Using Census data for comparing trends in 74 British City Regions

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Acknowledgements:

This paper uses research on the project "*Uneven growth: tackling city decline*" (2016) funded by the Joseph Rowntree Foundation (Cities, Growth and Poverty Programme); colleagues on that project were Andy Pike, Danny MacKinnon, David Bradley, Andy Cumbers, Liz Robson, Colin Wymer

The paper uses Office for National Statistics data; Census outputs are Crown copyright

Context for and content of this paper

Context: policy interest in phenomenon of urban shrinkage / unequal growth

Decline in cities like Detroit is absolute: here it is relative to national growth

The study had a broad view of poverty-related decline in cities… broad in its…

* definition of cities = labour market areas (small versions of city regions)
* timespan analysed = long-term trends including some data from pre-WW2
* definition of decline = not simply total population (and a focus on poverty)

<u>Inevitably</u> there are compromises in addressing this challenge:

- data for several decades → variable definitions change
- analyse non-standard areas → less data for 'building blocks'

! one particular problem was that Census <u>migration</u> data covers 12months, but the study is into trends over medium/long-term: migration varies year-on-year and so 'grossing up' is not feasible, so migration data used here is non-Census

?*? how important is the availability of Census datasets in their familiar form?

74 Cities across the UK: “PUA+s”

CURDS’ original definitions of PUAs:

1 built-up area population >125,000

2 the largest settlement in its TTWA
[TTWAs defined by flow data]

3 also identify the (group of) TTWA(s)
that cover (most of) that built-up area

4 ‘best-fit’ these to the (group of) LA(s)
for data access and consistency

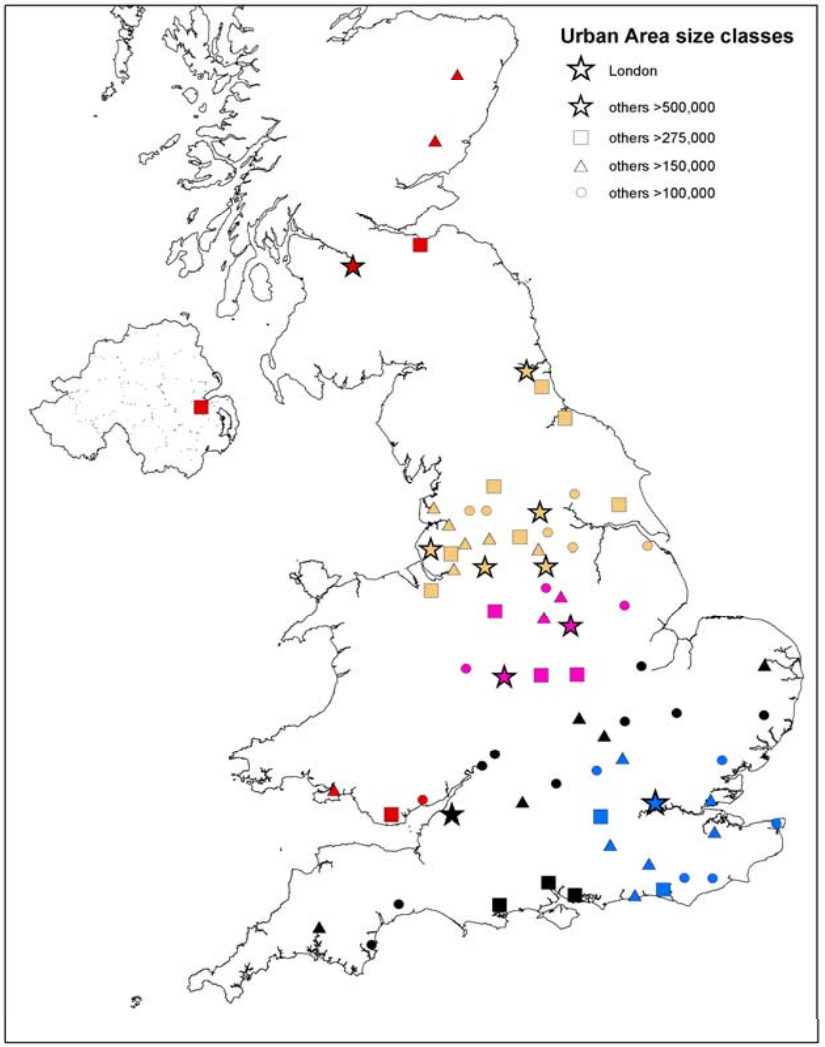
For this research a set of “PUA+s”
were defined by lowering the urban
population threshold to 100,000
↳ 74 PUA+s *(c.70% UK population)*

!definitions can ONLY use data from Census

This map shows PUA+s classified by:

urban population size (symbol)

broad region (colour)



Longer-term population trends

Absolute population decline has been seen in numerous cities in Europe/USA *but*

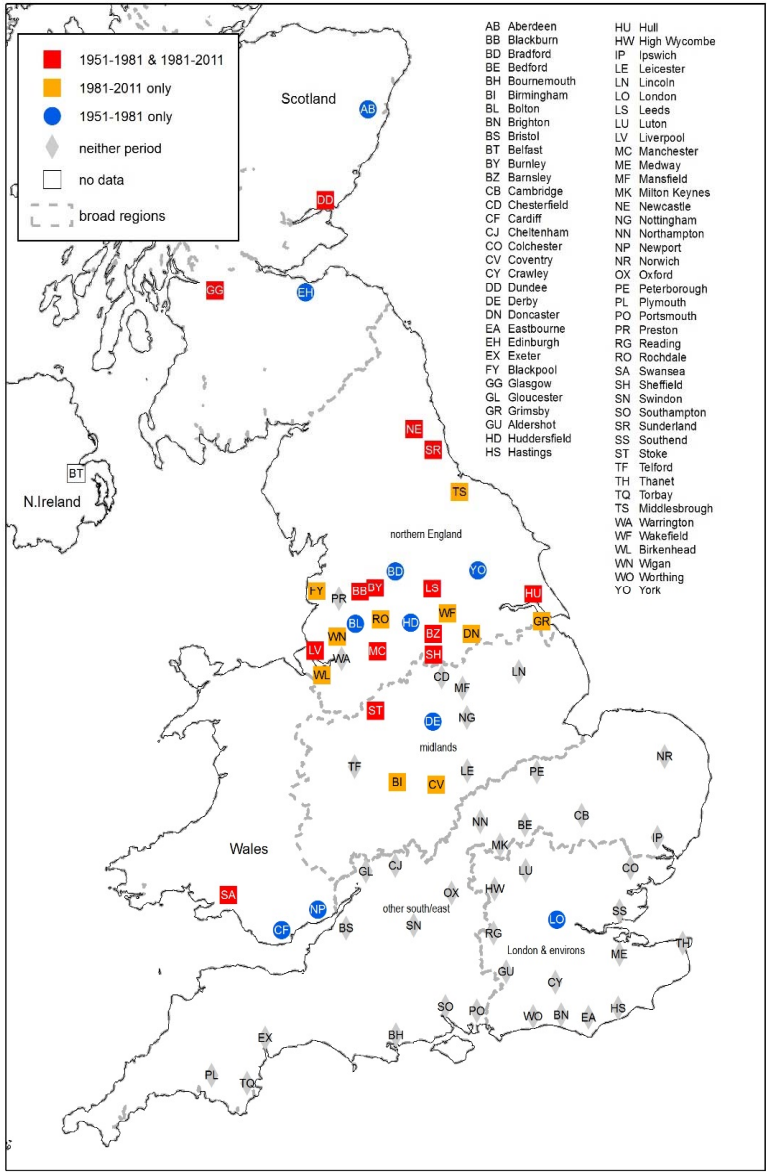
UK PUA+ absolute population loss (like the mid *C*20 decline in Glasgow & Liverpool) was rare by late *C*20, and all but ended with recent net international in-migration to most of the UK ***however***

Relative Population Decline = city's share of total UK urban population falls

Cities in red on the map had seen relative population decline 1981-2011 *and* similarly declined through much of the C20

longer-term relative population change analysis can use Census and also annual population estimate datasets

Longer-term population decline is **one element** of a poverty-related definition of city decline



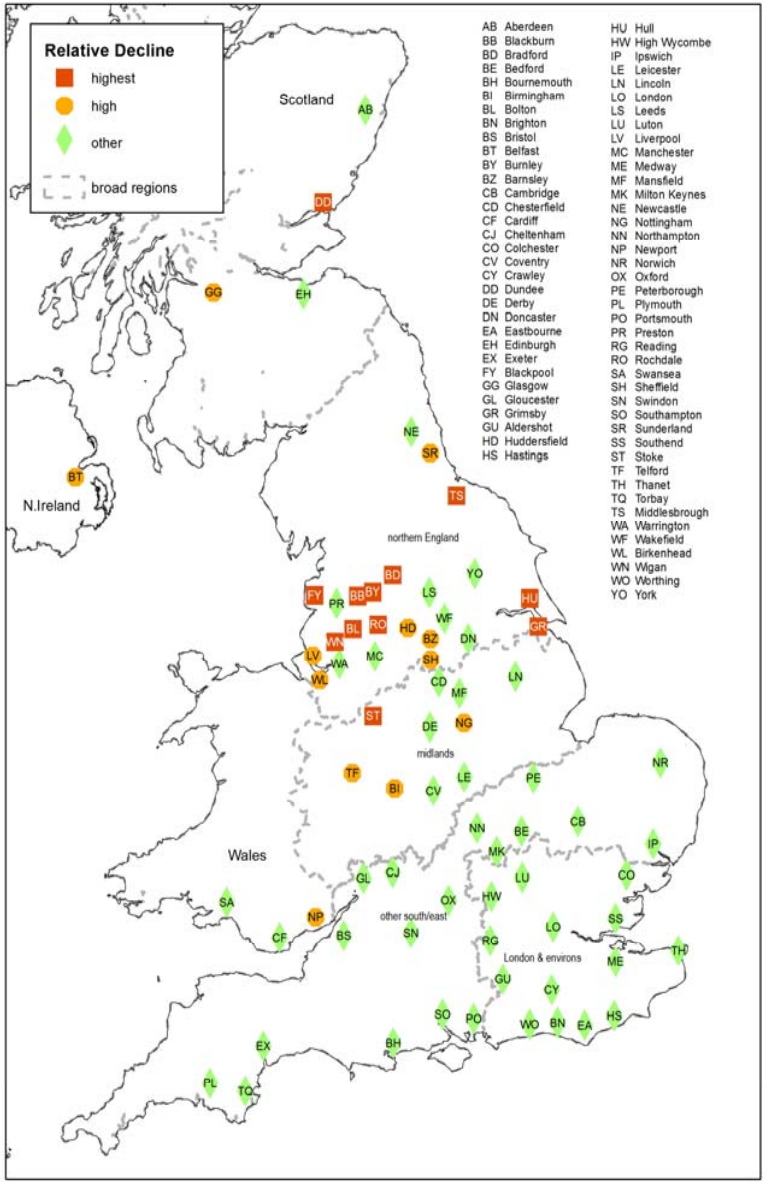
Any single indicator misses some aspects of city decline: city decline stems from many mutually reinforcing trends

Index of Relative Decline

- devised to collate a range of indicators of decline trends related to poverty risk
- followed review of academic and policy literature plus analyses of Censuses etc
- 7 measures of change in the index drew on diverse types of data:

topic	period	data source
employment rate	2001-2011	Population Censuses
full-time-equivalent jobs	1998-2008	Annual Business Enquiry
full-time-equivalent jobs	2009-2012	Business Register & Employment Survey
total population	2001-2011	Population Censuses
population size rank position	1901-2001	Population Censuses
estimated net in-migration of those aged 15-19 at the start of the decade	2001-2011	Mid Year Estimates
share of those aged 16-64 who have a degree and/or higher qualification	2001-2011	Population Censuses

Results of the Index



SQUARES:

highest scores on the Index of relative decline

CIRCLES:

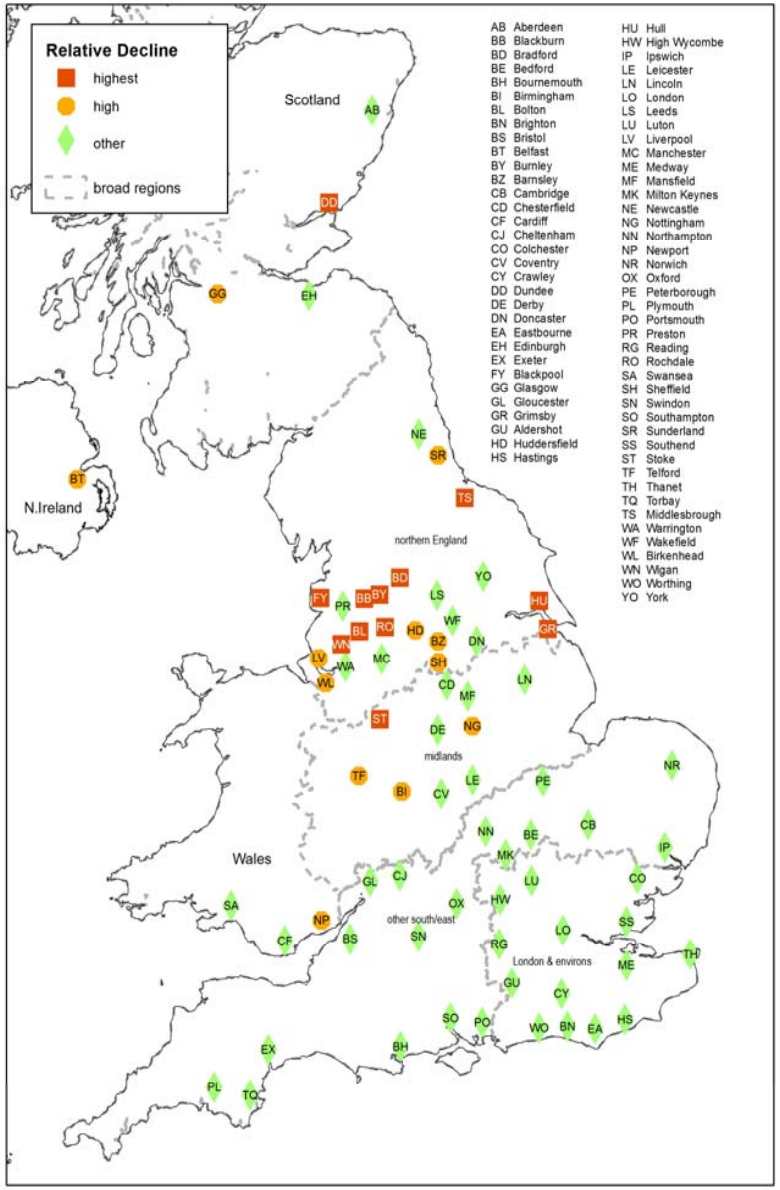
next highest scores

DIAMONDS:

Medium/low scores on the Index…

ALL southern cities are in this group

Modelling the results of the Index



Drawing on past work (eg. by OECD & EU)

*c.*20 potential independent variables were assessed for inter-correlation, from which 11 variables were input to the modelling:

data sources for independent variables
Population Census 1931
Population Censuses 1991 & 2001 (stocks & flows)
Mid Year Estimates
Business Register & Employment Survey
VAT Registrations / Population Census
Census of Distribution (long discontinued) / Population Census 1951
Gross Value Added (Income Approach)
BR Timetable (Sheffield University data in the State of the Cities database: now discontinued)

Modelling the results of the Index

A simple regression model tested the influence of a range of factors familiar from spatial economics on the pattern of city score on the Index

The risk of recent relative decline was lower for cities with:

- a more highly qualified people among its working age group
- no larger city nearby attracting away much service trade
- faster rail access to London (to represent accessibility generally)

…and also in some models…

- little history of dependence for work on mining/manufacturing

Variables rejected by the models:

- *higher urban size ('agglomeration')*
- *higher levels of productivity*
- *higher levels of entrepreneurship*
- *lower dependence on public sector*
- *higher 1990s net in-migration*
- *higher 1980s employment rates*
- *higher level of out-commuting ('connectivity')*

Census datasets vital for this type of analysis

The analyses had requirements which are frequently essential in such a study:

* definition of cities = labour market areas: ONLY definable with data from Census
* timespan analysed = long-term trends critical: ONLY Census data allows these
* definition of decline = not simply population BUT some key factors linked to poverty
  ONLY accessible for smaller areas with data from Census

ALSO Census data permits micro-scale analyses of place-based effects of city decline through the availability of linked individual records in the Longitudinal Study

Census datasets are vital for future policy analyses like the study described here; NONE of the proposed Census alternatives provides the commuting data which is not only essential in defining the areas to analyse, it also is indicative* in itself

* *1921 Census commuting data shows strong net flows Leeds → Bradford and also Preston → Blackburn but nearly a century of unequal growth reversed the relationship, with flows to regional service centres Leeds and Preston from their over-shadowed neighbouring cities in 2011 roughly twice as high as flows in the opposite direction*