



Tracking Neighbourhoods

The Economic Deprivation Index 2008



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January 2009
Communities and Local Government

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Email: communities@capita.co.uk
Online via the Communities and Local Government website: www.communities.gov.uk

January 2009

Product Code: 08 NRAD 05665

ISBN: 978-1-4098-0906-7

Preface

During the consultation leading up to the publication of the Indices of Deprivation 2004 (ID 2004), Communities and Local Government made a commitment to commission additional work to examine the possibility of using common indicators to enable Index users to compare overtime. Index users also called for a means of measuring changes in deprivation in periods between indices. The Economic Deprivation Index (EDI) responds to these two requests for additional information on deprivation.

The EDI has been constructed using indicators from the Income and Employment domains of the Index of Multiple Deprivation (IMD) and has been constructed in a consistent way at Lower Super Output Area (LSOA) level for each year from 1999 to 2005.

Unfortunately it was not possible to create a time series using the entire IMD as data from the other five domains (Health deprivation and disability, Education, Skills and Training, Barriers to Housing and Services, Crime and the Living Environment) is not currently available on a consistent basis over time. It is hoped that as data quality improves, it would be possible to create time series data for some of the other indicators.

The EDI is a useful complement to the IMD and is not intended as a replacement of the IMD. We hope that you find this data useful in understanding how the pattern of deprivation has changed in each LSOA over the period covered by the EDI.

We would like to thank the Social Disadvantage Research Centre (SDRC) for their continued work to increase our knowledge and understanding of the measurement of deprivation at small area level.

Data quality

Every effort has been made to ensure that the data and analyses contained within this report are accurate. It is important to remember, however, that the accuracy of all results presented in this report is wholly dependent upon the accuracy and comprehensiveness of the data provided to SDRC by DWP and ONS¹.

¹ No warranty is given by SDRC as to the accuracy or comprehensiveness of the DWP or ONS data and thus to the figures presented in the reports.

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Section 1

Introduction

Since 2000, the Social Disadvantage Research Centre (SDRC) has produced three English Indices of Deprivation for Communities and Local Government and its predecessors to allocate resources for neighbourhood renewal. These are the Indices of Deprivation 2000 (ID 2000) (Noble et al., 2000), the Indices of Deprivation 2004 (ID 2004) (Noble et al., 2004), and the Indices of Deprivation 2007 (ID 2007) (Noble et al., 2004). The three indices cited have a common conceptual framework. A single index of multiple deprivation is constructed as the weighted combination of individual dimensions or domains of deprivation (see Noble et al., 2006). The ID 2004 and ID 2007 both consist of the same domains of deprivation measured at the same spatial scale – Lower level Super Output Area (LSOA)².

The indices were constructed to represent the best possible measure of multiple deprivation for each of the time points for which they were constructed (1998 for the ID 2000, 2001 for the ID 2004, and 2005 for the ID 2007). Improvements in data, new data sources and/or changes in administrative data sources are all incorporated to ensure the most up-to-date and best measure of deprivation is identified.

The one disadvantage of the quest to have the Indices of Deprivation as the best measure for their time is that ‘backwards comparability’³ and the construction of a time series is compromised.

In order to address and in part overcome this challenge an Economic Deprivation Index (EDI) has been constructed in a consistent way at LSOA level for each year from 1999 to 2005⁴. This report introduces the EDI and illustrates how it can be used to track deprived neighbourhoods over time.

Section 2 gives a brief account of the methodology underpinning the construction of the EDI and also provides a brief note on how the EDI compares with the ID 2004 and ID 2007. **Section 3** focuses on an analysis of change at the regional level while **Section 4** contains an analysis of change at the Local Authority Level. **Section 5** presents the analysis at LSOA level focussing on change between 2001 (the time point for the ID 2004) and 2005 (the time point for the ID 2007). The final section considers three local authorities as case studies and discusses how the pattern of deprivation at small area level has changed between 1999 and 2005.

² See www.statistics.gov.uk/geography/soa.asp for a guide to Super Output Areas including LSOAs

³ See Noble et al. 2004, p. 116 for a discussion of ‘backwards comparability’

⁴ A complementary Child Income Deprivation Index (CIDI) has also been constructed which is not considered in this report.

Section 2

Constructing the Economic Deprivation Index

Ideally the EDI would be based on a full annually-consistent Index of Multiple Deprivation (IMD). This would be based on the seven domains included in the IMD 2004 and IMD 2007 and created for each year from 1999 through to 2005.

Unfortunately, however, consistent time-series data was not available for a full range of measures. For example, police recorded crime data are only available from 2000 onwards, the Department for Education and Skills (DfES) pupil attainment data are only available from 2002, and the Census-based indicators are only available for 2001. While it was not therefore possible to produce an annual back-dated time-series of the full IMD 2004 or IMD 2007, a number of key indicators from the Income and Employment domains of the IMD 2004 and IMD 2007 were available on a consistent basis from 1999 onwards.

Accordingly, an EDI combining both Employment Deprivation and Income Deprivation has been constructed for each year from 1999 to 2005 inclusive at LSOA level⁵.

Income Deprivation Domain

The *Income Deprivation Domain* represents the proportion of people aged under 60 living in households receiving one of two out-of-work means-tested benefits: Income Support (IS) or income-based Job Seekers Allowance (JSA-IB). Data on claimants of IS and JSA-IB were provided by the Department for Work and Pensions (DWP) for use within this project. Data cuts were provided at individual claimant level, with each record containing information on the type of benefit claimed, the age and gender of the claimant, the presence of a dependent partner and presence/number of dependent children, and the home postcode. In order to distinguish claimants of income-based JSA from claimants of contribution-based JSA, DWP datasets had to be 'scanned'⁶.

The Income Deprivation Domain in the EDI differs from the Income Deprivation Domain in the IMD 2004/IMD 2007 in a number of ways. First, it was not possible to include people aged 60 and over in the Income Deprivation Domain for this project due to the shift to support older people through Pension Credit (PC) rather than IS from 2004 onwards.

⁵ This is complemented by a Child Income Deprivation Index (CIDI) constructed for the same years and at the same spatial scale as the EDI.

⁶ Special scans of JSA are taken to identify which claimants are income-based and which are contribution-based (in August each year 1999 to 2005) as the live DWP database does not contain a reliable variable to differentiate between the two statuses.

Although SDRC does hold individual level PC data for 2004 and 2005, the eligibility and payment criteria differ from those relating to IS prior to 2004. It was therefore not possible to derive a consistent time series of information for people aged 60 and over for this project.

Second, the Income Deprivation Domain of the IMD 2004 contained information on people in working households who received Working Families Tax Credit (WFTC) or Disabled Persons Tax credit (DPTC) if the equivalised household income (excluding housing benefits) was less than 60 per cent of median income before housing costs nationally. The IMD 2007 reflected the changes in the Tax Credit system through the incorporation of low income households receiving Working Tax Credit and/or Child Tax Credit instead of WFTC/DPTC. As the tax credit data were therefore not available on a consistent time series they could not be included within this project.

Third, the IMD 2004/IMD 2007 Income Deprivation Domain contained information from the National Asylum Support Service on asylum seekers in receipt of subsistence only and accommodation support. Again, this information was not available on a consistent time series and therefore could not be included in this project. In practice, however, at LSOA level, the proportion of people living in IS or JSA-IB households excluding tax credit and asylum seekers correlates highly with the overall Income Domain in the IMD 2007 (Spearman's Rho 0.97 $P < 0.0000$).

In summary, therefore, the Income Deprivation Domain created for the EDI is a good measure of income deprivation in the population aged under 60 but does not capture low income working families or low income older people.

Employment Deprivation Domain

The *Employment Deprivation Domain* represents the proportion of people of working age (males aged 18-64 and females aged 18-59) claiming one of three out-of-work benefits: Job Seekers Allowance (income-based or contribution-based) (JSA), Severe Disablement Allowance (SDA) or Incapacity Benefit (IB). Data on claimants of JSA, SDA and IB were provided by DWP for use within this project⁷.

The Employment Deprivation Domain used in these analyses differs from that of the IMD 2004 and IMD 2007 in that the two Indices of Deprivation contained information on participants in New Deal training schemes while this information was not available on a consistent time-series for this project⁸. In practice, however, the number of participants of the New Deal schemes who are not also receiving one of the included out-of-work benefits is relatively low. Overall therefore, JSA, SDA and IB offer a good measure of employment deprivation at small area level and enable a consistent time-series of cuts to be established.

⁷ Data for 1999 to 2005 were revised and re-issued by DWP in May 2008 and these data were used in the EDI

⁸ It further differs from the ID 2004 as the ID 2004 unemployment figures were sourced from the JUVOS claimant count rather than JSA directly.

Population Estimates

Both the Income Deprivation Domain and the Employment Deprivation Domain required population estimates to be constructed for each LSOA in England for 1999 through to 2005. These population estimates formed the denominators for the indicator rates, thereby enabling each indicator to be expressed as the proportion of relevant population who are defined as income deprived or employment deprived. The denominator for the Income Deprivation Domain was the entire population under the age of 60. The denominator for the Employment Deprivation Domain was mean ages 18 to 64 plus women aged 18 to 59 (both inclusive)

Population estimates for the EDI were derived from estimates supplied by ONS as part of their Small Area Population Estimates (SAPE) project.

Creating the Economic Deprivation Index

First, an income deprivation rate and an employment deprivation rate were constructed.

Second, each of these rates was 'shrunk' to the local authority district average to reduce the effect of random variation caused by small numbers in the denominator (see Annex E: p.141 of *The English Indices of Deprivation 2004* for a more detailed description of the 'shrinkage technique')⁹. The shrunk rates represent the Income Deprivation Score and the Employment Deprivation Score.

Third, the LSOAs were ranked on each of these two scores to produce an Income Deprivation Rank and an Employment Deprivation Rank.

Fourth, each of these two ranks was exponentially transformed¹⁰ using the same method as applied in the ID 2004. The justification for such a transformation is to control for cancellation effects, so that a low score on one domain will not completely cancel out a high score on the other (see Annex I: p.151 of *The English Indices of Deprivation 2004* for a more detailed description of the 'exponential transformation technique').

Fifth, the two exponentially transformed domain ranks are combined together using equal weights (ie (Income Deprivation Domain * 0.5) + (Employment Deprivation Domain * 0.5)) to produce an overall Economic Deprivation Index Score.

Sixth, the Economic Deprivation Domain Score is re-ranked to produce the Economic Deprivation Index Rank.

⁹ Shrinkage estimation refers to moving scores with 'unreliable' scores towards other more reliable ones, such as average for LA. The process involves estimating deprivation in an LSOA using a weighted combination of data from the LSOA and data from the LA mean.

¹⁰ Exponential transformation stretches out the distribution so greater levels of deprivation score more highly than lesser ones.

Relationship between IMD and the EDI

If the EDI is to be a good proxy for the IMD it is instructive to see how well the relevant EDI correlates with the comparable IMD and its components. As mentioned before the ID 2004 is mainly based on April 2001 data and the ID 2007 is mainly based on August 2005 data. Comparisons which make most sense are therefore between the ID 2004 and the EDI 2001 and ID 2007 and EDI 2005.

Table 2.1, presents Spearman's rank coefficients for these two sets of temporal comparisons at LSOA level, which shows that there is a high degree of correlation between the IMD and EDI in both time periods. Both domains are almost perfectly correlated at LSOA level, particularly so in the case of the employment domain.

Table 2.1: Spearman's rank correlations between: IMD 2004 and EDI, 2001; and between IMD 2007 and EDI 2005, at LSOA level		
	2004 (IMD), 2001 (EDI)	2007 (IMD), 2005 (EDI)
Overall IMD vs overall EDI	0.95	0.95
IMD employment domain vs EDI employment domain	0.99	1.00
IMD income domain vs EDI income domain	0.98	0.98

Source: SDRC Analysis

Note: all numbers rounded to 2 decimal places

It is also possible to look at these data at local authority rather than at LSOA level and **Table 2.2** shows the equivalent Spearman's rank coefficients to those presented in **Table 2.1** but at local authority level. All data at local authority level are calculated using a population weighted average of the ranks of the LSOAs within each local authority¹¹. **Table 2.2** shows that, at local authority level, the correlation coefficients are slightly higher than those seen at LSOA level. At local authority level, the overall IMD and EDI and the respective domains of each are extremely highly correlated, almost (or actually) perfectly so in the cases of the component domains.

¹¹ See Noble, M., Wright, G., Dibben, C., Smith, G., McLennan, D., Anttila, C., Barnes, H., Mokhtar, C., Noble, S., Avenell, D., Gardner, J., Covizzi, I. and Lloyd, M. (2004) *Indices of Deprivation 2004. Report to the Office of the Deputy Prime Minister*. London: Neighbourhood Renewal Unit) p. 50

Table 2.2: Spearman's rank correlations between: IMD 2004 and EDI 2001; and between IMD 2007 and EDI 2005, at local authority level

	2004 (IMD), 2001 (EDI)	2007 (IMD), 2005 (EDI)
Overall IMD vs overall EDI	0.98	0.97
IMD employment domain vs EDI employment domain	1.00	1.00
IMD income domain vs EDI income domain	0.99	0.99

Source: SDRC Analysis

Note: all numbers rounded to 2 decimal places

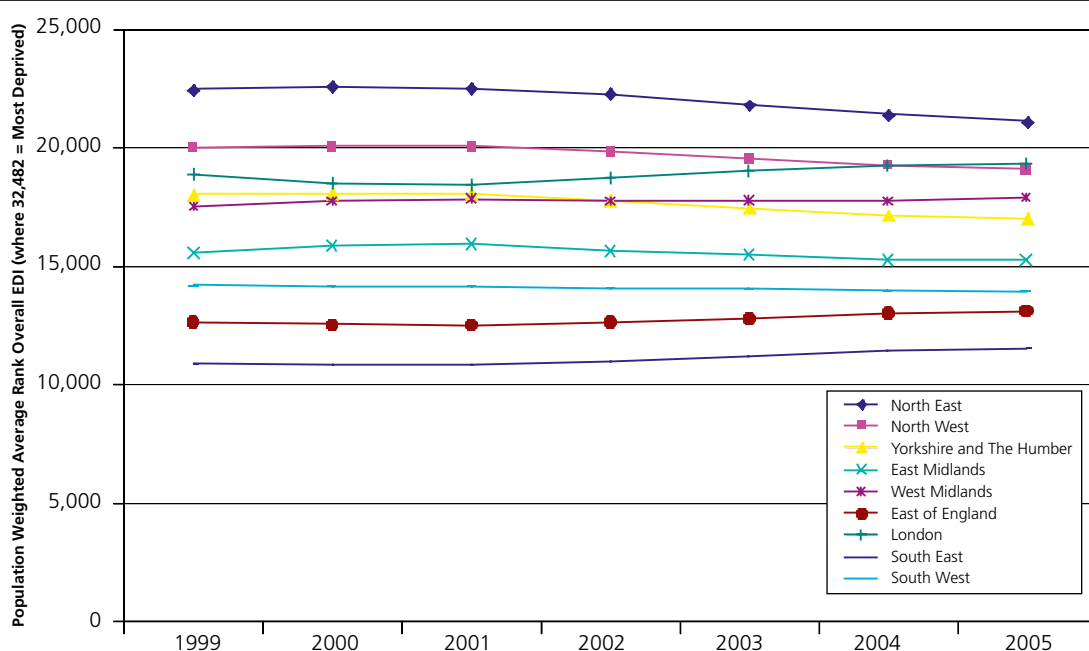
Section 3

Changes in the EDI over time at the regional level

Having compared the two sets of IMD and EDI results the remainder of this report takes the analyses of change in the EDI as its focal point. This section begins by considering regional level trends in the EDI between 1999 and 2005.

Figure 3.1 charts changes in the overall EDI between 1999 and 2005 and shows that there have been divergent trends in different regions, but that these changes have been relatively small in magnitude and have not, with the exception of Yorkshire and the Humber and the West Midlands, and London and the North West, altered the ordering of the regions in terms of their deprivation across the period. Nevertheless, improvements in average weighted LSOA ranks have been seen in Yorkshire and the Humber, the North East, the North West and, to a lesser degree, the East Midlands over this period, with improvements in these regions concentrated in the post-2001 period. London, the East and the South East have seen slight deteriorations in their relative position. London merits special mention because, as a region it showed relative improvement until 2001 which was then followed by deterioration. This phenomenon will be revisited throughout the report.

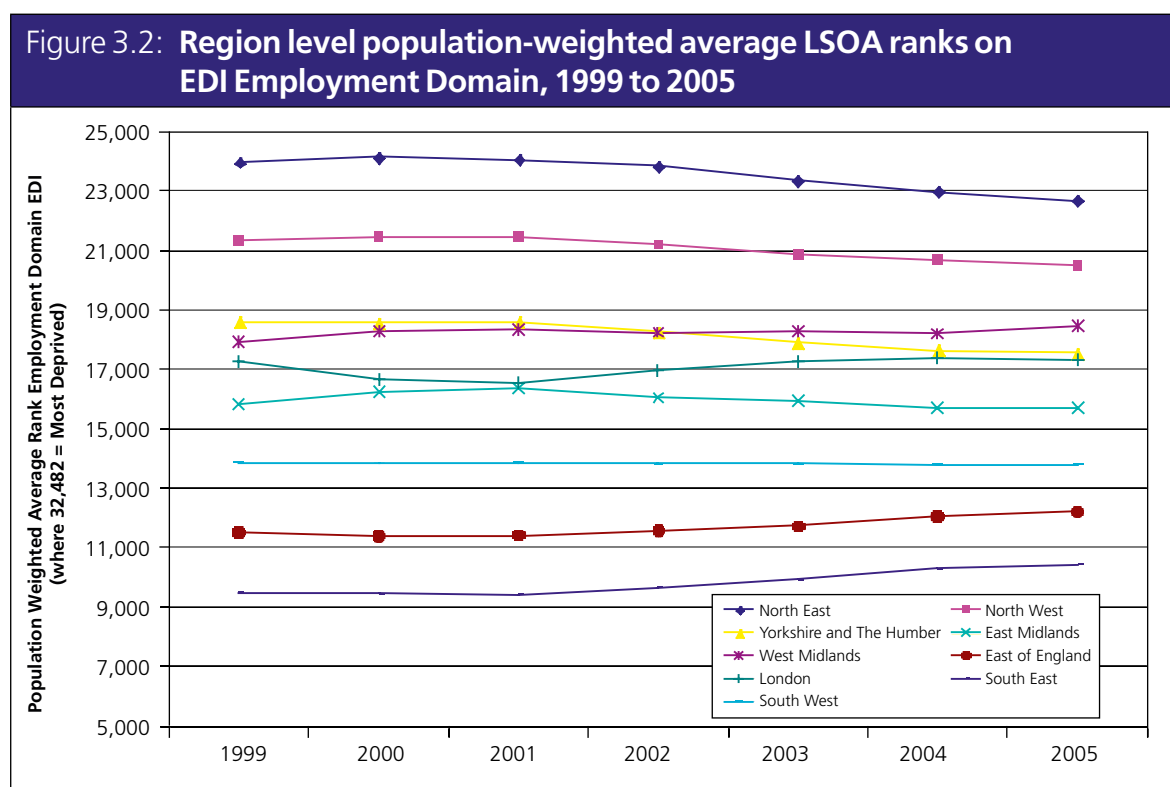
Figure 3.1: Region level population-weighted average LSOA ranks on overall EDI, 1999 to 2005



Source: SDRC, 2008

Figure 3.2 focuses on changes in the employment domain of the EDI at regional level between 1999 and 2005 and shows broadly the same trends as those seen in **Figure 3.1**. However, there are differences in the ordering of the regions both in terms of relative deprivation and in terms of the average ranks. For example, London is the third most deprived region for most of the period in terms of the overall EDI (**Figure 3.1**). However, when looking only at the employment domain (**Figure 3.2**) London is only the fifth most deprived region throughout the period

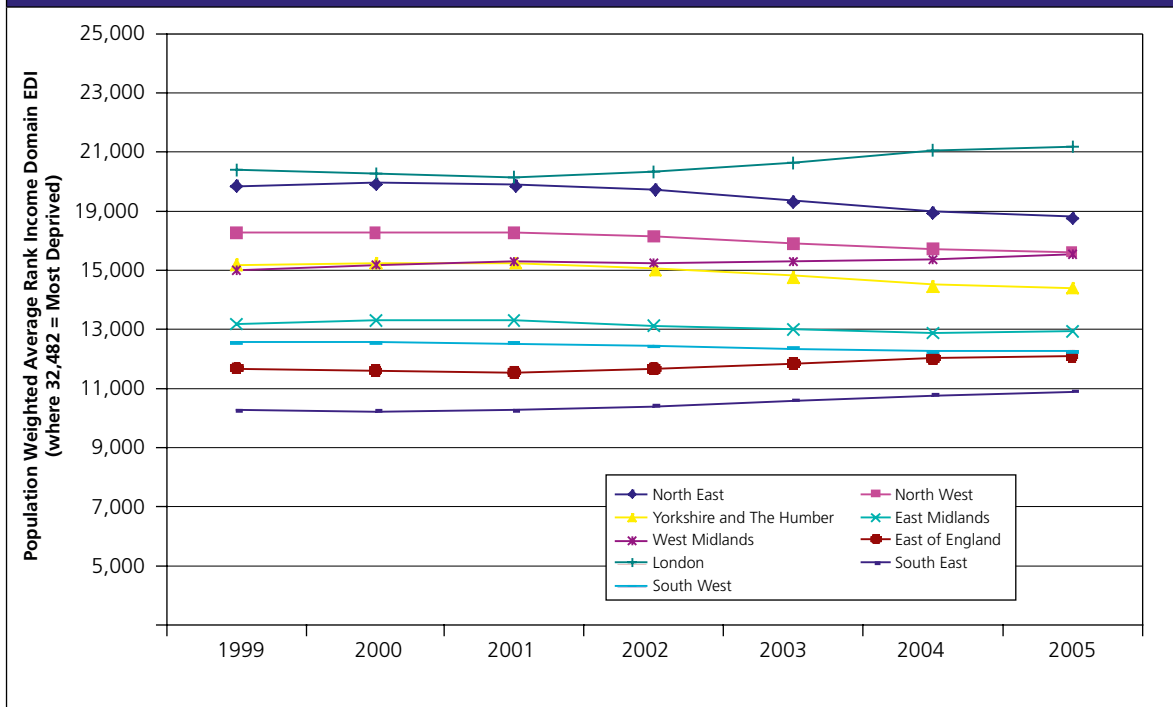
Similarly, in terms of the overall EDI the North West begins in 1999 at a figure of around 20,000, and gradually improves from this starting point (**Figure 3.1**). In terms of employment deprivation, however, the average weighted ranking of LSOAs in the North West in 1999 is somewhat higher at around 21,000, ie somewhat more deprived in relative terms than when looking at the overall EDI.



Source: SDRC, 2008

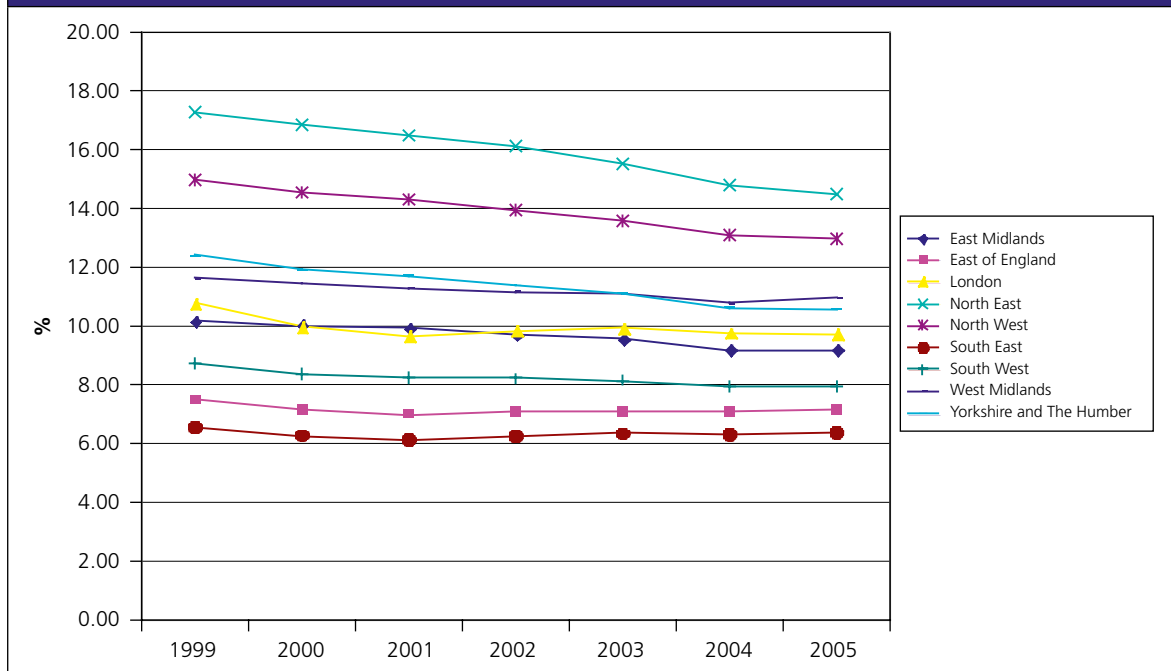
Figure 3.3 examines changes in the income domain of the EDI between 1999 and 2005 and shows a more compressed distribution between the regions than seen either for the employment domain or the overall EDI. The regional trends seen, however, are broadly the same as those seen in the previous two charts in terms of which regions are experiencing relative improvement or relative decline. One notable difference, however, is that in terms of income deprivation, London emerges as the most deprived region. Moreover, London has seen a relative worsening in the average rank of its LSOAs whilst the North East – which had levels of deprivation in 1999 similar to London – has seen a relative improvement over the period in the average rank of its LSOAs.

Figure 3.3: Region level population-weighted average LSOA ranks on EDI Income Domain, 1999 to 2005

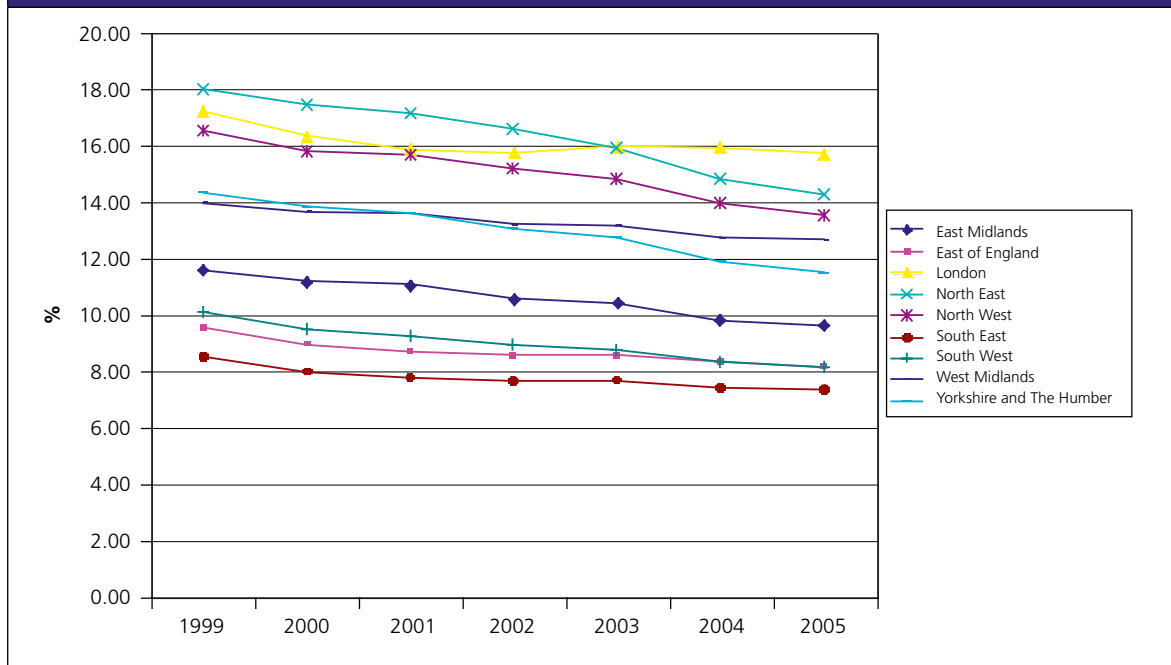


Source: SDRC, 2008

Considering the actual rates of income and employment deprivation over the period (**Figures 3.4** and **3.5**), the relative improvement in the North East and North West is reflected in the absolute change in rates over the period. The position of London is different. The relative increases in deprivation since 2001 shown in the change in average ranks (**Figures 3.2** and **3.3**) is manifested as a more or less constant rate of both income and employment deprivation since that year. This, in the context of absolute declines elsewhere generates a picture of increasing relative deprivation.

Figures 3.4: Rates of Employment Deprivation by Region 1999 to 2005

Source: SDRC, 2008

Figures 3.5: Rates of Income Deprivation by Region 1999 to 2005

Source: SDRC, 2008

Section 4

Changes in the EDI over time at the local authority district level

Relative Change

Table 4.1 shows the twenty most deprived local authorities in each year on the EDI based on the Average Rank measure. For example, Hackney can be seen to be the most deprived local authority in England on the Average Rank measure in 1999. A group of local authorities can be identified which occupy the seven or eight most deprived positions in the table in each year and, although their respective positions alter somewhat from year to year, this group of local authorities is relatively stable and do not move out of these most deprived positions. The local authorities that occupy the remaining positions in the table show greater movement both within and in and out of the twenty most deprived positions.

There are some interesting cases of individual local authorities showing rapid changes. Hartlepool, for example, was ranked as 9th or 10th most deprived local authority between 1999 and 2003 before seeing its relative position improve considerably over the next two years so that by 2005 it had moved out of the top twenty altogether. Hartlepool is examined in more detail as one of the case study areas in **Section 6**.

Table 4.1: Twenty most deprived local authorities on EDI Average Rank 1999-2005

	1999	2000	2001	2002	2003	2004	2005
1	Hackney	Easington	Easington	Easington	Easington	Hackney	Hackney
2	Easington	Hackney	Liverpool	Hackney	Hackney	Easington	Easington
3	Knowsley	Knowsley	Knowsley	Knowsley	Liverpool	Liverpool	Newham
4	Liverpool	Liverpool	Hackney	Liverpool	Knowsley	Tower Hamlets	Liverpool
5	Newham	Newham	Tower Hamlets	Newham	Tower Hamlets	Newham	Tower Hamlets
6	Tower Hamlets	Tower Hamlets	Newham	Tower Hamlets	Newham	Islington	Islington
7	Islington	Islington	Islington	Islington	Islington	Knowsley	Knowsley
8	Manchester	Manchester	Manchester	Manchester	Manchester	Manchester	Barking and Dagenham
9	Hartlepool	Hartlepool	South Tyneside	Hartlepool	South Tyneside	Barking and Dagenham	Manchester
10	South Tyneside	South Tyneside	Hartlepool	South Tyneside	Hartlepool	Haringey	Haringey
11	Haringey	Middlesbrough	Barnsley	Wear Valley	Barking and Dagenham	South Tyneside	Sandwell
12	Middlesbrough	Sunderland	Middlesbrough	Sedgefield	Wear Valley	Hartlepool	Lambeth
13	Barrow-in-Furness	Barnsley	Sunderland	Middlesbrough	Haringey	Wear Valley	South Tyneside
14	Southwark	Haringey	Sedgefield	Barnsley	Southwark	Lambeth	Wear Valley
15	Barnsley	Derwentside	Wear Valley	Sunderland	Sandwell	Sandwell	Stoke-on-Trent
16	Lambeth	Wear Valley	Derwentside	Sandwell	Sedgefield	Southwark	Blackpool
17	Sunderland	Sedgefield	Sandwell	Derwentside	Middlesbrough	Sedgefield	Sedgefield
18	Derwentside	Barrow-in-Furness	Bolsover	Haringey	Lambeth	Middlesbrough	Birmingham
19	St. Helens	Southwark	St. Helens	Southwark	Sunderland	Blackpool	Southwark
20	Wear Valley	St. Helens	Barrow-in-Furness	Wansbeck	Stoke-on-Trent	Stoke-on-Trent	Middlesbrough

Source: SDRC

Tables 4.2 and 4.3 show the number of years which local authorities have spent in the top twenty and top ten most deprived local authorities respectively over the period 1999 to 2005 according to the Average Rank of the EDI. The first column of **Table 4.2**, for example, shows local authorities which have been amongst the twenty most deprived local authorities for only a single year between 1999 and 2005 (Birmingham, Bolsover and Wansbeck). The final column of **Tables 4.2 and Table 4.3** show those local authorities which are most consistently amongst the most deprived in the country. The final column of **Table 4.3**, in particular, lists those local authorities which are amongst the ten most deprived local authorities in England in each year from 1999 to 2005. The eight local authorities that comprise this group of 'consistently deprived' local authorities are: Hackney, Easington, Newham, Tower Hamlets, Islington, Liverpool, Knowsley and Manchester.

Table 4.2: Number of years in 20 most deprived local authorities on Average Rank of EDI 1999-2005

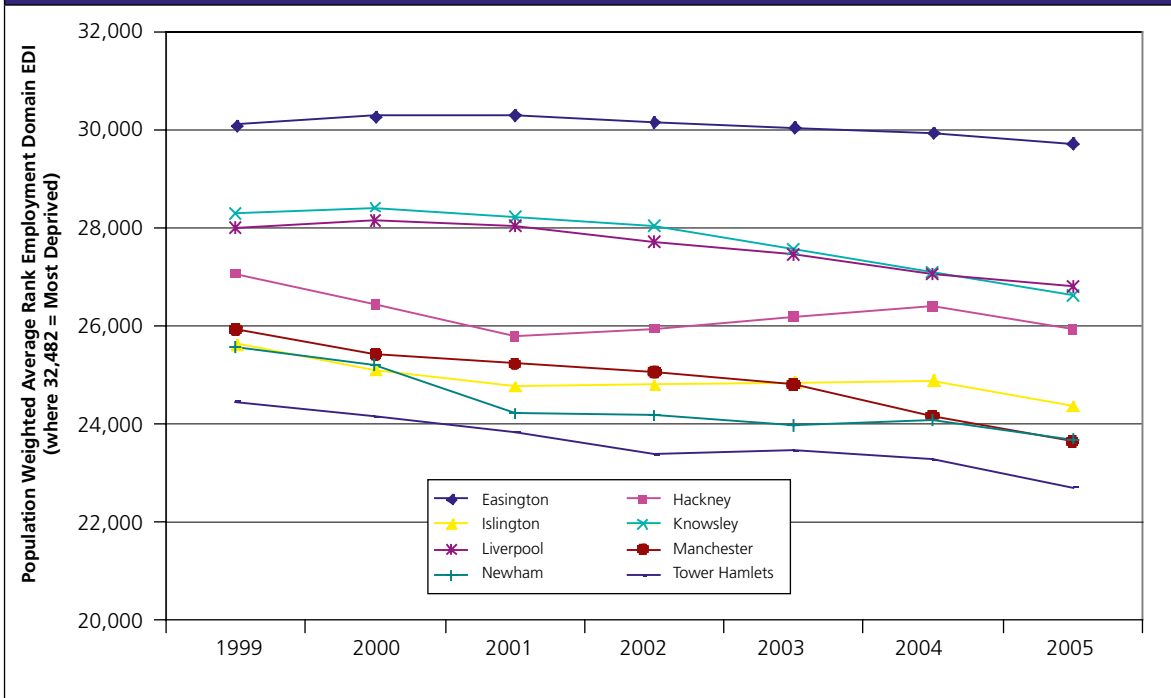
1	2	3	4	5	6	7 (every year)
Birmingham	Blackpool	Barrow-in-Furness	Barnsley	Sandwell	Haringey	Easington
Bolsover		Barking and Dagenham	Derwent-side	Sunderland	Hartlepool	Hackney
Wansbeck		St. Helens	Lambeth		Sedgefield	Islington
		Stoke-on-Trent			Southwark	Knowsley
						Liverpool
						Manchester
						Middles-brough
						Newham
						South Tyneside
						Tower Hamlets
						Wear Valley

Table 4.3: Number of years in 10 most deprived local authorities on Average Rank of EDI 1999-2005

1	2	3	4	5	6	7 (every year)
	Barking and Dagenham			Hartlepool		Easington
	Haringey			South Tyneside		Hackney
						Islington
						Knowsley
						Liverpool
						Manchester
						Newham
						Tower Hamlets

Figures 4.1 and **4.2** unpick changes over time in the two domains of the EDI for these eight consistently deprived local authorities. **Figure 4.1** focuses on the employment domain and shows somewhat divergent trends over time in these local authorities. All eight local authorities have, to differing degrees, seen relative improvements in their average LSOA ranks, although these improvements have been relatively small in magnitude. Easington, Hackney and Islington have seen less improvement over time in their relative position on the employment domain than the other five local authorities presented in **Figure 4.1**.

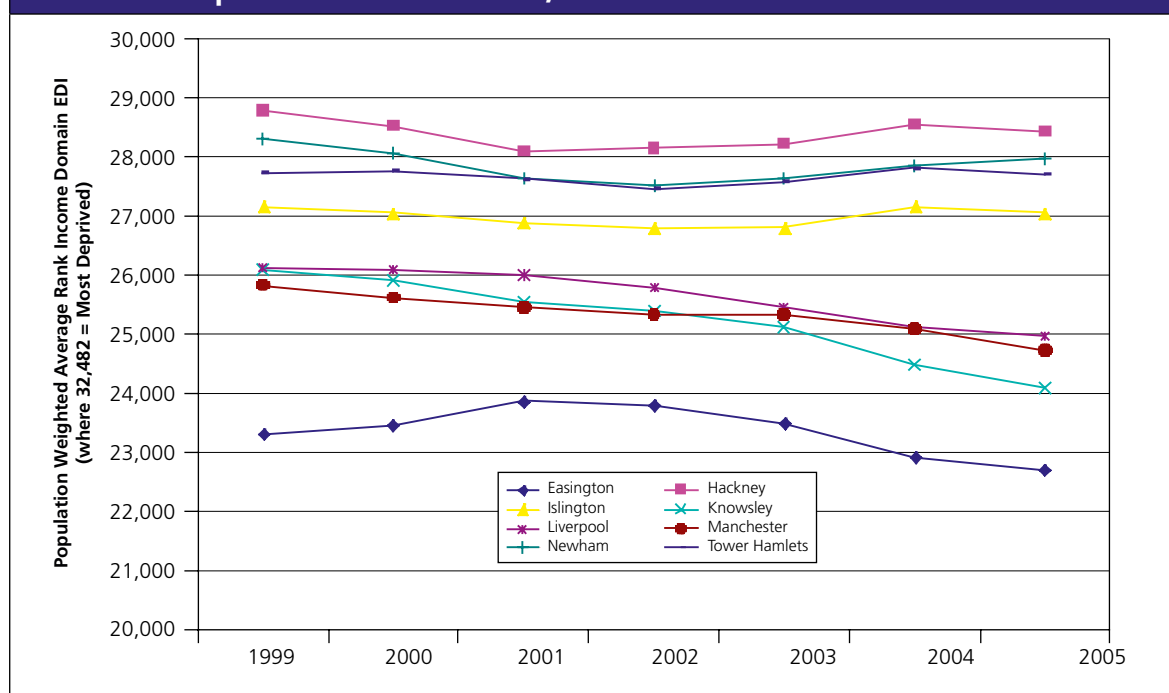
Figure 4.1: Employment domain – average weighted LSOA rank of consistently deprived local authorities, 1999 to 2005



Source: SDRC, 2008

Figure 4.2 presents change over time in the average ranks of these eight consistently deprived local authorities between 1999 and 2005 on the income domain of the EDI. It is noteworthy in the first instance that the average weighted LSOA ranks of some of these local authorities differ between the employment and income domains: Easington for example has an average rank of around 30,000 on the employment domain but around 23,000 on the income domain, whilst Newham and Tower Hamlets are relatively more deprived on the income domain than the employment domain. It can also be seen that different trends emerge in relation to the income domain compared to the employment domain. Newham and Tower Hamlets see almost no improvement on the income domain to match their improvements in relative average LSOA ranks on the employment domain. Islington shows less change on the income domain than on the employment domain while Easington shows the opposite.

Figure 4.2: **Income domain – average weighted LSOA rank of consistently deprived local authorities, 1999-2005**



Source: SDRC, 2008

Absolute Change

The analyses presented so far relate to *relative* measures of spatial deprivation, particularly in respect of the most deprived ten or twenty local authorities. Whilst a relative account is helpful it is also important to examine *absolute* change over time at Local Authority Level.

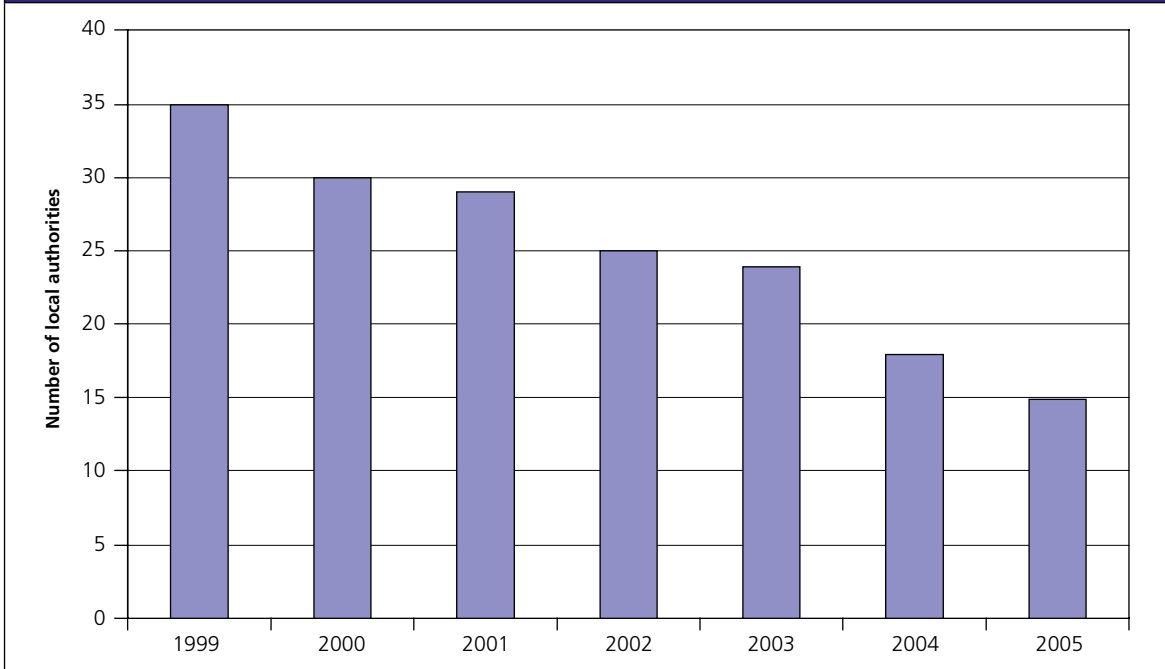
Figures 4.3 and **4.4** present information on the absolute levels of income deprivation and employment deprivation respectively at local authority level. To create **Figure 4.3** the 354 local authorities in England were ranked based on their absolute level of income deprivation¹² in 1999 and then divided into deciles based on this measure. Decile 'cut points' were calculated by observing the level of income deprivation in the local authorities that lay at the minimum and maximum of each of the decile ranges. Particular interest lies in examining the decile cut point of the most deprived decile so in order to establish this cut point value the mid-point between the 35th and 36th most deprived local authorities in 1999 was taken.

This cut-point value is useful in that it represents the income deprivation rate above which all of the 10 per cent most deprived authorities on this measure in 1999 registered rates. By holding this value constant over time it is possible to assess how many of the 354 authorities in England have rates above this cut-point in each subsequent year. **Figure 4.3** shows this information in graphical form. **Figure 4.4** repeats this analysis for employment deprivation.

¹² Based on population weighted average score of EDI Income Deprivation

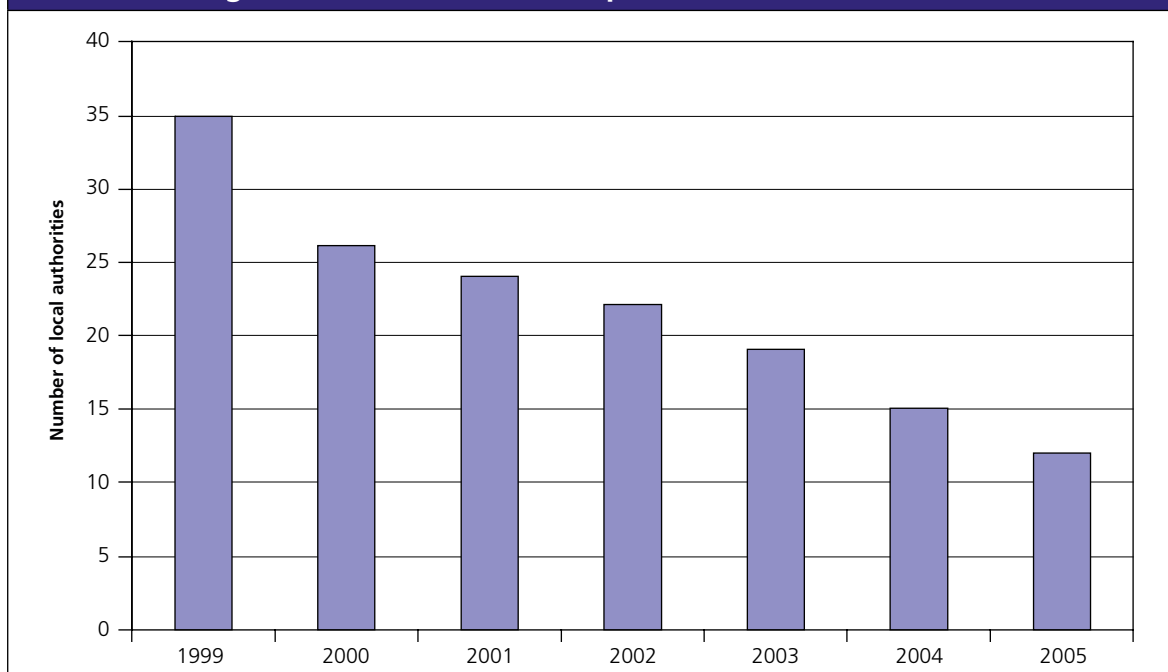
Figures 4.3 and **4.4** show considerable reductions over time in the numbers of local authorities that register income and employment deprivation rates above the respective 1999 decile cut point thresholds. Both charts show the 35 most deprived local authorities on each measure in 1999 (ie the authorities that were used to establish the cut-point). Both charts then display progressive, year-on-year reductions in the number of authorities until by 2005 there are just 15 authorities with income deprivation rates above the 1999 threshold and just 12 authorities with employment deprivation rates above the 1999 threshold. This suggests that overall there have been improvements in a considerable number of local authorities since 1999 in terms of absolute levels of both income and employment deprivation.

Figure 4.3: Holding 1999 decile cut points constant: number of local authorities with income deprivation rates that lie within or above the range of values in the most deprived 1999 decile



Source: SDRC, 2008

Figure 4.4: Holding 1999 decile cut points constant: number of local authorities with employment deprivation rates that lie within or above the range of values in the most deprived 1999 decile



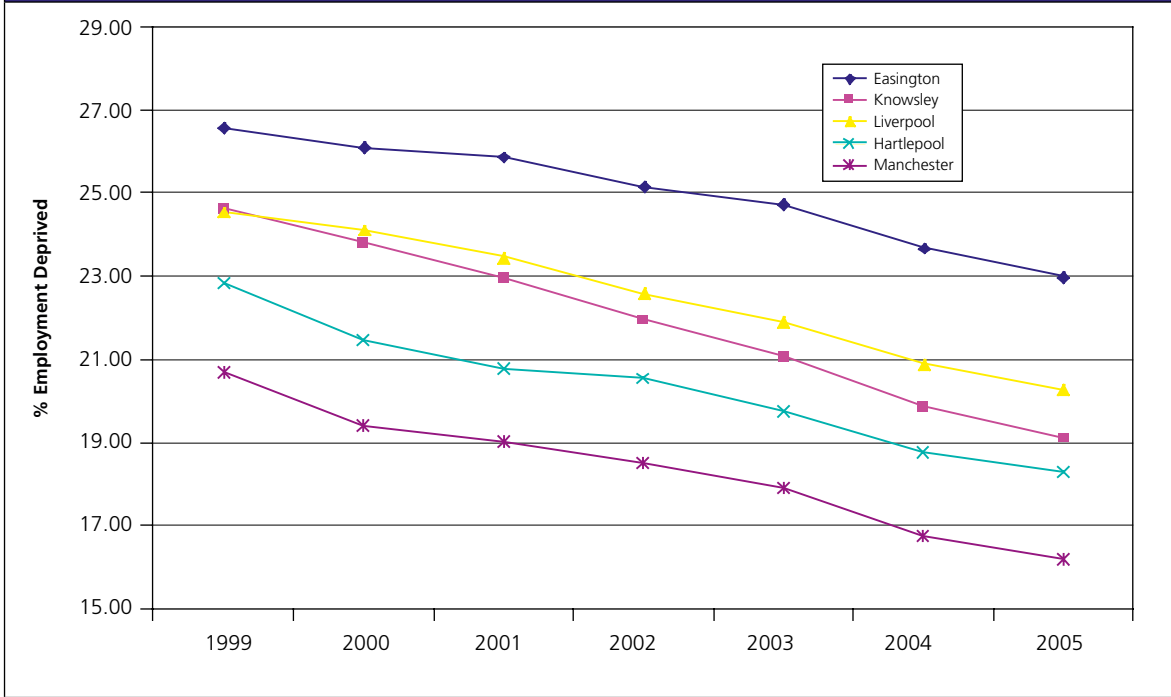
Source: SDRC, 2008

Another way of examining absolute change is to look at the *percentage* of people in a local authority experiencing employment deprivation (in the employment domain of the EDI) and the percentage of people experiencing income deprivation in the Income Domain of the EDI. **Figures 4.5** and **4.6** examine the five most deprived local authorities in 1999 in terms of employment and income deprivation and employment deprivation and follow their trajectories till 2005.

Figure 4.5 shows that all the local authorities experience a significant decline in the rate of employment deprivation over the time period. The rate of improvement is similar for all local authorities.

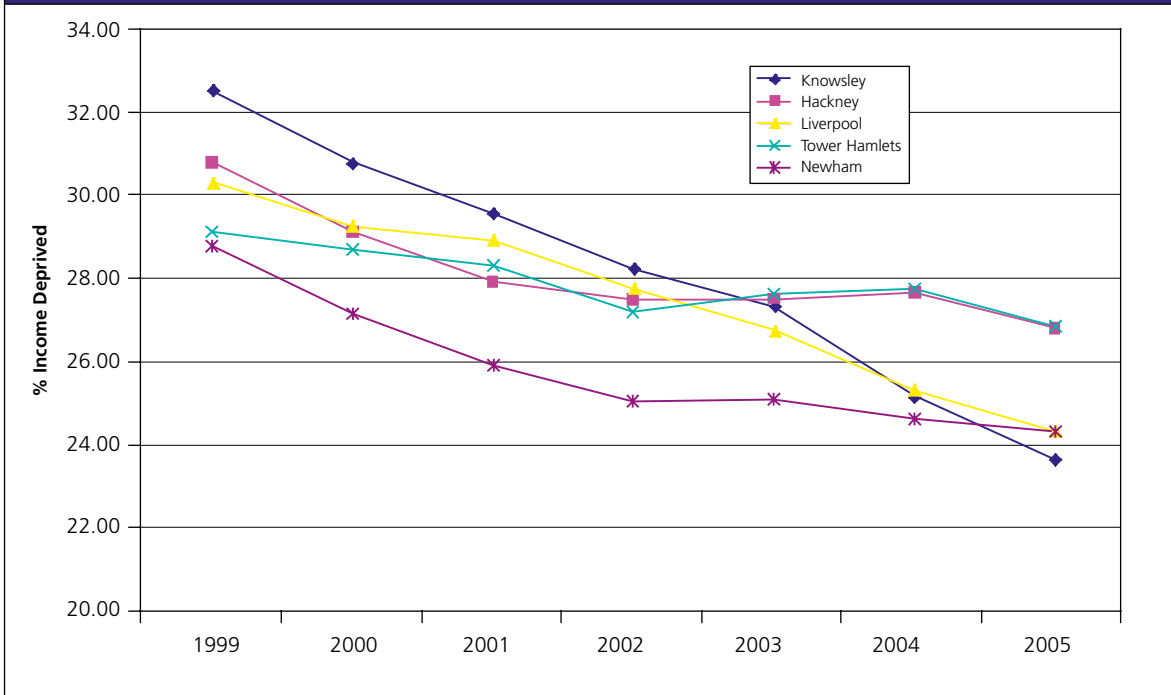
The position is quite different in relation to income deprivation (**Figure 4.6**). First it should be noted that the five most deprived authorities in 1999 are different to the employment deprived authorities in 1999. In particular London Boroughs (Hackney, Newham, and Tower Hamlets) feature prominently. It is apparent that Newham, Knowsley and Liverpool improve their position markedly over the period considered, while Hackney and Tower Hamlets see a smaller degree of improvement.

Figure 4.5: Trajectories of 5 most employment deprived Local authorities on EDI in 1999 – Absolute rates of employment deprivation



Source: SDRC, 2008

Figure 4.6: Trajectories of 5 most income deprived local authorities on EDI in 1999 – Absolute rates of income deprivation



Source: SDRC, 2008

Section 5

Change at LSOA level

For this section of the report LSOA level change between 2001 and 2005 is analysed. The reason for focussing on these years is that these are the time points respectively of the ID 2004 and the ID 2007. This section will, therefore, help to explain change in the spatial distribution of deprivation in the period between the two Indices of Deprivation. As in **Section 4**, the analysis will begin by examining change in relative deprivation as measured by the EDI over the period and then will consider absolute change in the two components of the EDI – Employment Deprivation and Income Deprivation over the period.

Change in Relative Economic Deprivation 2001 to 2005 at LSOA level

How are the most deprived LSOAs on the EDI distributed geographically?

Table 5.1 indicates the location by region of the LSOAs in the most deprived decile of the EDI at each time point from 2001 to 2005. The first part of the table indicates raw numbers whilst the second part of the table shows the percentage of a region's LSOAs in the most deprived national decile for each point in time. Whereas in numerical terms the North West has the greatest number of deprived LSOAs at each time point, in percentage terms the North East (followed by the North West) have the highest rates of their LSOAs falling into the most deprived decile nationally.

Table 5.1: Location of the LSOAs in the most deprived national decile of the EDI by Region 2001-2005					
	Raw Numbers				
	2001	2002	2003	2004	2005
North East	461	441	420	408	385
North West	922	933	913	894	878
Yorkshire and The Humber	486	481	474	439	430
East Midlands	217	209	207	188	189
West Midlands	451	451	448	463	486
East of England	84	81	84	100	104
London	433	449	486	543	555
South East	86	95	98	101	98

Table 5.1: Location of the LSOAs in the most deprived national decile of the EDI by Region 2001-2005 *(Continued)*

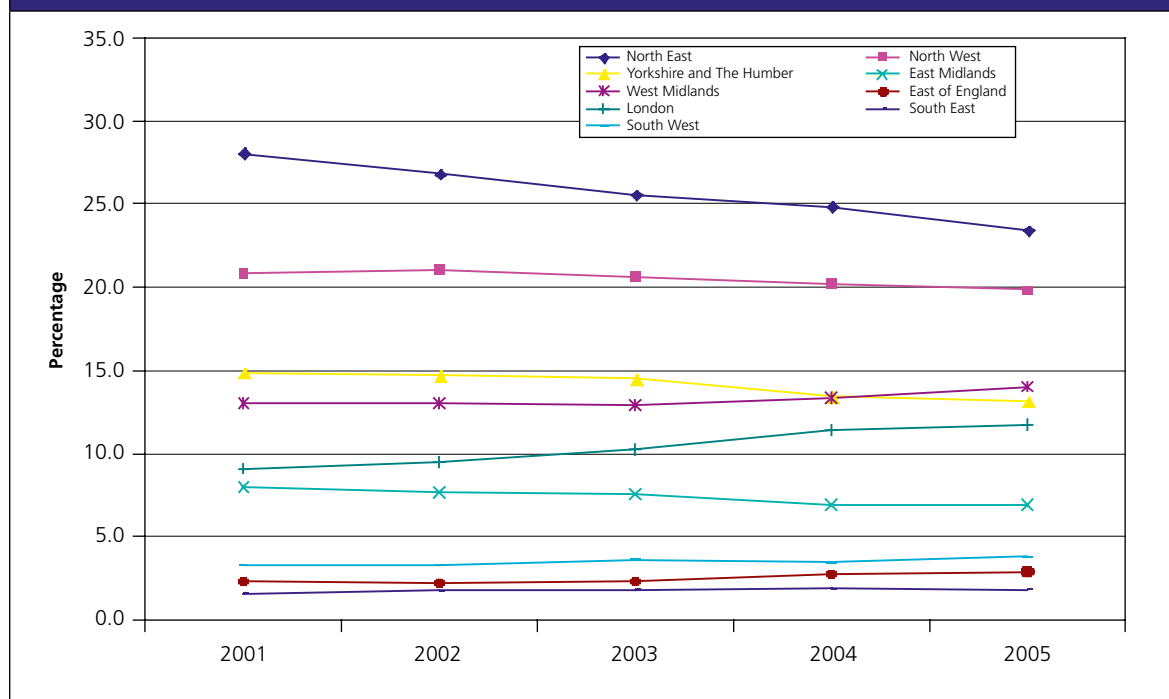
South West	108	108	118	112	123
Percentages					
	2001	2002	2003	2004	2005
North East	27.8	26.6	25.4	24.6	23.2
North West	20.7	20.9	20.5	20.0	19.7
Yorkshire and The Humber	14.8	14.6	14.4	13.3	13.1
East Midlands	7.9	7.7	7.6	6.9	6.9
West Midlands	13.0	13.0	12.9	13.3	14.0
East of England	2.4	2.3	2.4	2.8	2.9
London	9.1	9.4	10.2	11.4	11.6
South East	1.6	1.8	1.8	1.9	1.8
South West	3.3	3.3	3.7	3.5	3.8

Source: SDRC, 2008

Figure 5.1 also shows the percentage of LSOAs in each region that fall into the most deprived LSOAs nationally. This clearly shows that between 2001 and 2005 the North East improved as a smaller percentage of its LSOAs were in the most deprived decile in 2005 than was the case in 2001. Nevertheless even with this reduction of 4.6 percentage points it still had the highest percentage of LSOAs in the most deprived decile in 2005.

While the North East saw its relative position improve over the period, the West Midlands and London experienced a shift in the other direction. The percentage of LSOAs in the West Midlands in the most deprived decile increased by 1 percentage point to 14 per cent. For London the increase was more dramatic – from 9.1 per cent of its LSOAs in the most deprived decile in 2001 to 11.6 per cent in 2005.

Figure 5.1: Percentage of a Region's LSOAs in the most deprived national decile of the EDI 2001-2005



Source: SDRC, 2008

Table 5.2 shows those local authorities with at least 25 per cent of their LSOAs in the most deprived national decile on the EDI in 2001 and further shows the percentages for each subsequent year to 2005. The final column of the table gives the percentage point change and indicates the extent to which the local authority has improved its position – a negative percentage point change indicating a fall in the percentage of its LSOAs in the most deprived decile over the period and thus showing improvement in relative terms. As can be seen most of the 'improvers' are in the North East or North West with the largest 'improvers' being in the North East. The local authorities with the largest percentage point increases of the most deprived LSOAs are Hackney, Haringey and Tower Hamlets – all in London.

Table 5.2: Percentage of a local authority's LSOAs in the most deprived decile of LSOAs nationally in 2001 and the percentage of its LSOAs in the most deprived decile for each subsequent year (top 31 authorities shown)

	Region	2001	2002	2003	2004	2005	Percentage Point Change between 2001 and 2005
Easington	North East	55.6	57.1	58.7	55.6	49.2	-6.3
Liverpool	North West	55.3	55.7	53.6	52.6	51.5	-3.8
Knowsley	North West	53.5	51.5	53.5	50.5	48.5	-5.1
Manchester	North West	50.2	51.4	49.4	45.9	42.1	-8.1
South Tyneside	North East	45.6	44.7	36.9	35.0	32.0	-13.6
Middlesbrough	North East	44.3	43.2	43.2	45.5	42.0	-2.3
Tower Hamlets	London	41.5	36.9	42.3	47.7	48.5	6.9
Hartlepool	North East	41.4	43.1	41.4	41.4	41.4	0.0
Kingston upon Hull, City of	Yorkshire and The Humber	39.3	36.2	35.0	33.7	35.6	-3.7
Hackney	London	37.2	40.9	43.1	47.4	47.4	10.2
Sunderland	North East	35.1	33.0	33.5	29.3	28.7	-6.4
Salford	North West	34.0	34.0	32.6	31.9	31.9	-2.1
Birmingham	West Midlands	33.2	31.4	32.4	33.5	34.0	0.8
Newcastle upon Tyne	North East	32.9	31.2	29.5	28.3	28.3	-4.6
Halton	North West	32.9	34.2	31.6	29.1	29.1	-3.8
Stoke-on-Trent	West Midlands	32.5	33.8	31.3	30.6	30.6	-1.9
Gateshead	North East	31.7	27.0	24.6	22.2	19.8	-11.9
Wear Valley	North East	31.0	28.6	28.6	28.6	28.6	-2.4
Nottingham	East Midlands	30.1	27.3	25.6	23.9	22.7	-7.4
Wirral	North West	28.5	27.5	26.1	25.6	25.1	-3.4
Hastings	South East	28.3	28.3	30.2	26.4	24.5	-3.8

Table 5.2: Percentage of a local authority's LSOAs in the most deprived decile of LSOAs nationally in 2001 and the percentage of its LSOAs in the most deprived decile for each subsequent year (top 31 authorities shown)
(Continued)

	Region	2001	2002	2003	2004	2005	Percentage Point Change between 2001 and 2005
Barrow-in-Furness	North West	28.0	30.0	30.0	30.0	30.0	2.0
St. Helens	North West	28.0	26.3	26.3	26.3	25.4	-2.5
Redcar and Cleveland	North East	27.2	29.3	27.2	26.1	25.0	-2.2
Wansbeck	North East	26.8	26.8	24.4	31.7	29.3	2.4
Sedgefield	North East	26.8	30.4	28.6	26.8	25.0	-1.8
Islington	London	26.3	28.8	28.0	29.7	28.0	1.7
Wolverhampton	West Midlands	25.9	25.9	24.1	24.1	28.5	2.5
Barnsley	Yorkshire and The Humber	25.9	24.5	24.5	24.5	23.1	-2.7
Haringey	London	25.7	27.1	28.5	31.3	31.9	6.3
Blackburn with Darwen	North West	25.3	25.3	24.2	23.1	25.3	0.0

Source: SDRC, 2008

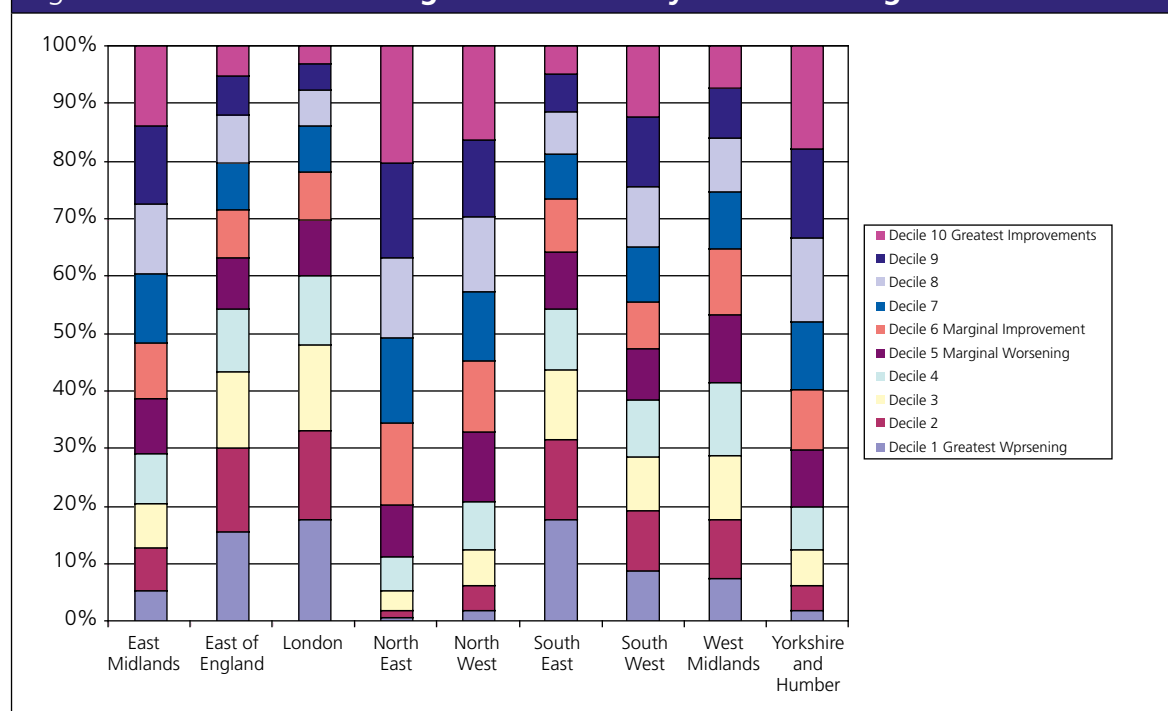
Which LSOAs have become relatively more or less deprived between 2001 and 2005?

The analysis so far has looked at the trajectories of those LSOAs in the most deprived decile of the EDI 2001 over time. It is also instructive to look at change in deprivation in LSOAs more generally and to look at the extent to which there are any geographic patterns to the change.

This analysis is undertaken by looking at the change in rank of each LSOA on the EDI between 2001 and 2005 by region. If this rank change is translated into deciles, the extent of 'improvement' ie reducing deprivation and 'worsening' ie increasing deprivation can be measured. Deciles 1 to 5 represent LSOAs with worsening relative deprivation with deciles 6 to 10 being 'improvers'. LSOAs showing the most improvement are represented in decile 10, whilst decile 1 contains LSOAs showing the greatest increases in deprivation.

These deciles are shown in **Figure 5.2** for each Region. The overall improving relative position of the North East and the worsening relative position of London over the period 1999 to 2005 are again highlighted.

Figure 5.2: LSOA Rank Change 2001 to 2005 by Decile and Region



Source: SDRC, 2008

This picture is also reflected at local authority level. **Table 5.3** and **Table 5.4** show the local authorities in London and the North East and show the percentage of each authority's LSOAs which are in the decile showing the greatest rank improvement in relative deprivation between 2001 and 2005.

The differences are striking. Whereas London's 'greatest improver' – Westminster – had just 11 per cent of its LSOAs in the 'greatest improvement' decile, in the North East, North Tyneside had 36 per cent of its LSOAs in this category. Some of the more deprived London Boroughs eg Hackney, Newham and Haringey had only 1 per cent of their LSOAs in the 'greatest improvement' decile.

Table 5.3: Percentage of local authority's LSOAs among the 'greatest improvers' – London Region

Local Authority	Percentage of local authority's LSOAs among the 'greatest improvers'
Westminster	11
Camden	8
Havering	7
Southwark	5
Tower Hamlets	5
Kensington and Chelsea	4
Hammersmith and Fulham	4
Richmond upon Thames	4
Greenwich	3
Redbridge	3
Ealing	3
Bromley	3
Hounslow	3
Wandsworth	3
Barnet	3
Sutton	2
Brent	2
Croydon	2
Harrow	2
Kingston upon Thames	2
Bexley	2
Hillingdon	2
Lambeth	2
Islington	2
Enfield	2
Merton	2
Hackney	1
Lewisham	1
Barking and Dagenham	1
Haringey	1
Waltham Forest	1
Newham	1
City of London	0

Source: SDRC, 2008

Table 5.4: Percentage of local authority's LSOAs among the 'greatest improvers' – North East Region

Local Authority	Percentage of local authority's LSOAs among the 'greatest improvers'
North Tyneside	36
Newcastle upon Tyne	31
Castle Morpeth	30
Teesdale	25
Hartlepool	24
Durham	22
Tynedale	21
Gateshead	21
Chester-le-Street	21
Sunderland	20
Redcar and Cleveland	20
Stockton-on-Tees	19
South Tyneside	18
Derwentside	18
Blyth Valley	15
Middlesbrough	14
Darlington	13
Sedgefield	13
Berwick-upon-Tweed	12
Easington	8
Wear Valley	7
Alnwick	6
Wansbeck	2

Source: SDRC, 2008

Changes in Absolute Levels of income and employment deprivation 2001 to 2005 at LSOA level

The LSOA level analyses of economic deprivation using the changes in ranks of the EDI at the various time points between 2001 and 2005 permit the measurement of changes in relative deprivation over the time period. Because the EDI score is not a linear measure comparable over time it cannot be used to measure absolute change in deprivation. To measure absolute change, analysis must be undertaken of the component domains of the

EDI separately. Some analysis of absolute change was presented at local authority level in **Section 4**. The following takes that analysis further.

Table 5.5 sets the context by presenting the average rates of employment deprivation and income deprivation for each decile of the EDI¹³ at each time point. As can be seen for both employment and income deprivation there is a reduction in deprivation for almost every time point and decile. However the change is more marked in the more deprived deciles.

Table 5.5: Rates of income deprivation and employment deprivation for each decile of LSOAs based on the EDI 2001 to 2005					
<i>Employment Deprivation</i>					
Decile	2001	2002	2003	2004	2005
1	2.7	2.8	2.8	2.7	2.7
2	4.2	4.3	4.2	4.1	4.0
3	5.3	5.3	5.2	5.1	5.0
4	6.3	6.4	6.3	6.1	6.0
5	7.6	7.5	7.4	7.2	7.2
6	8.9	8.9	8.8	8.6	8.6
7	10.8	10.8	10.7	10.4	10.4
8	13.4	13.3	13.1	12.8	12.8
9	17.3	17.0	16.8	16.4	16.4
10	25.3	24.8	24.4	23.6	23.5
<i>Income Deprivation</i>					
Decile	2001	2002	2003	2004	2005
1	1.6	1.5	1.5	1.4	1.3
2	2.9	2.8	2.7	2.5	2.5
3	4.1	3.9	3.8	3.6	3.5
4	5.4	5.2	5.1	4.8	4.8
5	7.2	6.9	6.8	6.5	6.4
6	9.6	9.3	9.3	8.9	8.7
7	12.9	12.6	12.4	11.9	11.7
8	17.6	17.3	17.2	16.6	16.2
9	24.5	23.9	23.7	22.8	22.3
10	36.7	35.9	35.6	34.3	33.5

Source: SDRC, 2008

Note: Decile 10 is the 'most deprived' decile

¹³ That is the deciles calculated on each of the EDI 2001, EDI 2002, EDI 2003, EDI 2004, and the EDI 2005.

Which are the LSOAs which show the most improvement over the period 2001 to 2005 and where are they located? **Tables 5.6** and **5.7** list the 20 LSOAs which show the greatest percentage point change in rates of employment deprivation. **Table 5.6** shows reductions in rates of employment deprivation – ‘improving LSOAs’, whilst **Table 5.7** shows percentage point increases – ‘worsening LSOAs’.

Table 5.6: Percentage point change in Employment Deprivation 2001 to 2005 at LSOA level – Improving LSOAs

LSOA Code	Region	Local Authority	Percentage point change
E01009638	West Midlands	Coventry	-22.8
E01011372	Yorkshire and The Humber	Leeds	-15.1
E01014490	South West	Bristol, City of	-15.0
E01006447	North West	Knowsley	-14.4
E01006749	North West	Liverpool	-13.0
E01011675	Yorkshire and The Humber	Leeds	-13.0
E01014656	South West	Bristol, City of	-12.8
E01006695	North West	Liverpool	-12.4
E01013946	East Midlands	Nottingham	-12.3
E01026545	East of England	Broadland	-12.2
E01006747	North West	Liverpool	-12.1
E01005201	North West	Manchester	-12.1
E01006109	North West	Trafford	-11.4
E01006704	North West	Liverpool	-11.4
E01000863	London	Camden	-11.3
E01005240	North West	Manchester	-11.2
E01006752	North West	Liverpool	-11.1
E01008332	North East	Newcastle upon Tyne	-10.9
E01011679	Yorkshire and The Humber	Leeds	-10.6
E01008390	North East	Newcastle upon Tyne	-10.6

Source: SDRC, 2008

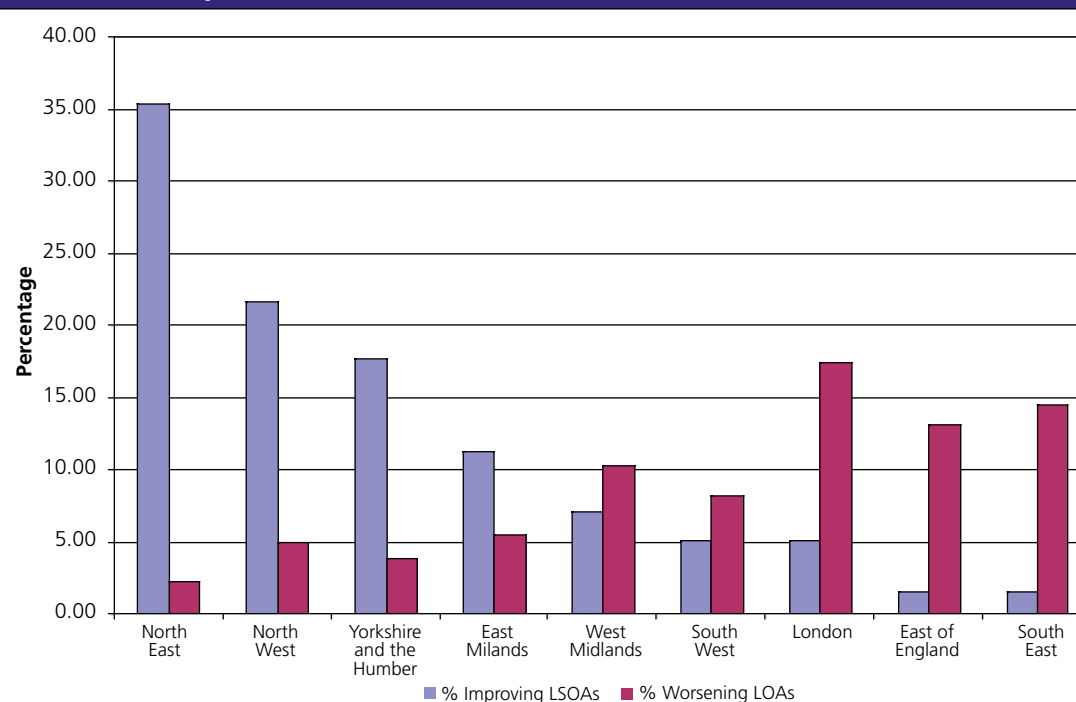
Table 5.7: **Percentage point change in employment deprivation 2001 to 2005 at LSOA level – worsening LSOAs**

LSOA Code	Region	Local Authority	Percentage point change
E01007093	North West	Sefton	15.0
E01002037	London	Haringey	14.0
E01003934	London	Southwark	12.3
E01005655	North West	Salford	12.3
E01009493	West Midlands	Birmingham	11.4
E01000482	London	Brent	11.2
E01008703	North East	Sunderland	10.2
E01016111	South East	Medway	10.2
E01005482	North West	Rochdale	10.0
E01012070	North East	Middlesbrough	8.4
E01020937	South East	Eastbourne	7.8
E01026760	East of England	North Norfolk	7.7
E01015842	East of England	Southend-on-Sea	7.4
E01032245	West Midlands	Redditch	7.4
E01016421	South East	Reading	7.2
E01005466	North West	Rochdale	7.2
E01012893	Yorkshire and The Humber	Kingston upon Hull, City of	7.2
E01001847	London	Hackney	7.1
E01004628	London	Wandsworth	6.8
E01003672	London	Redbridge	6.1

Source: SDRC, 2008

Of course, simply reporting the location of the ‘worsening’ or ‘improving’ LSOAs in terms of absolute employment deprivation does not convey the full picture of how these LSOAs are regionally distributed. **Figure 5.3** presents this information in respect of the 10 per cent of LSOAs showing the greatest percentage point reduction (‘improving’) and the 10 per cent of LSOAs showing the greatest percentage point increase (‘worsening’) in terms of rates of employment deprivation over the period 2001-2005. The figure shows the percentage of a region’s LSOAs that fall into each of these categories.

Figure 5.3: The regional distribution of the 10% of LSOAs showing the greatest percentage point improvement and the 10% of LSOAs showing the greatest percentage point 'worsening' in respect of employment deprivation 2001-2005



Source: SDRC, 2008

This shows that in absolute terms (as was the case in relative terms for economic deprivation in general), the North East followed by the North West contain the greatest proportions of improving LSOAs in respect of employment Deprivation, while London and the South East have the greatest proportions of worsening LSOAs in respect of employment deprivation. So for example, if we consider the North East, just over 35 per cent of its LSOAs are in the ten percent most 'improving' LSOAs nationally (shown in blue in the figure).

Tables 5.8 and 5.9 present the 20 LSOAs which show the greatest percentage point change in rates of income deprivation. **Table 5.8** shows reductions in rates of income deprivation – 'improving LSOAs', whilst **Table 5.9** shows percentage point increases – 'worsening LSOAs'.

Table 5.8: Percentage point change in income deprivation 2001 to 2005 at LSOA level – improving LSOAs

LSOA Code	Region	Local Authority	Percentage point change
E01011361	Yorkshire and The Humber	Leeds	-23.0
E01009638	West Midlands	Coventry	-21.8
E01008013	Yorkshire and The Humber	Sheffield	-21.6
E01013946	East Midlands	Nottingham	-19.5
E01011372	Yorkshire and The Humber	Leeds	-18.2
E01006493	North West	Knowsley	-18.2
E01006447	North West	Knowsley	-18.2
E01005201	North West	Manchester	-18.0
E01006749	North West	Liverpool	-17.7
E01011375	Yorkshire and The Humber	Leeds	-17.2
E01007119	North West	Wirral	-17.2
E01011675	Yorkshire and The Humber	Leeds	-17.1
E01030210	East of England	Suffolk Coastal	-16.7
E01008623	North East	South Tyneside	-16.5
E01025528	North West	West Lancashire	-16.5
E01006662	North West	Liverpool	-16.2
E01012265	North East	Stockton-on-Tees	-16.2
E01008930	West Midlands	Birmingham	-15.8
E01009148	West Midlands	Birmingham	-15.8
E01011105	Yorkshire and The Humber	Kirklees	-15.6

Source: SDRC, 2008

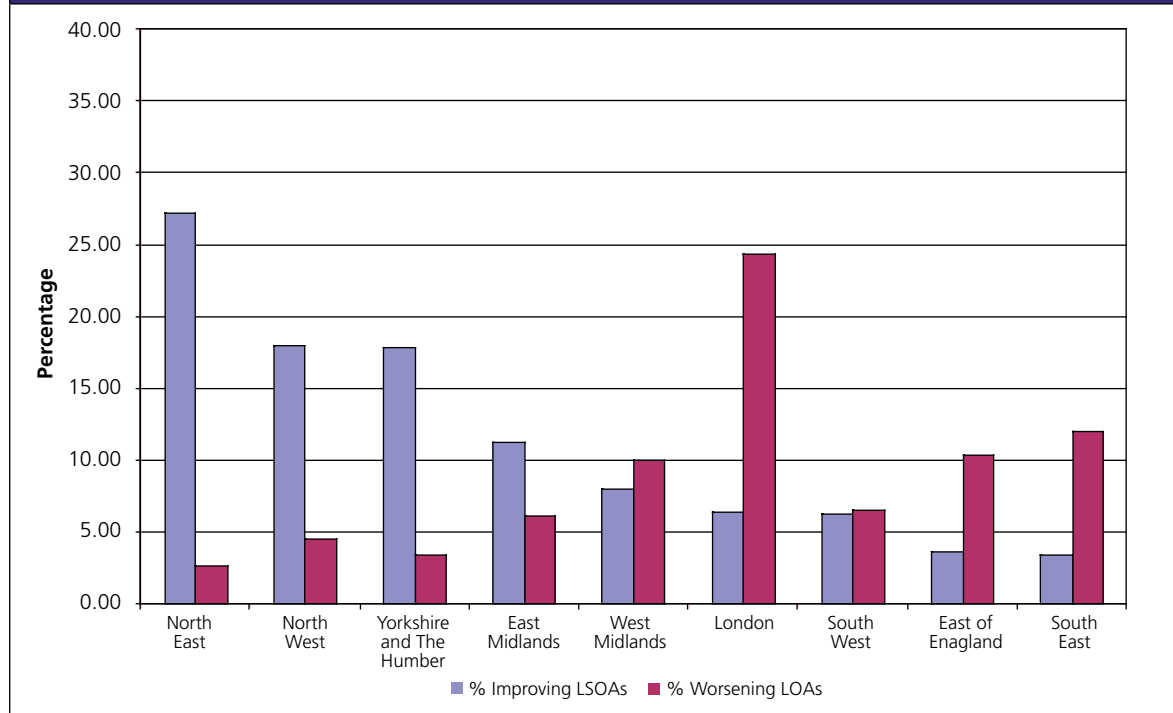
Table 5.9: **Percentage point change in income deprivation 2001 to 2005 at LSOA level – worsening LSOAs**

LSOA Code	Region	Local Authority	Percentage point change
E01000482	London	Brent	16.4
E01013754	East Midlands	Leicester	15.2
E01005655	North West	Salford	14.8
E01009493	West Midlands	Birmingham	13.1
E01001486	London	Enfield	12.6
E01021260	East of England	Basildon	12.0
E01003245	London	Lewisham	11.7
E01002228	London	Harrow	11.7
E01001321	London	Ealing	10.9
E01000076	London	Barking and Dagenham	10.9
E01002037	London	Haringey	10.8
E01001466	London	Enfield	10.6
E01018233	East of England	South Cambridgeshire	10.5
E01003934	London	Southwark	10.5
E01000262	London	Barnet	10.3
E01013755	East Midlands	Leicester	10.2
E01002495	London	Hillingdon	10.0
E01025219	North West	Pendle	9.6
E01001930	London	Hammersmith and Fulham	9.4
E01000499	London	Brent	9.3

Source: SDRC, 2008

Figure 5.4 presents the regional distribution of the decile of LSOAs which show improvement and worsening in absolute terms in respect of income deprivation. This shows a similar position to that revealed in **Figure 5.3** in respect of employment deprivation. However, London has a higher percentage of its LSOAs worsening on the income deprivation domain than it does on the employment deprivation domain, while the opposite is true for the North East.

Figure 5.4: The regional distribution of the 10% of LSOAs showing the greatest percentage point improvement and the 10% of LSOAs showing the greatest percentage point 'worsening' in respect of income deprivation 2001-2005



Source: SDRC, 2008

Section 6

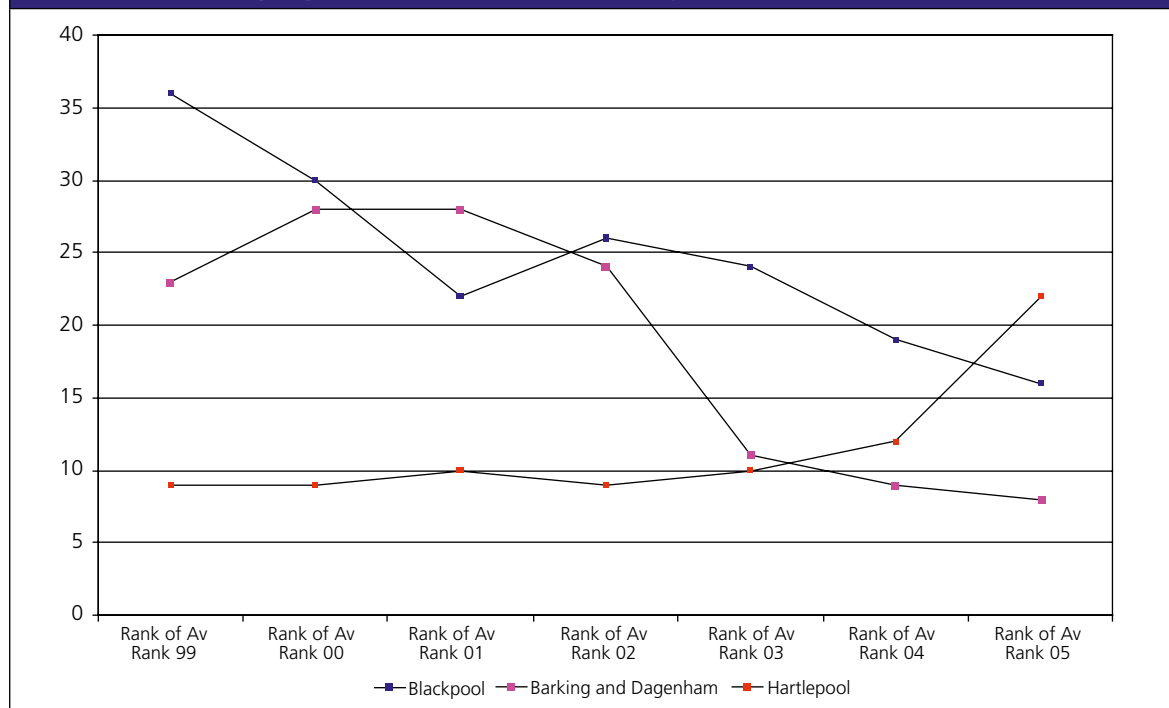
Focusing on Places: Hartlepool, Blackpool, and Barking and Dagenham

The analysis presented so far has highlighted differential levels of change both between and within different local authorities.

This section looks in more depth at the nature of change in levels of economic deprivation within areas by considering three case studies: Hartlepool, Blackpool, and Barking and Dagenham. All three local authorities are areas of considerable disadvantage but have nevertheless followed different trajectories between 1999 and 2005.

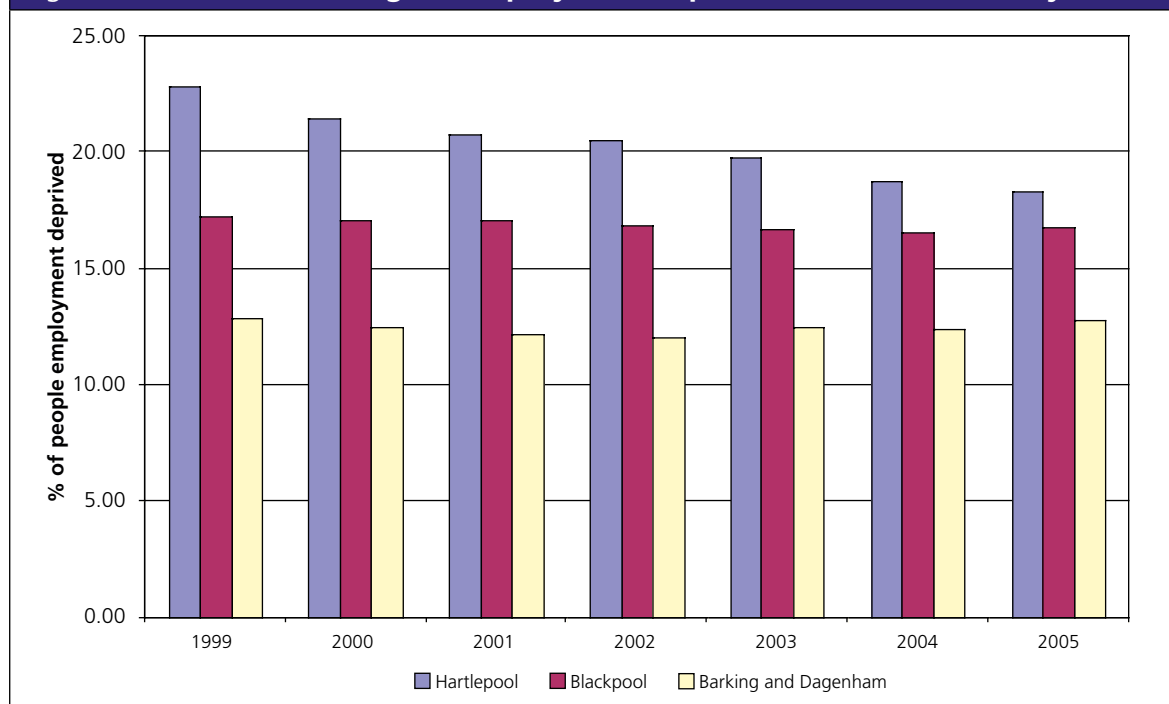
Hartlepool has been selected because, despite being one of the most deprived local authorities on the EDI in 1999 (the ninth most deprived on the 'average rank' measure) its relative position had improved between 1999 and 2005 dropping to 22nd most deprived by 2005 (see **Figure 6.1**).

In contrast, Blackpool and Barking and Dagenham have both shown deteriorating levels of economic deprivation relative to the rest of the country between 1999 and 2005. Barking and Dagenham became relatively less deprived until 2001 after which it has become relatively more deprived and in 2005 it was the eighth most deprived local authority in England on the 'average rank' measure. Blackpool, despite a brief upturn in 2002 has also become relatively more deprived on this measure.

Figure 6.1: **Changing Deprivation in case study authorities (1 = most deprived)**

Source: SDRC, 2008

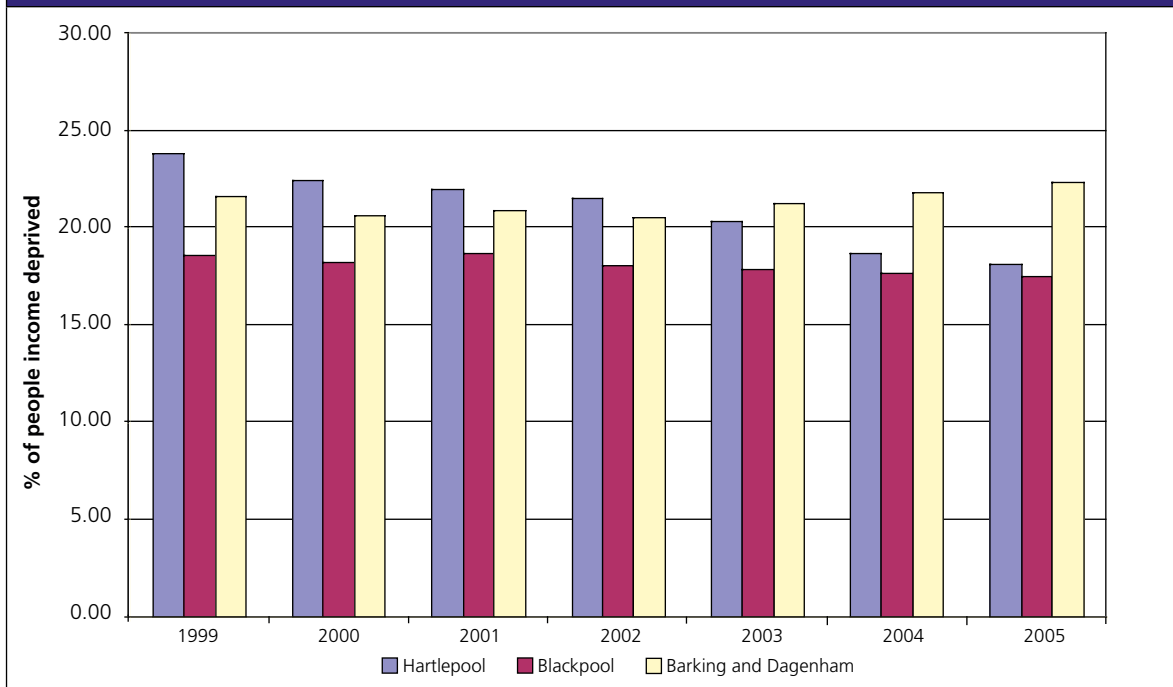
It is also important to look at the absolute positions of the case study local authorities over the period under review. **Figures 6.2 and 6.3** examine absolute change in both employment and income deprivation.

Figure 6.2: **Absolute change in employment deprivation in the case study areas**

Source: SDRC, 2008

In terms of employment deprivation (**Figure 6.2**) Hartlepool demonstrates a clear improvement over the period whereas Blackpool shows very little improvement. Barking and Dagenham shows improvement until 2002 and thereafter its position deteriorates. The position is similar to that on income deprivation (**Figure 6.3**).

Figure 6.3: Absolute change in income deprivation in the case study areas



Source: SDRC, 2008

Hartlepool

As **Figure 6.1** showed Hartlepool remained one of the ten most deprived local authorities on the EDI average rank measure until 2003. After that point the level of relative deprivation rapidly began to reduce and in 2005 the local authority was out with the twenty most deprived authorities on this measure.

This overall picture can be unpicked by examining the changing distribution of deprivation within Hartlepool at LSOA level. In order to explore this changing distribution the following analyses consider movements in and out of national deciles of deprivation. This process involves dividing all LSOAs in England into 10 equal groups on the basis of their EDI rank.

Map **Map 6.1** illustrates the 'starting point' – the distribution of deprivation in Hartlepool in 1999. Here each LSOA has been assigned a colour according to the national decile of deprivation it belongs to (based on its 1999 EDI rank). It can clearly be seen that LSOAs within the most deprived decile (ie decile 10), the dark blue areas, predominate and many other LSOAs, whilst not falling in the most deprived decile, do still fall into the most deprived 50 per cent of the national distribution (ie deciles 6-9). Just a single LSOA falls within decile 1, the least deprived (bright yellow), in 1999. Thus **Map 6.1** highlights the severe deprivation in Hartlepool relative to the rest of the country in 1999.

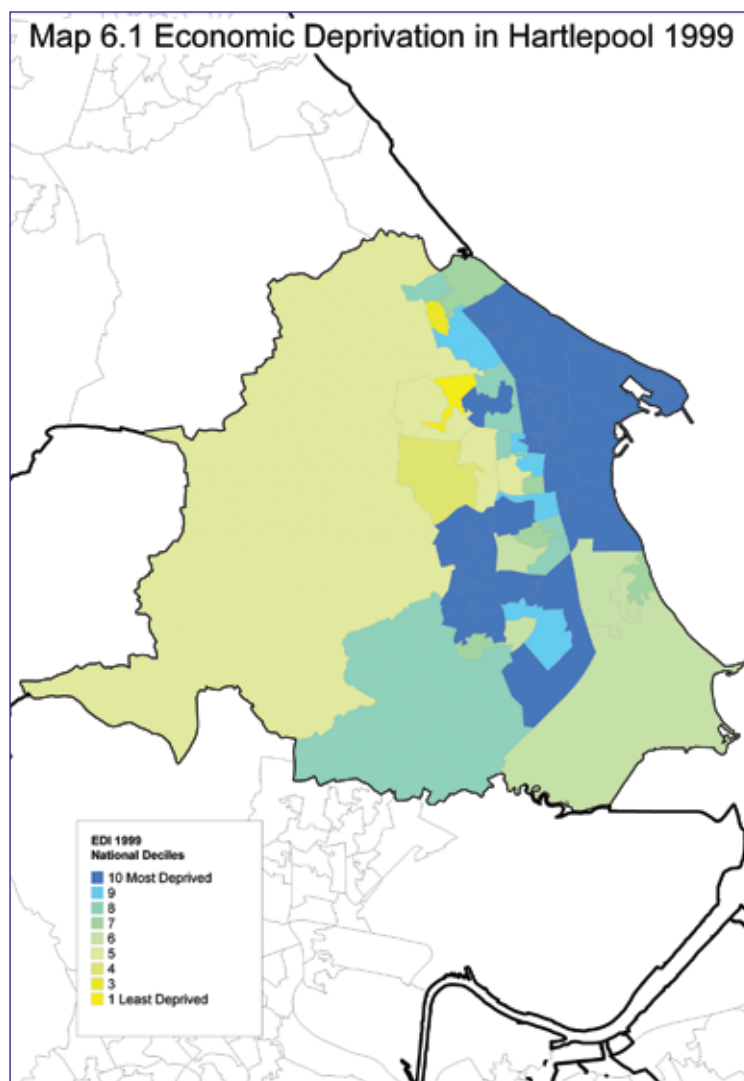


Table 6.1 shows the number of Hartlepool's LSOAs falling into each national decile. It shows that Hartlepool had a high proportion of its 58 LSOAs in the most deprived decile in 1999 (48%), however by 2005 this had reduced to 24 (41%). This is accompanied by some movement towards the less deprived deciles – in 1999 there were seven LSOAs in deciles 1 to 5, by 2005 this had increased to 10.

Table 6.1: Distribution of Hartlepool's LSOAs between the national deciles of the EDI 1999, 2001, 2003 and 2005

Deciles (least deprived to most deprived)	1999	2001	2003	2005
1	1	0	0	0
2	0	1	2	3
3	1	1	1	4
4	1	3	5	2
5	4	2	1	1
6	5	5	1	8
7	5	10	12	5
8	7	2	2	3
9	6	10	10	8
10	28	24	24	24
Total	58	58	58	58

Source: SDRC, 2008

Thinking specifically about movement of LSOAs out of the most deprived decile nationally and their destinations, **Table 6.2** demonstrates that 18 per cent had moved into decile 9 by 2005. None had moved into any other deciles.

Table 6.2: Destination of Hartlepool's LSOAs which were in the most deprived decile of the EDI 1999 in terms of national deciles of the EDI 2005

Decile	Number of LSOAs	Proportion of LSOAs
9	5	17.9
10	23	82.1

Source: SDRC, 2008

Although it is useful to explore changing levels of deprivation in this way it is also valuable to consider what these deciles represent in terms of actual rank change.

Figure 6.4 shows this change in ranks between 1999 and 2005. For ease of interpretation a positive rank change indicates an LSOA which has 'improved', ie become less relatively deprived in national terms whilst a negative rank change indicates an LSOA which has become relatively more deprived.

As can be seen most of Hartlepool's LSOAs have become relatively less deprived with five LSOAs having moved more than 6,000 places (out of 32,482), ie a considerable improvement. On the contrary only nine LSOAs have become relatively more deprived over the period.

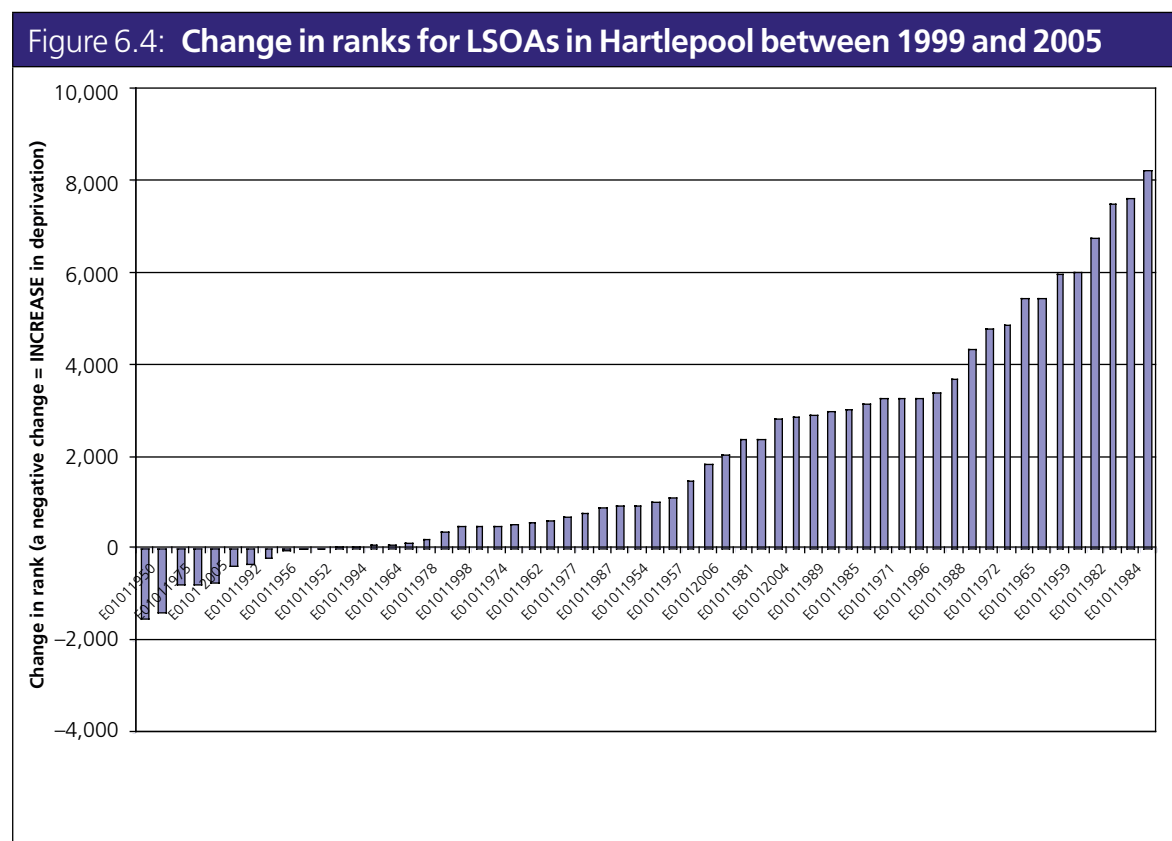
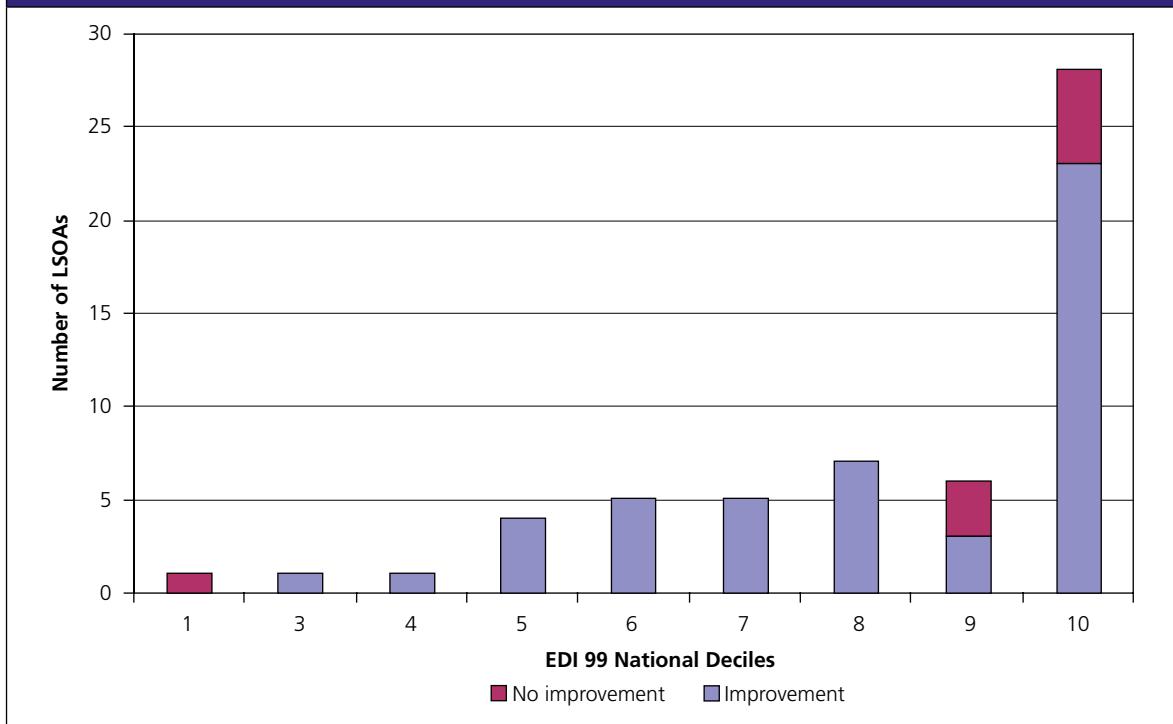


Figure 6.5: Hartlepool's LSOAs in EDI 1999 national deciles showing those which had improved by 2005

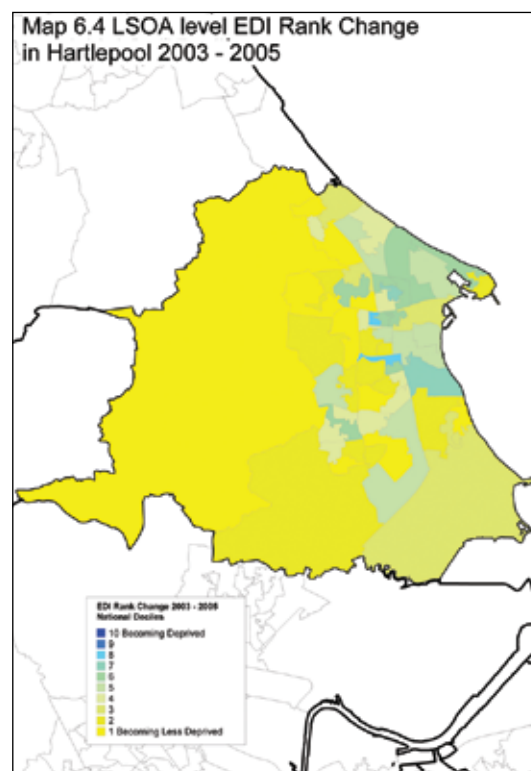
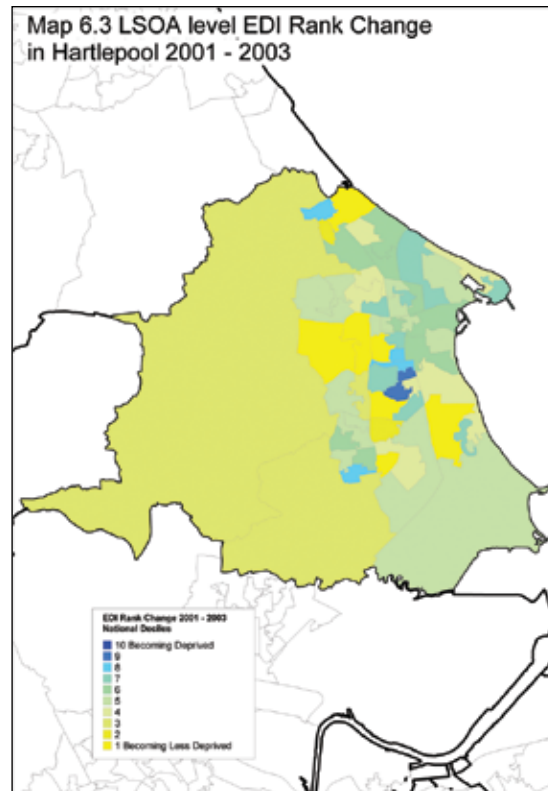
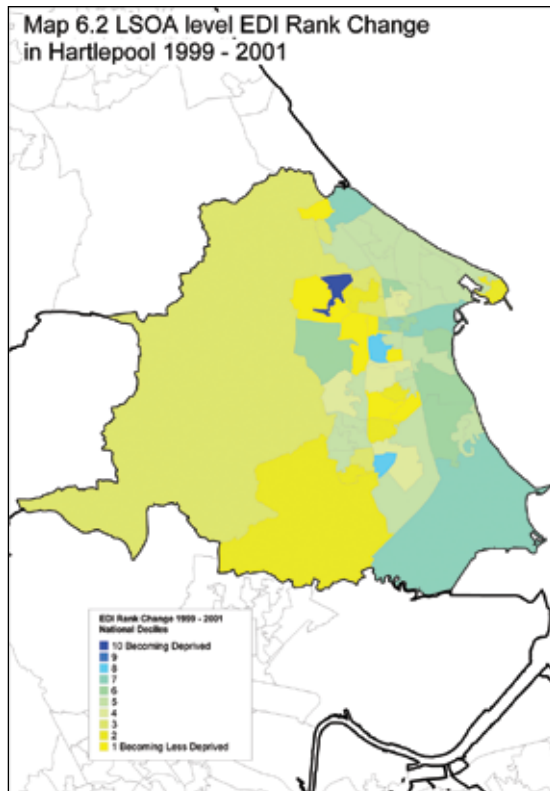


Source: SDRC, 2008

The greatest numbers of LSOAs in Hartlepool in 1999 were in the most deprived decile (28) and of these 23 had shown improvement by 2005. As can be seen from the chart improvement was not confined to the most deprived decile with all but the least deprived showing a relative reduction in economic deprivation.

Finally we return to maps in order to explore change in an alternative way. **Maps 6.2, 6.3 and 6.4** display change in all LSOAs in Hartlepool, over three periods 1999-2001, 2001-2003 and 2003-2005. In the maps levels of change for these three periods have been divided into deciles and each decile assigned a colour – bright yellow for the 'greatest improvers' (decile 1) and dark blue for LSOAs showing the greatest worsening of rank position relative to other LSOAs (decile 10).

These maps show a reduction in relative deprivation over the three time periods. A significant proportion of this change occurred since 2003.



Blackpool

As **Figure 6.1** showed Blackpool was the least deprived of the three case study areas as measured by the average rank of its LSOAs on the EDI 1999. At that point it ranked 36th most deprived local authority on this measure. However since that point the local authority overall has become more deprived. By 2005 it was at 16th position, one of the 20 most deprived local authorities on the 'average rank' measure of the EDI 2005 – its relative position having deteriorated over the intervening period despite an upturn in 2002.

Map 6.5 shows the distribution of deprivation in Blackpool in 1999 by decile. As with Hartlepool each LSOA has been assigned a colour according to the national decile of deprivation to which it belongs (based on its 1999 EDI rank). The largest number of LSOAs are within the most deprived decile (ie, decile 10), the dark blue areas, but there are also large numbers of LSOAs which, although not falling in the most deprived decile, do still fall within the most deprived 50 per cent of the national distribution (ie deciles 6-9). There are no LSOAs within deciles 1 or 2, the least deprived, but there is one LSOA in decile 3.

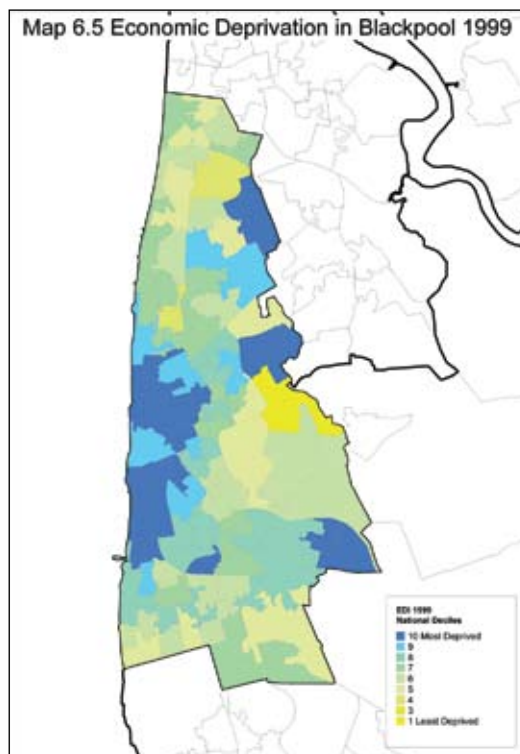


Table 6.4 shows the number of Blackpool's LSOAs falling into each national decile and shows that nearly a quarter of its 94 LSOAs were in the most deprived decile in 1999. This remains fairly constant over the six year period.

Table 6.4: Distribution of Blackpool's LSOAs between the national deciles of the EDI 1999, 2001, 2003 and 2005				
Deciles (least deprived to most deprived)	1999	2001	2003	2005
1	0	0	0	0
2	0	0	0	0
3	1	0	1	1
4	2	1	3	3
5	11	8	7	7
6	16	14	16	15
7	15	18	13	12
8	16	16	16	17
9	11	15	15	15
10	22	22	23	24
Total	94	94	94	94

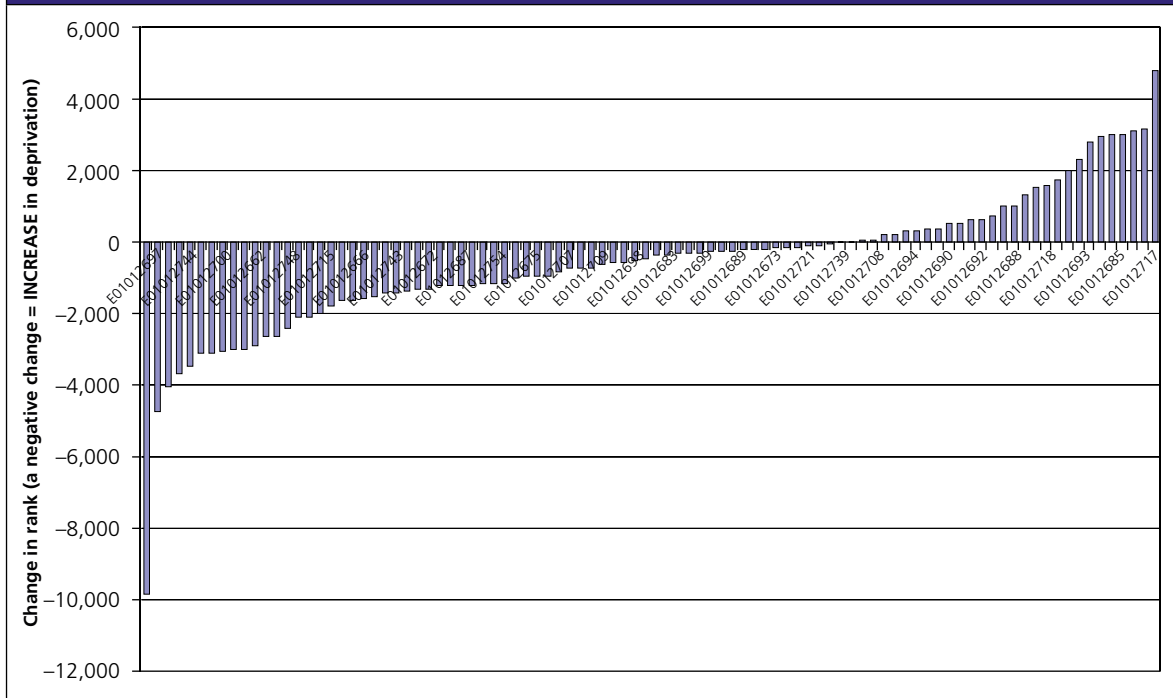
Source: SDRC, 2008

All 22 of the LSOAs in the most deprived decile on the EDI 1999 remain in that decile on the EDI 2005.

The apparent lack of change over the period presented in this analysis belies the actual increase in relative deprivation at individual LSOA level over the period, which is revealed by the change in ranks of LSOAs over the period. **Figure 6.6** shows this change in ranks between 1999 and 2005.

As can be seen nearly 70 per cent of Blackpool's LSOAs have become relatively more deprived with one LSOAs having deteriorated by nearly 10,000 places (9,847 places out of 32,482). Twenty-nine LSOAs have become relatively less deprived over the period.

Figure 6.6: Change in ranks for LSOAs in Blackpool between 1999 and 2005



Source: SDRC, 2008

Note: For ease of interpretation a positive rank change indicates an LSOA which has 'improved' ie become less relatively deprived in national terms whilst a negative rank change indicates an LSOA which has become relatively more deprived.

Figure 6.7 shows the number of Blackpool's LSOAs in each decile for the EDI 1999 and whether their rank position has improved (ie become less relatively deprived on the EDI). The 'improving' LSOAs are shown in blue. In contrast to Hartlepool, there are relatively few 'improving' LSOAs in the most deprived decile with improvement, such as it is, being greatest in the middle ranking deciles.

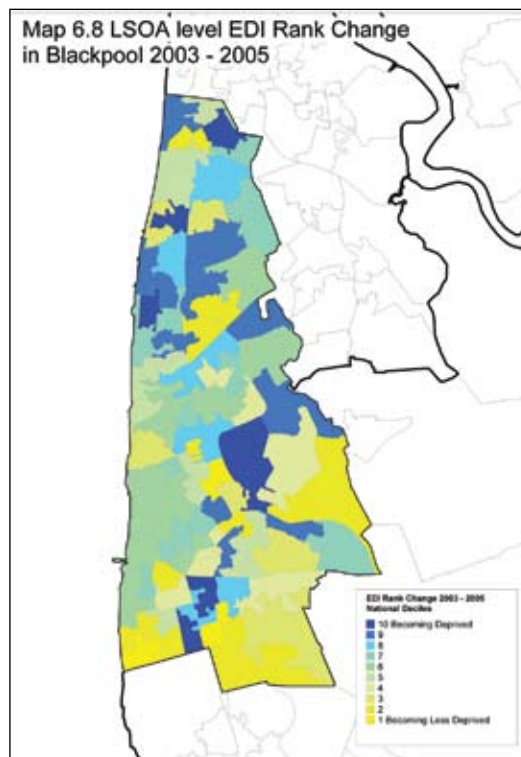
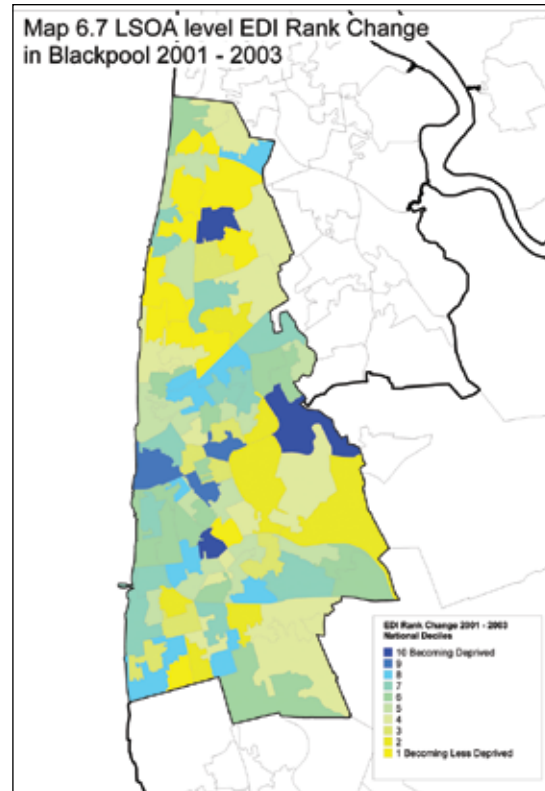
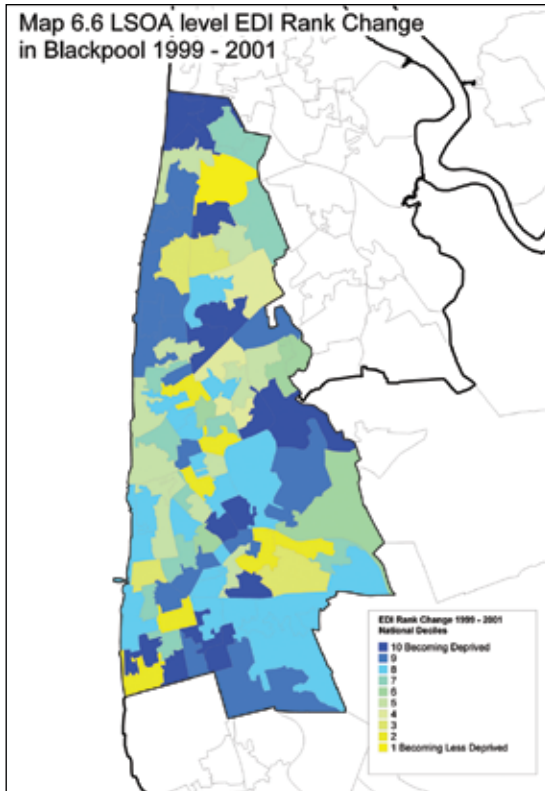
Figure 6.7: Blackpool's LSOAs in EDI 1999 national deciles showing those which had improved by 2005



Source: SDRC, 2008

Maps 6.6, 6.7 and 6.8 show change in all LSOAs in Blackpool, over three periods, 1999-2001, 2001-2003 and 2003-2005. In the maps levels of change for these three periods have been divided into deciles and each decile assigned a colour – bright yellow for the 'greatest improvers' (decile 1) and dark blue for LSOAs showing the least/negative change (decile 10).

In contrast to Hartlepool, the maps show a picture of worsening relative deprivation in the period 1999 to 2001 and in the period 2003 to 2005. In the middle period – from 2001 to 2003 some of the worsening areas show some relative improvement.



Barking and Dagenham

Figure 6.1 showed that Barking and Dagenham began in 1999 as the 23rd most deprived of all 354 local authorities as measured by the average rank of its LSOAs on the EDI 1999. This placed it as more deprived than Blackpool but not as deprived as Hartlepool. From 1999 to 2001 the relative deprivation in Barking and Dagenham as measured by 'average rank' on the EDI reduced slightly and remained relatively stable until 2002. After 2002 relative deprivation in the borough increased sharply and by 2005, Barking and Dagenham was the most deprived of the three case study areas – the eighth most deprived local authority in England as measured by the 'average rank' of its LSOAs on the EDI 2005.

As with the other two areas movements in and out of national deciles of deprivation over the time period are considered. This process involves dividing all LSOAs in England into 10 equal groups on the basis of their EDI rank.

Map 6.9 shows the distribution of deprivation in Barking and Dagenham in 1999 by decile. As with the other case study areas, each LSOA has been assigned a colour according to the national decile of deprivation to which it belongs (based on its 1999 EDI rank). In contrast to the other two case study areas, the largest number of LSOAs are within deciles 7, 8 and 9 (mid blues), with relatively few in the most deprived decile and none in the least deprived (bright yellow).

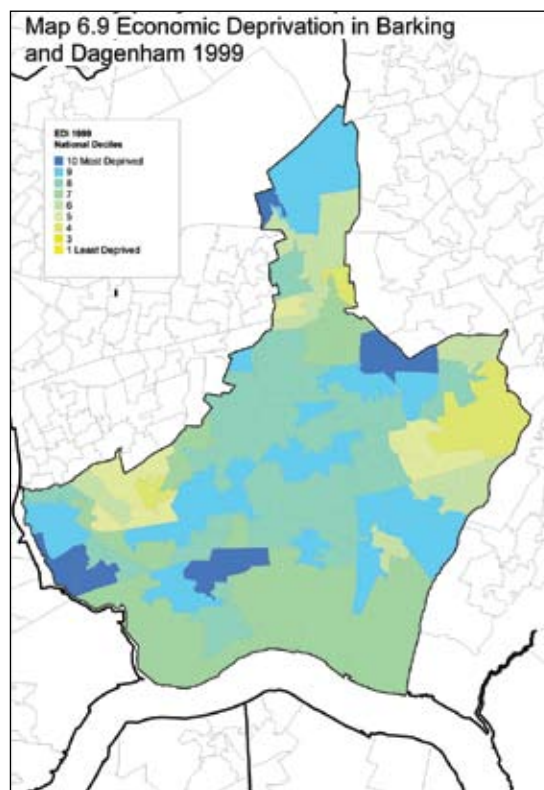


Table 6.5 shows the number of Barking and Dagenham's LSOAs falling into each national decile. It shows that around 30 per cent of the authority's 109 LSOAs were in the two most deprived deciles (deciles 9 and 10) in 1999. This proportion increases over the six year period and by 2005 54 per cent of its LSOAs are in these two most deprived deciles.

Table 6.5: Distribution of Barking and Dagenham's LSOAs between the national deciles of the EDI 1999, 2001, 2003 and 2005				
Deciles (least deprived to most deprived)	1999	2001	2003	2005
1	0	0	0	0
2	0	0	0	0
3	0	1	0	0
4	3	4	1	0
5	7	5	5	5
6	9	13	13	6
7	13	10	12	15
8	43	39	36	24
9	27	27	28	43
10	7	10	14	16
Total	109	109	109	109

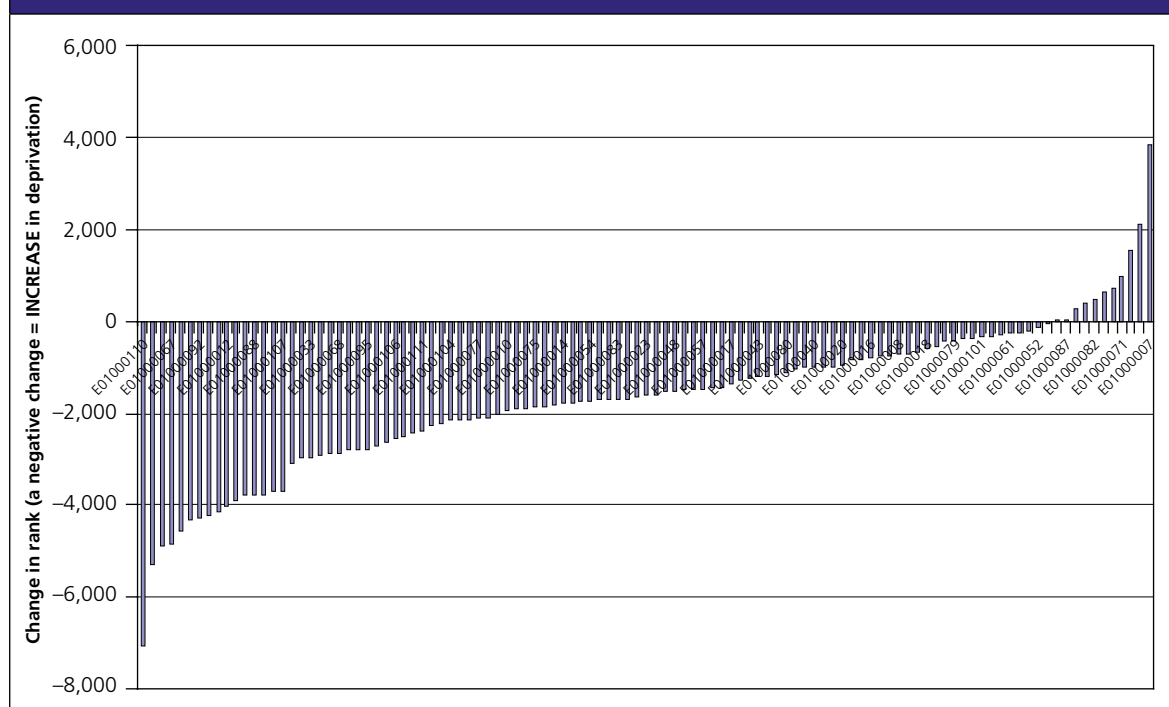
Source: SDRC, 2008

All seven of the LSOAs in the most deprived decile on the EDI 1999 remain in that decile on the EDI 2005, and were joined by nine further LSOAs.

This migration of LSOAs to the more deprived deciles by 2005 is reflected in the change in ranks of LSOAs over the period. **Figure 6.8** shows this change in ranks between 1999 and 2005 in chart form.

As can be seen around 90 per cent of Barking and Dagenham's LSOAs have become relatively more deprived by 2005. Thirty-five per cent of the LSOAs have become relatively more deprived by at least 2,000 rank places. Only 11 of its LSOAs have become relatively less deprived over the period.

Figure 6.8: **Change in ranks for LSOAs in Barking and Dagenham between 1999 and 2005**

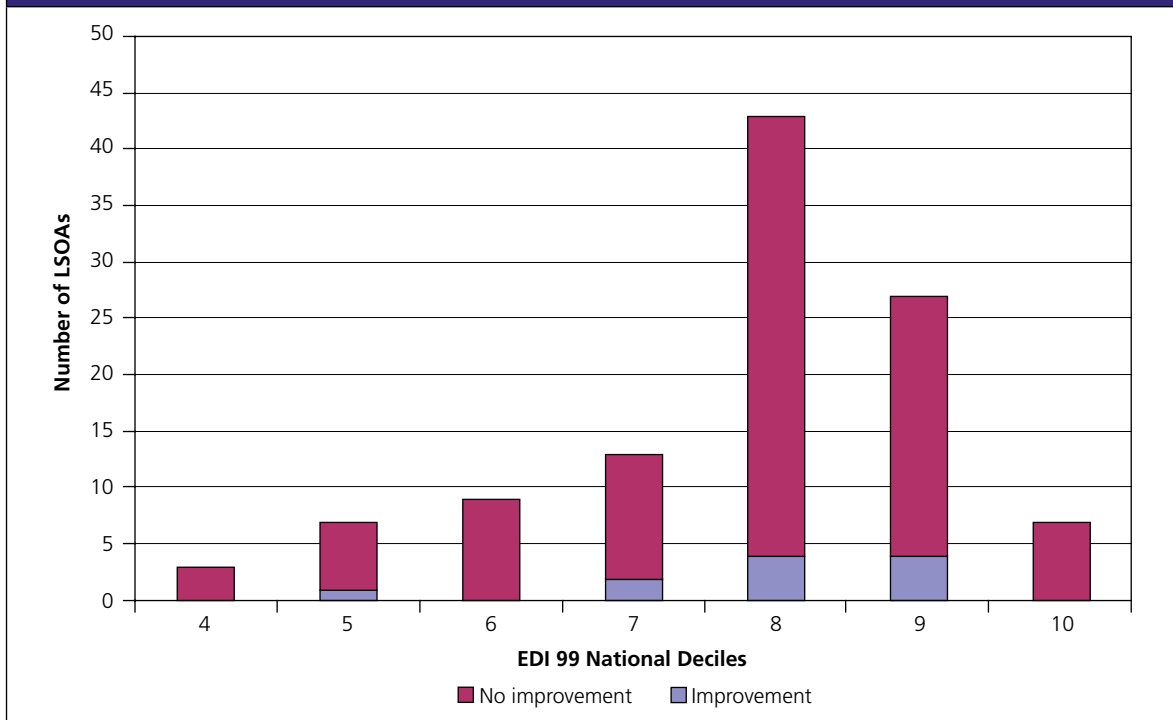


Source: SDRC, 2008

Note: For ease of interpretation a positive rank change indicates an LSOA which has 'improved' ie become less relatively deprived in national terms whilst a negative rank change indicates an LSOA which has become relatively more deprived.

Figure 6.9 shows these 11 'improving' LSOAs and the EDI 1999 decile to which they belong. There are no 'improving LSOAs' in the most deprived decile, the small improvements being restricted to deciles 5, 7, 8, and 9.

Figure 6.9: Barking and Dagenham's LSOAs in EDI 1999 national deciles showing those which had improved by 2005



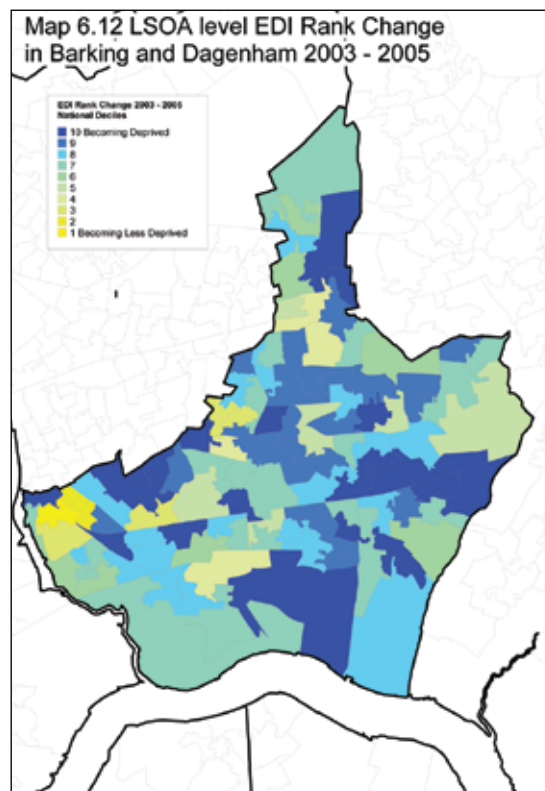
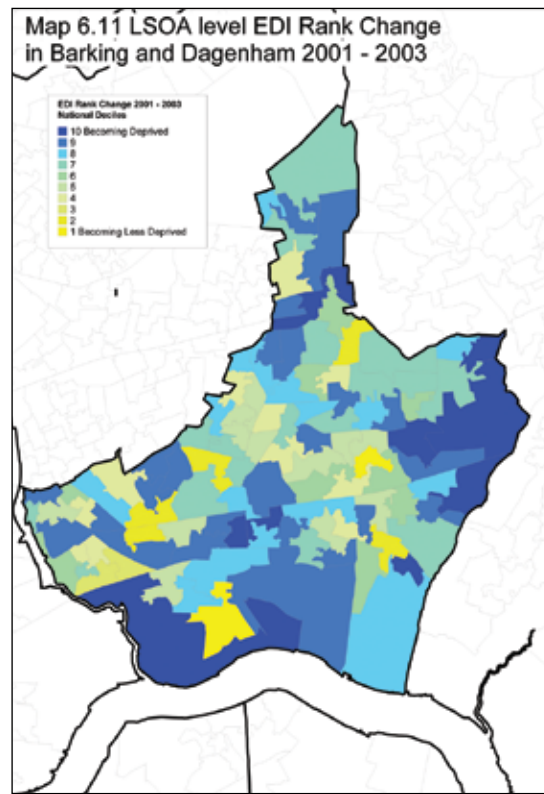
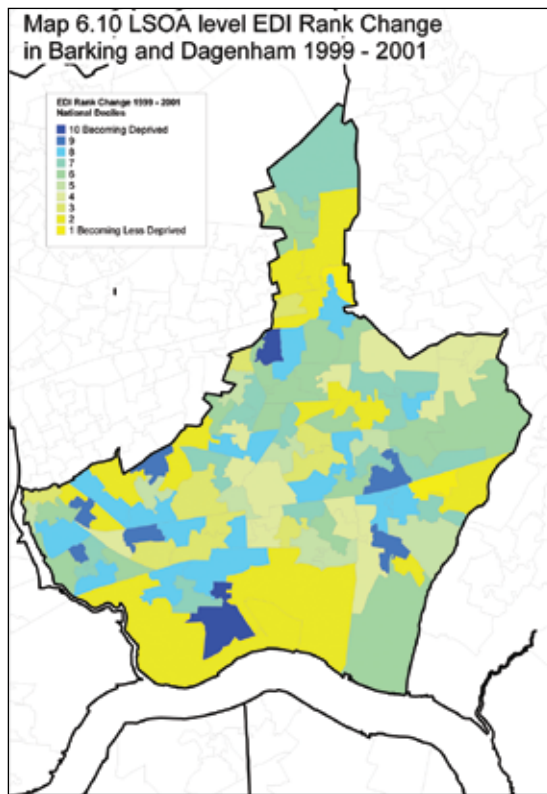
Source: SDRC, 2008

Maps 6.10, 6.11 and **6.12** display change in all LSOAs in Barking and Dagenham, over three periods, 1999-2001, 2001-2003 and 2003-2005. In the maps levels of change for these three periods have been divided into deciles and each decile assigned a colour – bright yellow for the 'greatest improvers' (decile 1) and dark blue for LSOAs showing the least/negative change (decile 10).

It can be seen from **Map 6.10** that a sizeable proportion of LSOAs in Barking and Dagenham were amongst the greatest improvers nationally in the 1999-2001 period. However, this picture had changed considerably by the 2001-2003 period shown in **Map 6.11**, where the increase in the number of LSOAs shaded blue indicates a relative worsening compared to other LSOAs in England.

It is apparent from the map that a number of LSOAs that fared very well in the 1999-2001 period subsequently declined in the 2001-2003 period. Indeed, two of the 109 LSOAs in the local authority registered changes in rank that placed them in decile 1 (ie the greatest improvers in the country) in the 1999-2001 period but then in decile 10 (ie the greatest worsening in the country) in the 2001-2003 period.

The number of LSOAs in the local authority that recorded changes in rank placing them in decile 10 in each year increased from a low of two LSOAs in the 1999-2001 period, to 10 LSOAs in the 2001-2003 period, and finally to 22 LSOAs in the 2003-2005 period. These figures thus support the findings presented above showing that Barking and Dagenham saw a notable worsening of LSOAs ranks, relative to the rest of the country from 2001 onwards.



Section 7

Conclusion

This report has focussed on the analysis of change in economic deprivation at neighbourhood level since 1999. A particular focus has been placed on tracking the most deprived neighbourhoods and on comparing changes between 2001 and 2005 so that change between the two time points of the ID 2004 and ID 2007 can be explored.

It should be stressed that this report is intended to be indicative of the kind of analyses that can be undertaken using the EDI rather than a definitive exploration of it.

Nevertheless there are clear messages which emerge. Both in terms of relative and absolute measures of deprivation, there is a clear regional effect. Reductions in relative deprivation since 2001 are predominantly located in the North East and North West and increases in relative deprivation in London, which on examination of time series data appears to arise from London's early 'peak' in terms of impacts on deprivation. These regional differences are reflected in much of the analyses, with London local authorities, or LSOAs located in London, tending to show lower levels of improvement than other areas since 2001.

In terms of absolute levels of deprivation, both income deprivation and employment deprivation have, in general, decreased between 2001 and 2005. However, at individual LSOA level it is clear that there have been both absolute reductions in deprivation and absolute increases in deprivation over the period 2001 to 2005 for both income and employment deprivation. As was the case for relative deprivation – LSOAs demonstrating reductions of deprivation (both income and employment) are most prevalent in the North East while LSOAs demonstrating increases in deprivation are most prevalent in London.

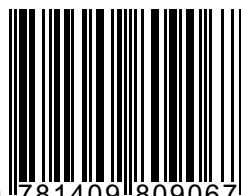
It is important to stress that the research presented in this report deals with only a small amount of the information contained within the EDI. The time series of indices provide a very powerful tool for examining how the geographical patterns of deprivation have changed in England since 1999. Further analysis performed on the dataset could, for example, investigate major drivers of changing deprivation using multivariate analysis.

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ISBN: 978-1-4098-0906-7

ISBN 978-1409809067



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