown to represent material disadvantage in the population. The measure has been widely used to examine the relationship between deprivation and health.

Objectives

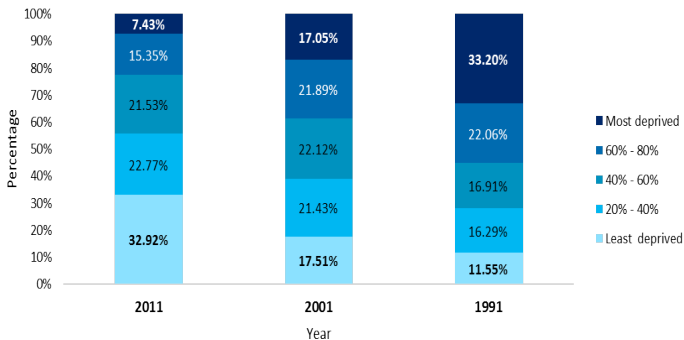
The purpose of this research was to explore and compare the levels of deprivation across the UK using the data from the 2011, 2001 and 1991 Census, and for Great Britain from 2011 to 1997, with the main focus on the 2011 Census.

The calculation of the z-score involves subtracting the variables' proportion by the variables' mean and then dividing the result by the variables' SD. Each variable is standardised (z-scored) to prevent the score being unduly influenced by a high or low value for any one variable.

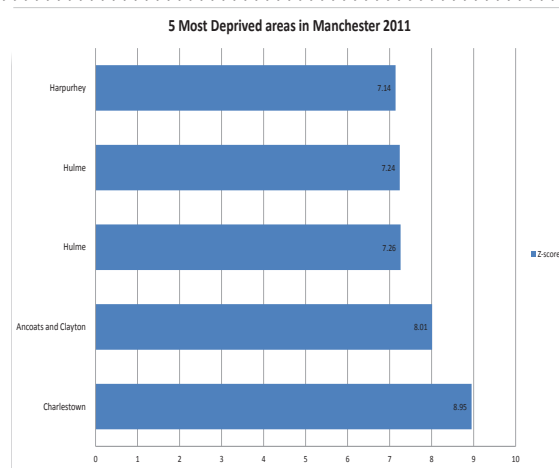
Method

The Carstairs score are unweighted, and so to ensure that they all have equal influence over the final score, each variable is standardised to have a population-weighted mean of zero, and a variance of one, using the z-score method

Carstairs Deprivation Scores have been calculated from a combination of four indicators of material deprivation – male unemployment, low social class, non-car ownership and overcrowding. For the analysis, the Carstairs scores were calculated on R, which required the import of a dataset with the relevant variables for the calculation.



Deprivation the UK from 1991 to 2011



The table shows the top five most deprived OA areas in Manchester in 2011. Output areas are the smallest geography level.

The Carstairs scores were split into quintiles, ranging from 1 being the least deprived to 5 most deprived. The quintiles in this project are based on area, meaning that 20% of all areas fall into each quintile. For generating maps of the distribution of deprivation in the UK, QGIS was used. to creat graphical and 3D maps.

had greater level of deprivation, which has lowered considerably. Yet, Northern areas still remain more deprived than the South.

The scores for this research were calculated for areas ranging from local authorities/districts, wards, lower super output areas and output areas.

The research has also discovered that the most deprived areas are mainly located in the City of London and Glasgow City, and that the most affluent areas can be found in the suburbs of London, in particular in the southwest of London. Overall, the research indicates that deprivation has decreased significantly across the years. North Ireland, Scotland and Wales have improved the most in term of deprivation, while this was the case for only certain areas in England.

Results and Conclusions

Throughout the research it has been verified that, there is a general trend of high levels of deprivation being foremost in cities in comparison with the surrounding suburb areas. There has been slight improvement for the south of England as these areas have always proven to be less deprived. On the contrary, north of England has

Key Skills Learnt

I have learnt a great deal during the process of my research, starting from not knowing much about Carstairs, R language, creating 3D mapping on QGIS, virtual reality and many more, to now having completed a research report.