

Estimating segregation and diversity of ethnic groups over time

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Understanding Population Trends and Processes



Objectives

1. Examine the marginal changes in segregation indices by using a complete and consistent time series for small areas in E&W.
2. Analyse residential segregation across age cohorts.

Secondary data analysis

U P T A P

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Two data sources

1. 1991 and 2001 Census output as published (CASWEB).
2. Consistent time series for small areas in E&W for years 1991 and 2001.

Now available from UK Data Archive:

SN 6043 – England and Wales

SN 6044 - Scotland





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SN 6043 -Population Estimates by Single Year of Age, Sex and Ethnic Group for Sub-national Areas in England and Wales, 1991-2001

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Title:
Population Estimates by Single Year of Age, Sex and Ethnic Group for Sub-national Areas in England and Wales, 1991-2001

Subject Categories:
Population studies - Population, vital statistics and censuses
Vital statistics - Population, vital statistics and censuses
Ethnic minorities - Social stratification and groupings

Depositor(s):
Sabater, A., University of Manchester. Cathie Marsh Centre for Census and Survey Research

Principal Investigator(s):
Sabater, A., University of Manchester. Cathie Marsh Centre for Census and Survey Research
Simpson, L., University of Manchester. Cathie Marsh Centre for Census and Survey Research

Original Producer(s):
Office of Population Censuses and Surveys
Office for National Statistics

Sponsor(s):
Economic and Social Research Council

Grant Number:
PTA-163-27-0002

Abstract:
Although census output from both 1991 and 2001 provides a detailed account of the population by age, sex and ethnic group, accurate analyses of population change for sub-national areas are subjected to four separate problems that make comparisons of populations over time difficult: changes in the population definition, changes in the treatment of non-response, changes in ethnic group classification and age standard outputs, and changes in geographical boundaries for standard census output. A standard methodology has been implemented to overcome these four challenges, and to derive a consistent population time series 1991-2001, with age detail (single year of age or quinary ages), sex and ethnic group. These population estimates are made available using the 2001 Census geography for each district, ward and Output Area in England and Wales. The methods have focused on ensuring consistency with the latest population estimates from ONS for 1991 and 2001.



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SN 6044 -Population Estimates by Single Year of Age, Sex and Ethnic Group for Council Areas in Scotland, 1991-2001

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Population Estimates by Single Year of Age, Sex and Ethnic Group for Council Areas in Scotland, 1991-2001

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General Register Office (Scotland)

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Economic and Social Research Council
Leverhulme Trust

Grant Number:
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Leverhulme Trust: 20050099

Abstract:
The study comprises complete mid-1991 and mid-2001 population estimates by single year of age, sex and ethnic group for Council areas in Scotland. Although census output from both 1991 and 2001 provides a detailed account of the population with an ethnic group dimension, and with detail of age and sex, accurate analyses of population change for sub-national areas are subjected to a number of problems that make comparisons of populations over time difficult. These include changes in the population definition, changes in the treatment of non-response, changes in ethnic group classification and age standard outputs, and changes in geographical boundaries for standard census output. A standard methodology has been implemented to overcome these four challenges, and to derive a consistent population time series 1991-2001, with age detail (single year of age

Enhancement, 1991 and 2001 censuses

-Population by age, sex and ethnic group in sub-national areas-

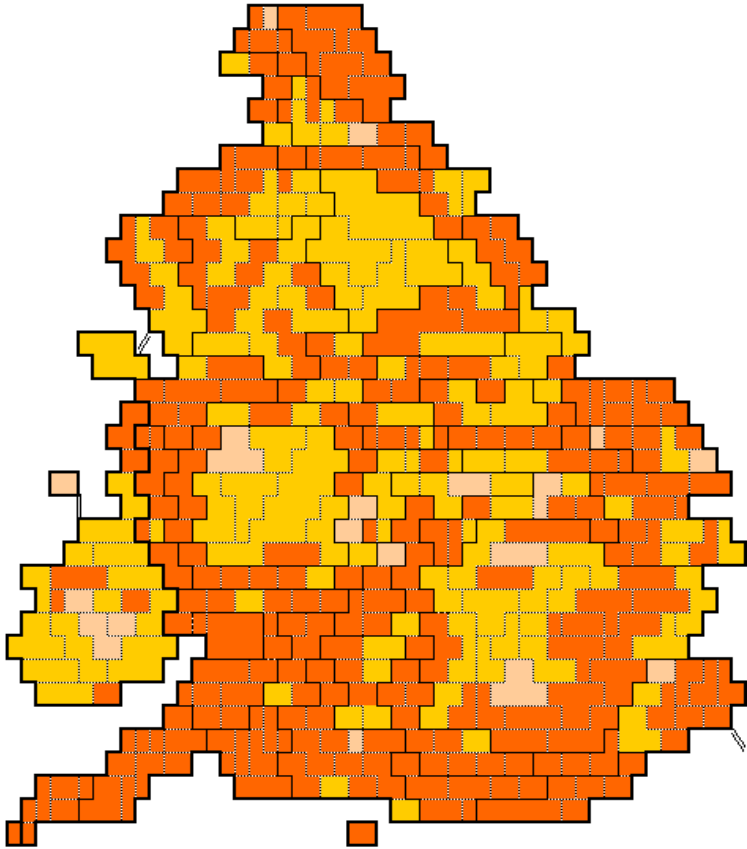
ADJUSTMENTS	GLOBAL IMPACT, ENGLAND AND WALES
<p>1. <i>Population definition</i></p> <p>a. Students, transferred from vacation address to term-time address (1991 only)</p> <p>b. Population date, change from census day to mid-year</p> <p style="padding-left: 20px;">1991: April 21 to June 30</p> <p style="padding-left: 20px;">2001: April 29 to June 30</p>	<p>53,975 net addition</p> <p>213,628 net gain for 103 districts</p> <p>159,653 net loss for 273 districts</p> <p>43,094 net addition</p> <p>41,006 net addition</p>
<p>2. <i>Non-response not estimated within census output</i></p>	<p>In 1991, 1.6% addition</p> <p>In 2001, 0.5% addition</p>
<p>3. <i>Demographic classifications</i></p> <p>a. Broad age groups distributed to individual ages</p> <p>b. Ethnic groups, 10 in 1991; 16 in 2001</p>	<p>No net impact on population</p> <p>3.2% changed categories</p>
<p>4. <i>Harmonisation of geographical units</i></p> <p>Smallest 1991 areas converted to 2001 Census units</p>	<p>139 of 403 local authority boundaries and 4,398 of 9,527 electoral ward boundaries changed involving more than 1% of their population</p>

Population change 91-01 by ethnic group in EW

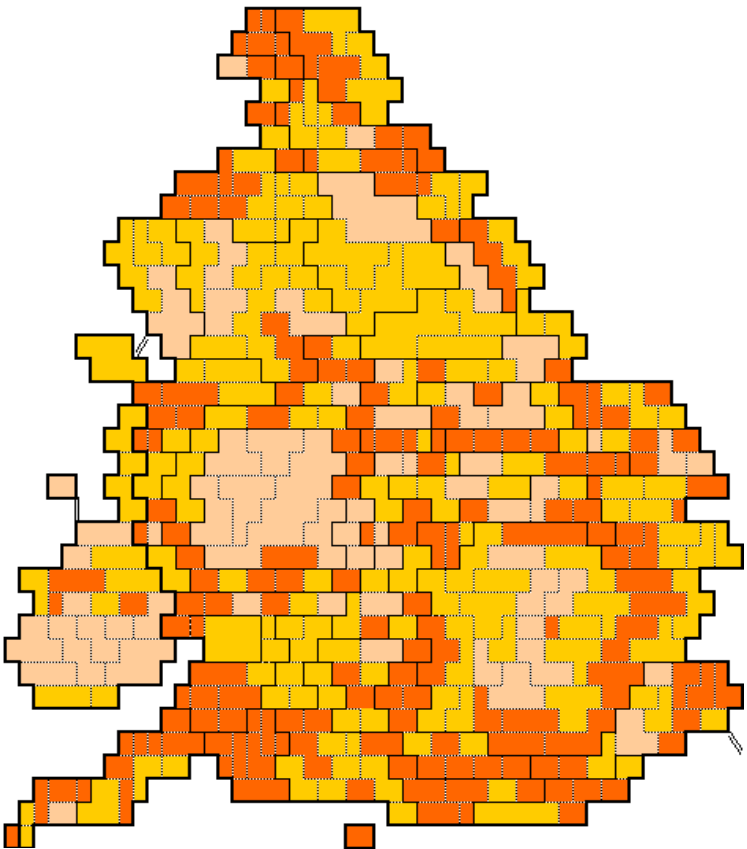
Group	Census			Full estimates		
	1991	2001	Change (%)	1991	2001	Change (%)
White	46,938,466	47,520,614	1.2	47,429,019	47,747,355	0.7
Black Caribbean	499,325	563,880	12.9	569,621	572,212	0.5
Black African	209,665	479,691	128.8	255,336	494,668	93.7
Indian	829,966	1,036,674	24.9	891,827	1,053,302	18.1
Pakistani	455,443	714,705	56.9	494,973	727,726	47.0
Bangladeshi	161,626	280,735	73.7	176,912	286,693	62.1
Chinese	146,156	226,640	55.1	173,184	233,346	34.7
Other	649,846	1,217,910	87.4	757,161	1,244,677	64.4
Total	49,890,493	52,040,849	4.3	50,748,033	52,359,979	3.2

% Change 91-01 for non-White groups in EW

Census output



Complete estimates



Change, <30% Increase, 30-60% Increase, >60%

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Base map: 2001 District boundaries from Dorling and Durham (2006)

Index values of residential segregation of ethnic groups nationally

Index of dissimilarity between 91-01 in EW

-measured across wards-

ID values	1991 Census	2001 Census	Difference	1991 Full estimates	2001 Full estimates	Difference
White	61.4	58.8	-2.6	60.5	57.3	-3.1
Caribbean	68.9	67.1	-1.8	68.0	65.7	-2.3
African	71.1	70.6	-0.5	69.6	69.4	-0.2
Indian	65.3	62.1	-3.1	64.2	60.9	-3.3
Pakistani	75.1	71.8	-3.4	74.2	69.7	-4.5
Bangladeshi	74.2	71.7	-2.5	72.7	67.9	-4.8
Chinese	42.2	42.0	-0.2	42.5	37.5	-5.0

Index of isolation between 91-01 in EW

-measured across wards-

P* values	1991 Census	2001 Census	Difference	1991 Full estimates	2001 Full estimates	Difference
White	95.3	93.5	-1.9	94.9	93.3	-1.6
Caribbean	7.6	7.3	-0.3	7.9	7.1	-0.8
African	4.3	8.2	3.8	4.6	8.0	3.4
Indian	15.6	15.5	-0.1	15.5	15.2	-0.3
Pakistani	13.9	17.4	3.5	14.0	16.8	2.8
Bangladeshi	10.9	13.7	2.9	10.9	13.2	2.3
Chinese	0.8	1.2	0.4	0.9	1.1	0.1



Index of dissimilarity between 91-01

-measured across wards-

EW

Leicester

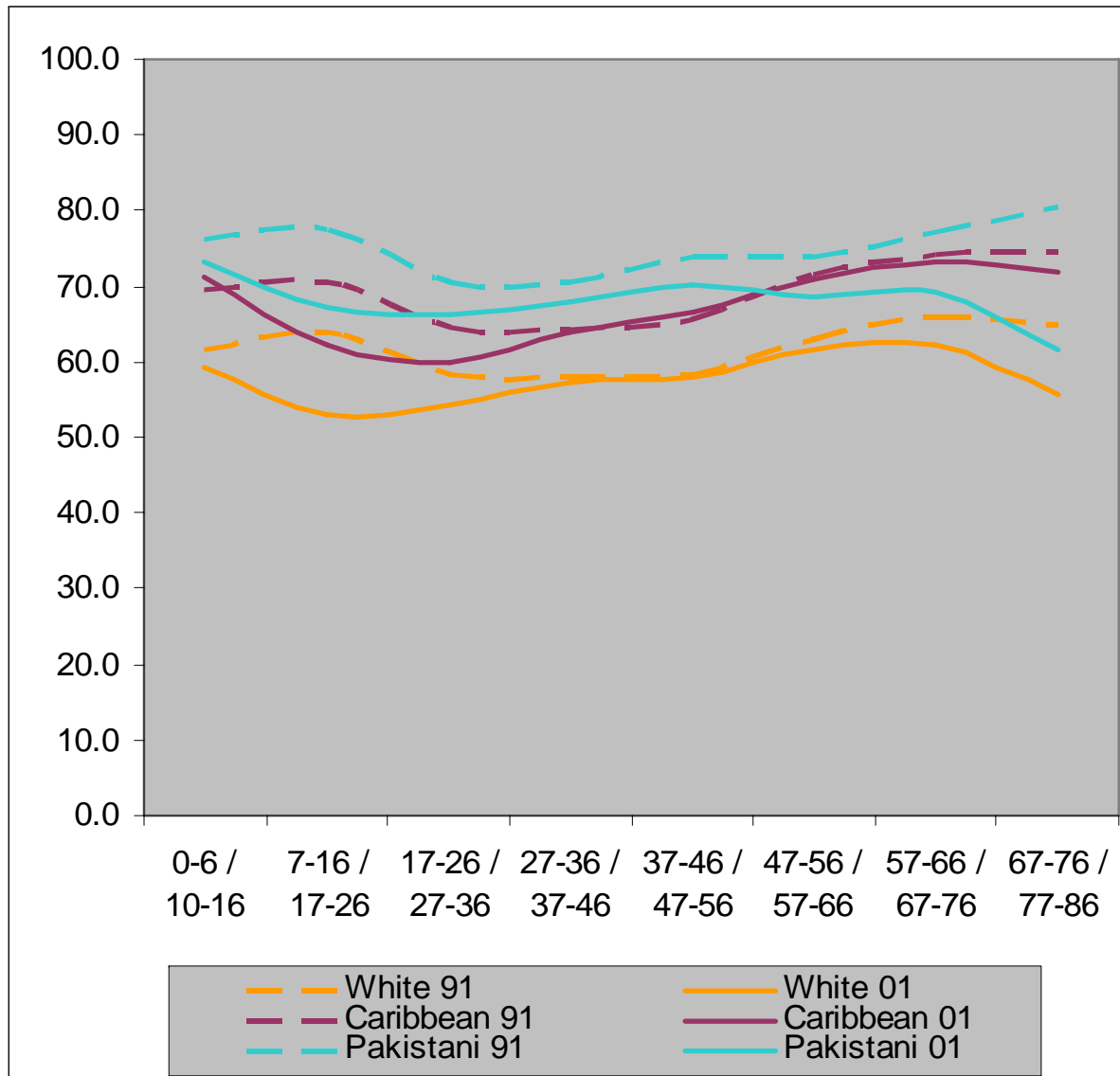
ID values	1991 Census	1991 Census 2001b	Difference
White	61.4	60.9	-0.5
Caribbean	68.9	68.6	-0.3
African	71.1	70.7	-0.4
Indian	65.3	64.8	-0.5
Pakistani	75.1	74.5	-0.6
Bangladeshi	74.2	73.1	-1.1
Chinese	42.2	41.0	-1.2

1991 Census	1991 Census 2001b	Difference
53.8	47.1	-6.7
28.9	26.5	-2.4
30.9	27.7	-3.1
54.8	48.4	-6.4
47.2	45.7	-1.6
73.7	68.5	-5.2
32.8	27.2	-5.6

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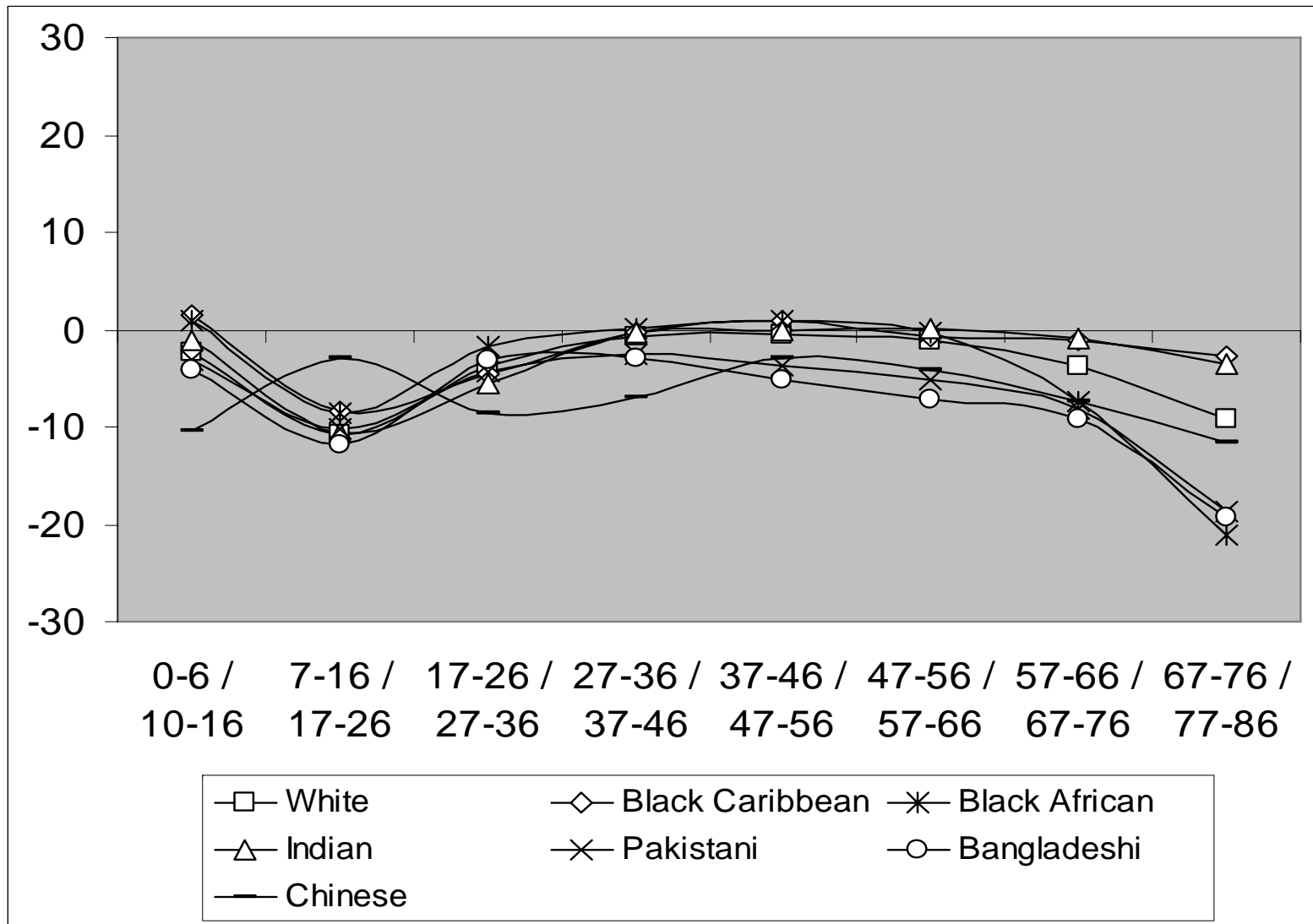


Index of dissimilarity between 91-01 in EW



U P T A P

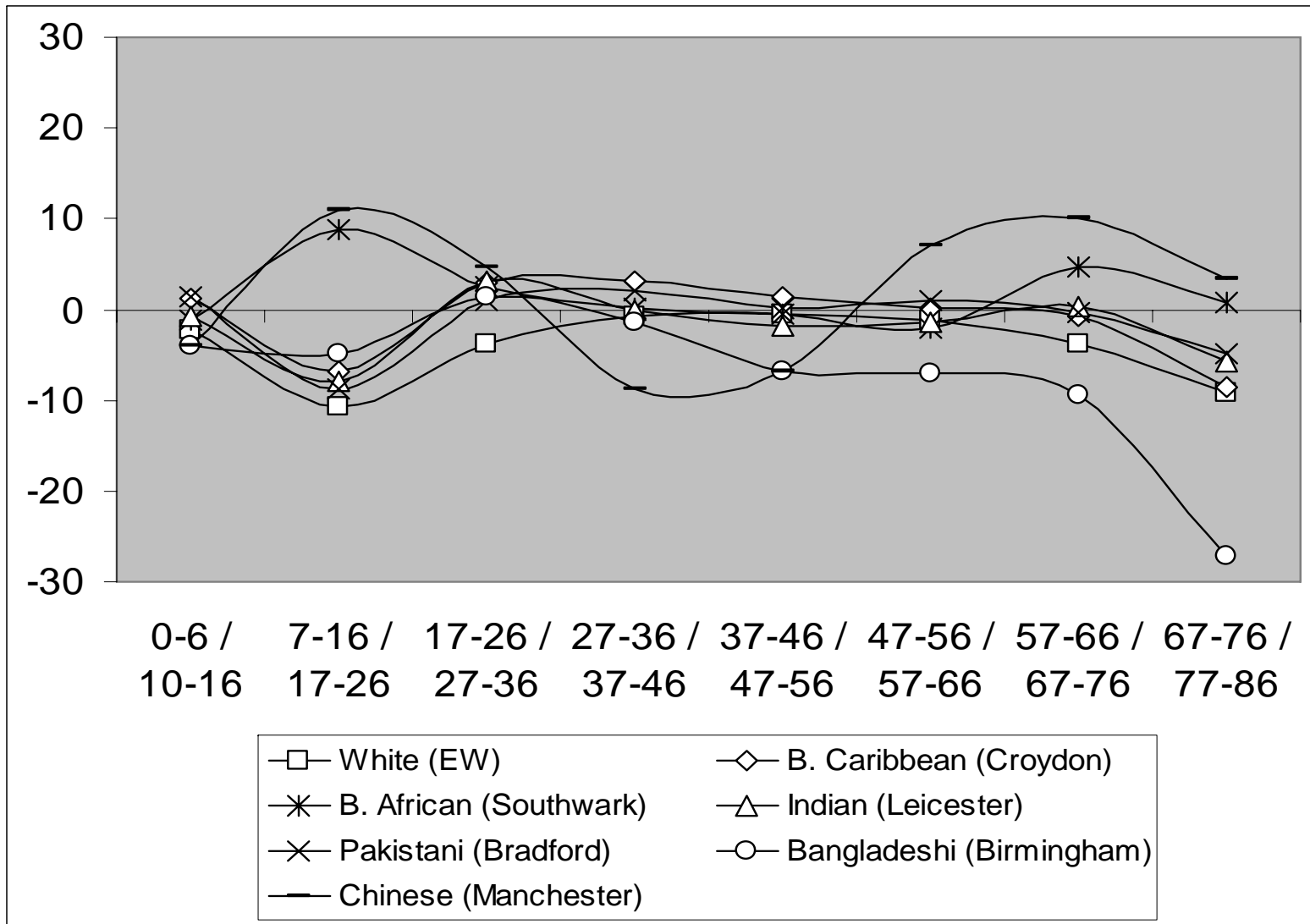
ID change across wards between 91-01 in EW



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ID change across wards between 91-01 in EW



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Key findings

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Key findings (1)

The analysis that corrects for census' incompleteness demonstrates that, by using a complete and consistent time series, the index values of segregation are likely to change.

Less segregation with census output and full estimates. The latter suggests however greater differences over time, with ethnic groups more evenly spread.

Key findings (2)

The average clustering of ethnic minority groups has decreased over the decade, thus suggesting that neighbourhoods in which the highest concentrations were found in 1991 have become more evenly distributed despite the growth *in situ*.

This finding is consistent with the evidence of spreading diversity suggested by the analysis of population change.



Key findings (3)

Changes in residential segregation can be purely artefactual, reflecting solely ward boundary changes between 1991 and 2001.

After converting census data from 1991 to 2001 wards a decrease is observed for all groups, with alterations that can be greater than the impact of changes over time.

Key findings (4)

Residential segregation is greater at some life stages, particularly during the middle adulthood phase, which is interpreted as a result of the concentration of ethnic groups in their middle ages in urban areas and the demographic consequences of relatively recent international migration.

Key findings (5)

The life pattern of segregation does not differ significantly between ethnic groups. Despite the differences between individual ethnic groups in the level of segregation, a similar pattern of segregation is found.

This suggests that the residential pattern of ethnic groups is not simply a consequence of residential segregation but rather an interrelated aspect of different life stages.



Dissemination

Access to datasets:

-<http://www.data-archive.ac.uk/>

-<http://www.ccsr.ac.uk/research/PopulationEstimates.htm>

Academic papers (3):

-Sabater, A. & Simpson, L. (forthcoming – 2009) Enhancing the population census: a time series for sub-national areas with age, sex and ethnic group dimensions in England and Wales, 1991-2001, *Journal of Ethnic and Migration Studies*, 35(9).



Dissemination (cont.)

- Norman, P., Simpson, L. & Sabater, A. (2008) Estimating with Confidence and hindsight: new UK small area population estimates for 1991, *Population, Space and Place*, 14(5), 449-472.
- Sabater, A. (2008) Ethnic segregation over time and cohorts in England and Wales, 1991-2001, CCSR Working Paper Series, 14, University of Manchester.

Non-academic (1):

- Sabater, A., Simpson, L., Norman, P. & Lomax, S. (2008) New census-based datasets available for very small areas by age, sex and ethnic group, *LariaNews*.



Dissemination (cont.)

Conferences and seminars (6), including:

- European Population Conference.
- British Society for Population Studies Conference.

Further work:

Sabater, A. & Finney, N. (forthcoming - 2009) Demographic explanations for changes in ethnic residential segregation across the life course, Paper to be presented at the International Conference of the IUSSP, Marrakech (Morocco).

Acknowledgements, etc

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Understanding Population Trends and Processes
initiative (PTA-163-27-0002).

-Data supply & copyright:
ONS, GROS, Data Archive, etc



Further information

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