

UK Data Service Carstairs deprivation scores for the UK in 2011

Klara Valentova, Sociology & Quantitative Methods

The UK Data Service provides access to the UK's largest collection of social and economic data, including the UK Census. This research used the Census data from 1971 to 2011 to calculate the Carstairs deprivation scores for the UK in order to locate the most deprived areas in this country in 2011, and to compare the pattern of deprivation across the five Census years and across England, Scotland, Wales and Northern Ireland.

Methodology

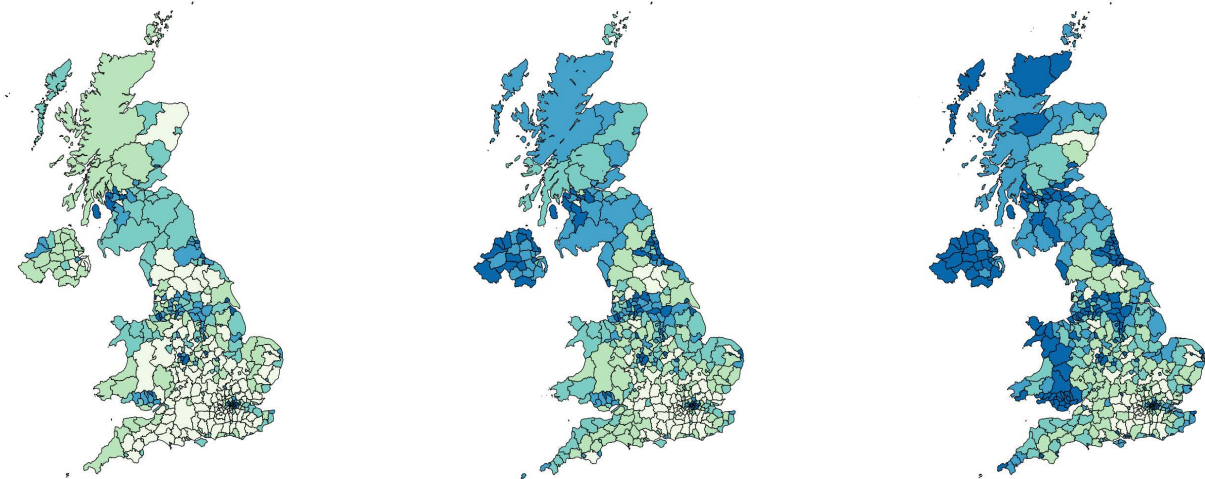
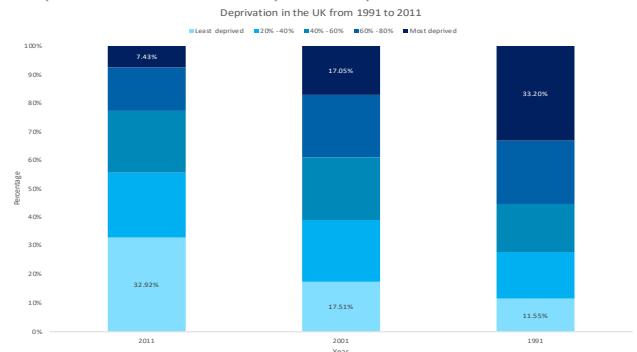
Carstairs and Morris deprivation index is a relative area-based material deprivation measure originally developed in the 1980s for Scotland using the 1981 Census data. It combines four indicators judged to represent material disadvantage – non-car ownership, low social class, overcrowded households and male unemployment.

The data used in this research was accessed from the UK Data Service through InFuse and CasWeb, and the relevant variables were extracted – Car or Van Availability to assess non-car ownership, Economic status for male unemployment, NS-Sec (National Statistics Socio-economic Classification) for low social class and Persons per room of household for overcrowding.

To produce the scores, the data was uploaded into R, where a formula to calculate the scores was created. This enabled easy replicability for scores for different geographic area levels and earlier Census years. To explore the produced scores, an analysis was also done in R, where I could create tables and figures to support the findings.

To enhance the understanding of the results, 2D and 3D maps were created in QGIS mapping software to present the changing pattern of deprivation across the years and the countries in the UK. For an even better interaction with the audience, a VR environment was also created allowing the user to directly experience and interact with the deprivation maps and the results.

Proportions of each of the deprivation quintiles in 2011, 2001 and 1991.



Deprivation in the UK in 2011, 2001 and 1991, respectively by deprivation quintiles (the darker the colour, the more deprived the area).

Results and Conclusions

Deprivation has significantly decreased in the UK since 1991. The upmost improvement was recorded for Northern Ireland and Wales. Nonetheless, there still persist areas that are greatly deprived. These are mainly located in large cities, including London, Birmingham, Manchester and Glasgow.

However, one of the limitations of the Carstairs index is its inappropriate representation of urban and rural areas as car ownership is included as a variable. In cities, owning a car might be an inconvenience, while in rural areas, car is a necessity rather than an indicator of wealth. Furthermore, male unemployment can be considered as an outdated measure as the number of female employees has increased considerably since 1980. Carstairs index, nevertheless, is a well-established indicator of material deprivation, which is in need of an update to the indicators used.

