



Tracking Economic and Child Income Deprivation at Neighbourhood Level in England, 1999 – 2009

- This release presents the Economic Deprivation Index and the Children in Income Deprived households Index. These indices track levels of economic deprivation from 1999 to 2009 in small areas in England called Lower-layer Super Output Areas (LSOAs).
- Economic deprivation is not spread evenly across the country. In 2009, the proportion of people aged under 60 living in income-deprived households ranged from 0% to 71% across LSOAs. Employment deprivation rates were similarly wide-ranging.
- On average, income deprivation rates fell between 1999 and 2008, but increased between 2008 and 2009. The most deprived LSOAs saw the greatest decreases between 1999 and 2008 and the greatest increases from 2008 to 2009. The pattern was similar for employment deprivation.
- There was a wide spread in the distribution of child income deprivation rates across LSOAs, ranging from 2% to 98% in 2009.
- Five local authorities appear in the 10 most economically deprived local authorities nationally each year between 1999 and 2009: Hackney, Knowsley, Liverpool, Newham and Tower Hamlets.
- Similarly, there were seven consistently deprived local authorities in terms of child income deprivation: Tower Hamlets, Islington, Hackney, Newham, Manchester, Lambeth and Haringey.

13 December 2012

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Introduction

This Statistical Release presents key findings from the Economic Deprivation Index (EDI) and the Children in Income Deprived households Index (CIDI), hereafter referred to collectively as the 'economic deprivation indices'. These indices track neighbourhood-level deprivation each year from 1999 to 2009 on a consistent basis, taking account of changes to the tax and benefit systems over this period. They are produced using the same general methodology as the Income and Employment deprivation domains of the English Indices of Deprivation (with slightly narrower definitions of income and employment deprivation). As such, the economic deprivation indices complement the Indices of Deprivation 2010.

The Release considers how economic deprivation has changed in both relative and absolute terms over the period. As the time series extends to 2009, the economic deprivation indices give some perspective on changes to deprivation around the time of the onset of the economic downturn. The first part of this release reports on the Economic Deprivation Index and change in neighbourhoods over time in its component domains. In the second part, we explore the Children in Income Deprived households Index. Finally, we describe the implications of change in these indices at neighbourhood level for the overall deprivation levels of Local Authority Districts. The detailed data underlying this release is also available to download.

The economic deprivation indices were produced by the Social Disadvantage Research Centre (SDRC) at the University of Oxford. The work was commissioned by the Department for Communities and Local Government in July 2009, under the previous administration.

The Economic Deprivation Index

The Economic Deprivation Index (EDI) is an overall measure of economic deprivation experienced in an area and is calculated for every LSOA in England. LSOAs can be ranked according to their level of economic deprivation in each year to allow analysis of *relative* changes over time.

The EDI comprises two domains: the Income Deprivation Domain and the Employment Deprivation Domain. These are given equal weight in calculating the overall EDI. The two component domains allow analysis of both *absolute* and relative changes in income deprivation and employment deprivation over time at neighbourhood level.

The Income Deprivation Domain represents the proportion of people aged under 60 in an area that are living in low income households (more specifically, benefit units) that are claiming certain out-of-work means-tested social security benefits. This is also referred to as the income deprivation rate.

The Employment Deprivation Domain represents the proportion of people of working age in an area that are involuntarily excluded from the labour market and are claiming certain out-of-work social security benefits. This is also referred to as the employment deprivation rate.

National distribution of economic deprivation

Figure 1 Economic Deprivation Index 2009

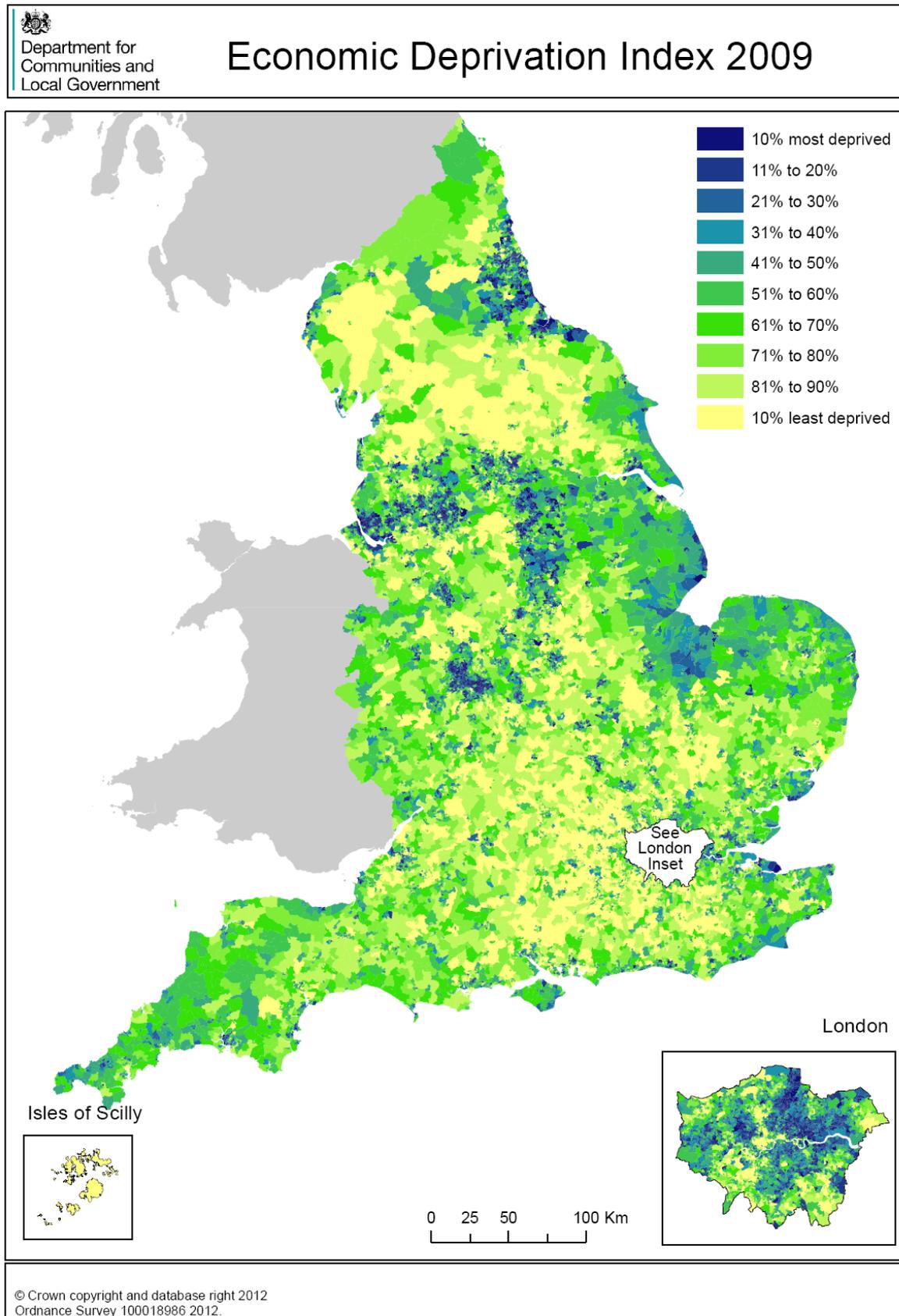
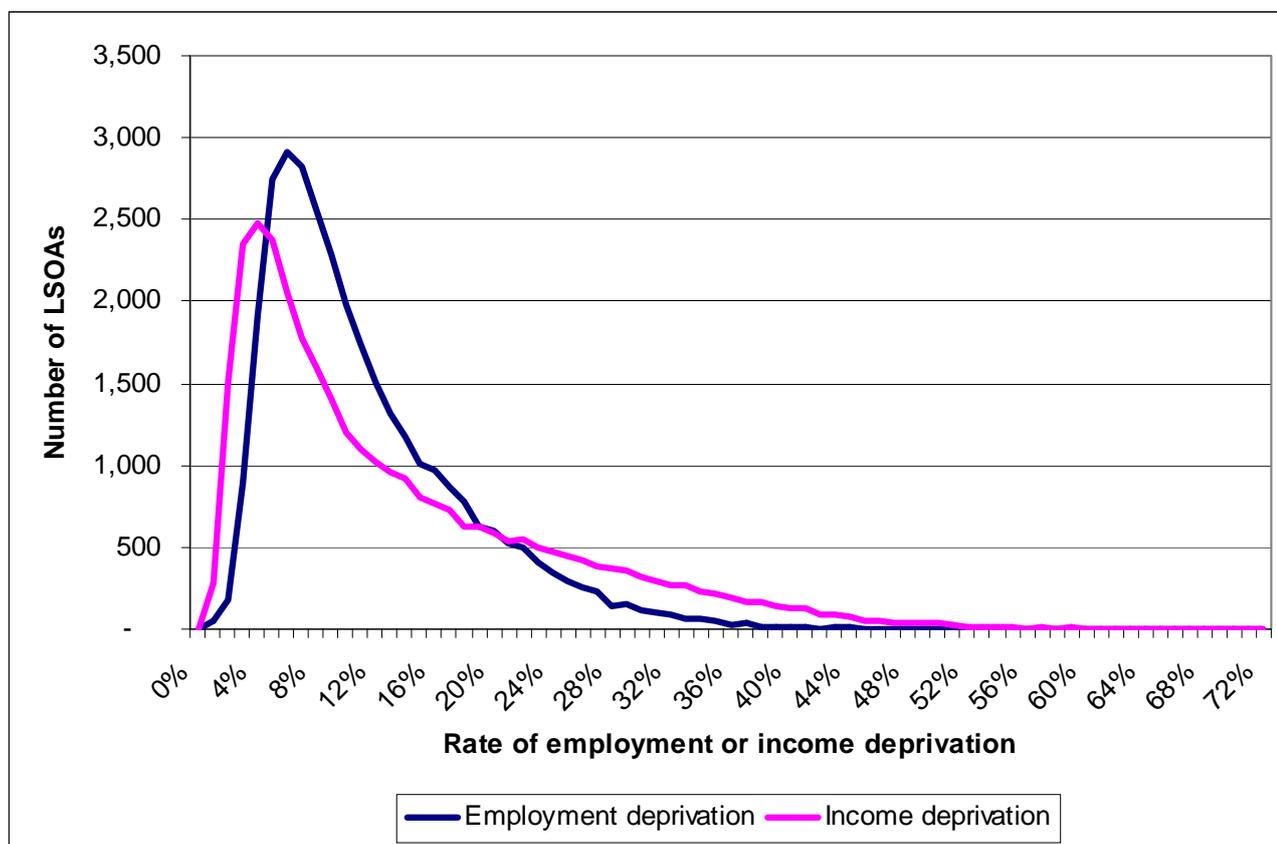


Figure 1 maps economic deprivation across England in 2009, the most recent year of the EDI time series. It illustrates that economic deprivation is not evenly distributed across the country, but is highly clustered. Most urban centres contain areas with high levels of economic deprivation. This includes the conurbations of Manchester, Liverpool, Birmingham, Newcastle and the areas that surround them, as well as parts of north east London such as Hackney and Tower Hamlets. There are also pockets of deprivation surrounded by less deprived places distributed throughout England.

Economic deprivation can be explored in terms of its component domains: the income deprivation and employment deprivation domains. Figure 2 shows the distribution of income deprivation and employment deprivation rates across the 32,482 LSOAs in England. The chart shows that the income deprivation rate ranged from 0% to 71% across LSOAs, with a minority of LSOAs experiencing the highest rates of income deprivation. The median percentage was 10%, i.e. half of LSOAs had income deprivation rates below 10% and half had income deprivation rates above 10%. In the 10% most income-deprived LSOAs, the rate of income deprivation was 29% or higher.

In terms of employment deprivation, the scale of difference between LSOAs was again wide-ranging. The employment deprivation rate ranged from 0% to 72%. The median percentage was 9%. In the 10% most employment-deprived LSOAs, the rate of employment deprivation was 21% or higher.

Figure 2 Distribution of income and employment deprivation across LSOAs, 2009



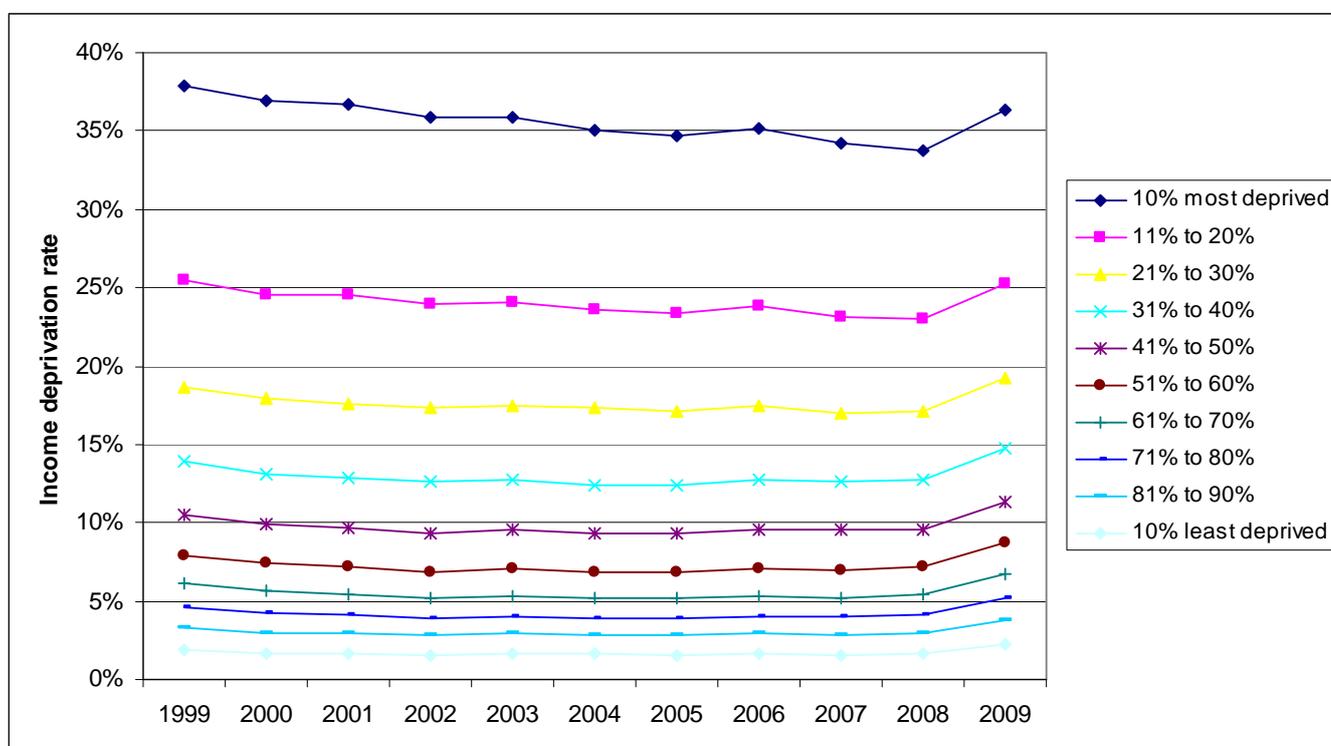
Changes in economic deprivation over time

The main purpose of the economic deprivation indices is to track changes in deprivation at the neighbourhood level over the reported time period. Looking first at the income deprivation domain, the majority of LSOAs (more than 80%) saw their income deprivation rates change (increase or decrease) by up to 4 percentage points between 1999 and 2009; the median change was 0 percentage points. Some LSOAs saw more extreme changes than this – the greatest fall in income deprivation was 36 percentage points whilst the greatest increase was 21 percentage points.

Over the same period, the majority of LSOAs (more than 80%) saw a change in their rates of employment deprivation of up to 3 percentage points between 1999 and 2009; the median change was an increase of 1 percentage point. Again, at the extreme, the greatest fall in employment deprivation was 26 percentage points whilst the greatest increase was 21 percentage points.

Figure 3 shows the average rates of income deprivation for each decile of LSOAs for each year from 1999 to 2009. The deciles divide the 32,482 LSOAs into 10 equally sized groups, based on their overall EDI rank (as was shown for 2009 in the map in Figure 1). Figure 3 illustrates that, for example, the average rate of income deprivation for LSOAs in the most deprived decile in 1999 was 37.9% and in 2009 was 36.3%.

Figure 3 Rates of income deprivation for each decile of LSOAs based on the EDI, 1999 – 2009



Note: The deciles are constructed independently at each time point. Therefore individual LSOAs may not necessarily remain in the same decile year on year.

Average income deprivation rates in all deciles reduced between 1999 and 2008. The most deprived decile saw the largest fall over this period (4.1 percentage points), whilst the least deprived decile saw the smallest fall (0.3 percentage points). Average income deprivation rates then increased for all deciles between 2008 and 2009, following the onset of the economic downturn, to the extent that all but the two most deprived deciles saw higher rates of income deprivation in 2009 than in 1999. The most deprived decile saw the largest increase in income deprivation between 2008 and 2009 (2.5 percentage points), whilst the least deprived decile saw the smallest increase (0.6 percentage points).

During the years in which deprivation was falling, the gap between the most deprived and least deprived deciles narrowed, from 36.0 percentage points in 1999 to 32.2 percentage points in 2008, but subsequently widened again to 34.1 percentage points in 2009. In effect, the gap between the most deprived and least deprived deciles had narrowed between 1999 and 2009, but not by as much as in the period up to 2008.

Individual LSOAs within these deciles may have experienced larger or smaller changes than are depicted here, or may have seen decreases or increases in deprivation rates which were not typical of their decile. The accompanying datasets allow users to explore these in more detail.

The pattern of change in absolute rates of employment deprivation is similar to the above pattern for income deprivation. The gap between the most deprived and least deprived decile narrowed from 23.6 percentage points in 1999 to 20.2 percentage points in 2008, but subsequently widened to 22.5 percentage points between 2008 and 2009.

Two key individual level dynamics underpinning neighbourhood level change are likely to be changes in personal/household economic circumstances, and population migration. However, it is not feasible to explore in detail here the possible reasons for observed changes in neighbourhood deprivation.

The Children in Income Deprived households Index

The Children in Income Deprived households Index (CIDI) is a measure of child poverty at neighbourhood level that is consistent from 1999 onwards.

The CIDI represents the proportion of dependent children aged under 16 in an area that are living in low income households (more specifically, benefit units) where an adult under the age of 60 is receiving certain out-of-work means-tested benefits. This proportion is also referred to as the child income deprivation rate.

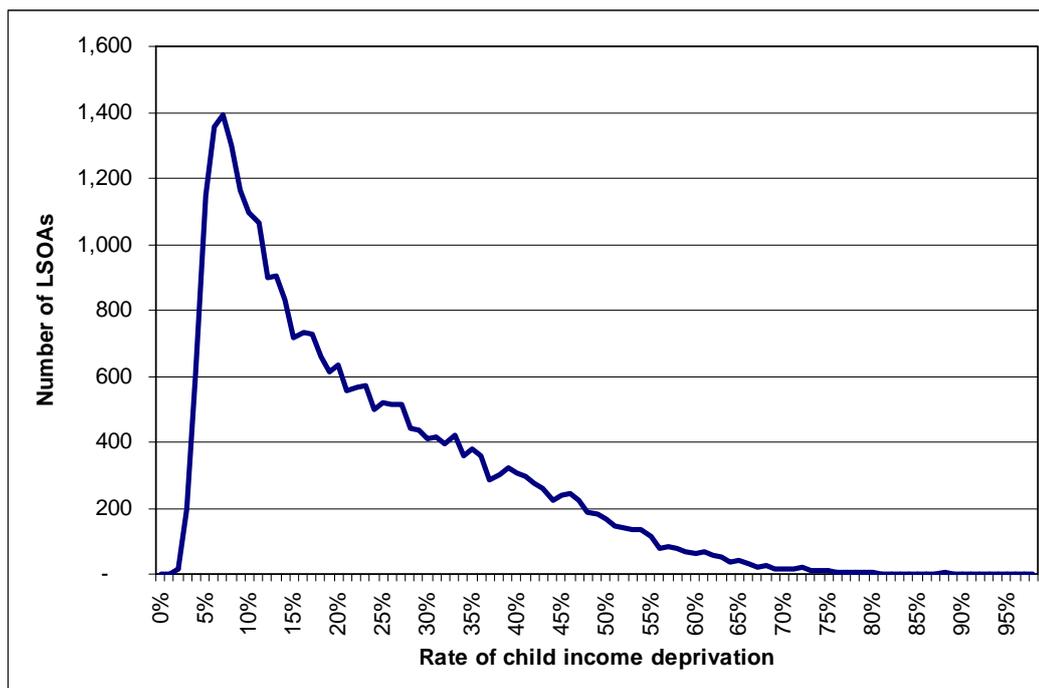
The CIDI is a complement to the Income Deprivation Domain of the EDI described above, which measures economic deprivation in terms of income for a broader population. As with the Income Deprivation Domain, LSOAs can be ranked according to their level of child income deprivation, and changes in child income deprivation can also be compared over time in absolute terms.

National distribution of child income deprivation

The distribution of child income deprivation across England in 2009 shows a very similar pattern to the distribution of economic deprivation illustrated in Figure 1. The CIDI map can be viewed (alongside the EDI map) in Annex A.

Figure 4 shows the distribution of child income deprivation rates among LSOAs in 2009. The rates ranged from 2% to 98%, with the highest rates being experienced by a minority of LSOAs. The median proportion of children in income deprived households was 18%. The 10% of LSOAs that were the most child-income deprived experienced deprivation rates of 44% or more.

Figure 4 Distribution of child income deprivation across LSOAs, 2009



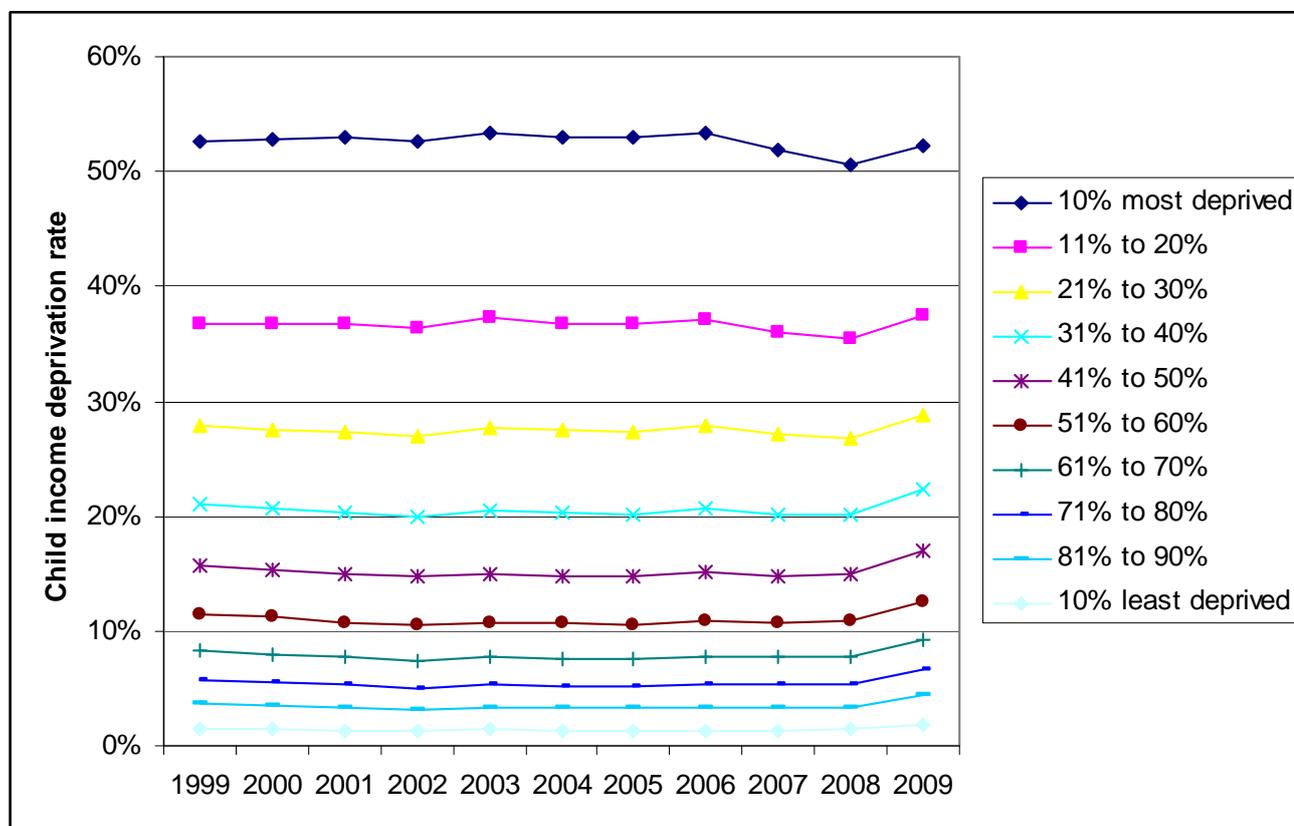
Changes in child income deprivation over time

Between 1999 and 2009, the majority of LSOAs (more than 80%) saw a change in deprivation rate that ranged between a decrease of 7 percentage points and an increase of 9 percentage points. The median change was an increase of 1 percentage point. Some LSOAs saw more extreme changes than this: the greatest fall in child income deprivation was 53 percentage points whilst the greatest increase was 55 percentage points.

Figure 5 shows the average rates of child income deprivation for each decile of LSOAs for each year from 1999 to 2009. The deciles divide the 32,482 LSOAs into 10 equally sized groups, based on their overall CIDI rank. Figure 5 illustrates that, for example, the average rate of child income deprivation for LSOAs in the most deprived decile in 1999 was 52.7% and in 2009 was 52.2%.

The chart shows that average income deprivation rates in all deciles saw little change between 1999 and 2008. The most deprived decile saw the largest fall over this period (2.1 percentage points), whilst the least deprived decile saw the smallest fall (0.2 percentage points). Average child income deprivation rates increased somewhat for all deciles between 2008 and 2009, following the onset of the economic downturn, to the extent that all but the most deprived decile saw higher rates of child income deprivation in 2009 than in 1999.

Figure 5 Rates of child income deprivation for each decile of LSOAs based on the CIDI, 1999 – 2009



Note: The deciles are constructed independently at each time point. Therefore individual LSOAs may not necessarily remain in the same decile year on year.

Changes in economic deprivation at local authority level

This Release has described the change at neighbourhood level in the economic deprivation indices over the period 1999 to 2009, and local authorities will be interested to see how this may have affected the neighbourhoods within their localities. The accompanying datasets include a range of summary measures of the economic deprivation indices at local authority district level.

This section of the Release, along with the accompanying tables in Annex B, illustrates some of ways in which change over time can be summarised for local authority districts. The main summary measures used here are the population-weighted average rank of all the LSOAs within the local authority district on the respective indices and the population-weighted average rate of deprivation according to the individual domains.

Changes in economic deprivation over time

Table 1 shows the ten most deprived local authorities each year from 1999 to 2009 according to the Economic Deprivation Index (EDI). There are five local authorities which appear in the top ten in every year and these are highlighted in the table: Hackney, Knowsley, Liverpool, Newham and Tower Hamlets. These local authorities occupy the most deprived positions in the table in almost every year.

Table 1 Ten most deprived local authorities based on the population weighted average rank of the EDI, 1999 – 2009

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
1	Hackney	Hackney	Liverpool	Hackney	Hackney	Hackney	Hackney	Hackney	Hackney	Newham	Newham
2	Knowsley	Knowsley	Knowsley	Knowsley	Knowsley	Newham	Newham	Newham	Newham	Hackney	Hackney
3	Liverpool	Liverpool	Hackney	Liverpool	Liverpool	Liverpool	Liverpool	Tower Hamlets	Liverpool	Liverpool	Sandwell
4	Newham	Newham	Tower Hamlets	Newham	Newham	Tower Hamlets	Tower Hamlets	Liverpool	Tower Hamlets	Knowsley	Knowsley
5	Tower Hamlets	Tower Hamlets	Newham	Tower Hamlets	Tower Hamlets	Knowsley	Knowsley	Knowsley	Knowsley	Barking and Dagenham	Liverpool
6	Islington	Islington	Islington	Islington	Islington	Islington	Islington	Islington	Islington	Tower Hamlets	Barking and Dagenham
7	Manchester	Manchester	Manchester	Manchester	Manchester	Manchester	Barking and Dagenham	Barking and Dagenham	Barking and Dagenham	Islington	Wolverhampton
8	Hartlepool	Hartlepool	South Tyneside	Hartlepool	Hartlepool	Barking and Dagenham	Manchester	Sandwell	Sandwell	Sandwell	Stoke-on-Trent
9	South Tyneside	South Tyneside	Hartlepool	South Tyneside	South Tyneside	Haringey	Haringey	Haringey	Blackpool	Blackpool	Tower Hamlets
10	Haringey	Middlesborough	Barnsley	Middlesborough	Barking and Dagenham	Hartlepool	Sandwell	Manchester	Stoke-on-Trent	Wolverhampton	Birmingham

Note: 1 = most deprived local authority district

Table B1 in Annex B contains a full list of the 326 local authority districts in England ranked using this summary measure of the EDI, for all years from 1999 to 2009. It also shows the change in rank for local authorities between 1999 and 2009. With the exception of the City of London¹, Camden saw the greatest relative decrease in economic deprivation over the time period: in 1999, it was the 41st most deprived local authority in England but by 2009 it was the 110th most deprived. Crawley saw the greatest relative increase in economic deprivation over the time period, moving from the 220th most deprived local authority in 1999 to the 144th most deprived local authority in 2009.

Table B2 in Annex B shows the rates of income deprivation in local authorities for every year between 1999 and 2009, and the change between 1999 and 2009. The income deprivation rate ranged from 0.9% to 25.6% across local authorities in 2009; the median was 11.1%. The local authority that saw the largest decrease in income deprivation was Knowsley, where the income deprivation rate fell by 6.9 percentage points from 32.5% to 25.6% between 1999 and 2009. Walsall saw the greatest increase in income deprivation rate, from 17.2% in 1999 to 21.4% in 2009, an increase of 4.2 percentage points. The majority (more than 80%) of all local authorities experienced a change in their income deprivation rate of between -1.3 percentage points and 2.2 percentage points.

Table B3 in Annex B shows the rates of employment deprivation experienced by local authority districts for every year between 1999 and 2009, and the change between 1999 and 2009. The employment deprivation rate ranged from 2.1% to 20.9% in 2009; the median was 9.8%. The local authority that saw the largest decrease in employment deprivation was Manchester: the employment deprivation rate fell by 5.1 percentage points from 20.7% to 15.6% between 1999 and 2009. Peterborough saw the greatest increase in employment deprivation rate, from 9.5% in 1999 to 13.1% in 2009, an increase of 3.6 percentage points. The majority (more than 80%) of all local authorities experienced a change in employment deprivation rate of between -1.1 percentage points and 2.1 percentage points.

Changes in child income deprivation over time

Table 2 shows the ten most deprived local authorities each year from 1999 to 2009 according to the Children in Income Deprived households Index (CIDI). There are seven local authorities which appear in the top ten in every year (highlighted in the table). Tower Hamlets was consistently the most deprived local authority in terms of child income deprivation, followed by Islington. Local authorities in London feature frequently in the list of the ten most deprived with only three local authorities outside of London in the table: Manchester, Nottingham and Liverpool.

¹ The City of London is not reported here as it contains only 5 LSOAs

Table 2 Ten most deprived local authorities based on the population weighted average rank of the CIDI, 1999 – 2009

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
1	Tower Hamlets	Tower Hamlets	Tower Hamlets	Tower Hamlets	Tower Hamlets	Tower Hamlets	Tower Hamlets				
2	Islington	Islington	Islington	Islington	Islington	Islington	Islington	Islington	Islington	Islington	Islington
3	Hackney	Hackney	Hackney	Hackney	Newham						
4	Newham	Newham	Newham	Newham	Hackney	Hackney	Hackney	Hackney	Hackney	Hackney	Barking & Dagenham
5	Southwark	Southwark	Southwark	Southwark	Southwark	Haringey	Haringey	Lambeth	Barking & Dagenham	Barking & Dagenham	Hackney
6	Manchester	Manchester	Manchester	Lambeth	Manchester	Manchester	Lambeth	Haringey	Lambeth	Manchester	Manchester
7	Lambeth	Lambeth	Lambeth	Manchester	Lambeth	Southwark	Southwark	Barking & Dagenham	Haringey	Lambeth	Nottingham
8	Haringey	Haringey	Haringey	Haringey	Haringey	Lambeth	Manchester	Manchester	Manchester	Haringey	Lambeth
9	Liverpool	Nottingham	Nottingham	Nottingham	Nottingham	Barking & Dagenham	Barking & Dagenham	Southwark	Southwark	Nottingham	Haringey
10	Nottingham	Liverpool	Liverpool	Liverpool	Barking & Dagenham	Greenwich	Greenwich	Lewisham	Lewisham	Waltham Forest	Lewisham

Note: 1 = most deprived local authority district

Table B4 in Annex B contains a full list of the 326 local authority districts ranked using this same measure, for all years from 1999 to 2009. The change in rank experienced by local authorities between 1999 and 2009 is also shown. Brighton and Hove saw the greatest relative decrease in child income deprivation over the time: in 1999, it was 51st most deprived local authority in England but by 2009 it was the 120th most deprived. South Gloucestershire saw the greatest relative increase in child income deprivation over the time period, moving from the 323rd most child income deprived local authority in 1999 to the 240th most child income deprived local authority in 2009.

To look at absolute changes in child income deprivation in local authorities over time, Table B5 in Annex B shows the rates of child income deprivation in local authority districts for every year between 1999 and 2009, and the change between 1999 and 2009. The proportion of children in income deprived households in local authorities ranged from 1.2% to 47.1% in 2009; the median was 16.9%.

The local authority that saw the largest absolute decrease in child income deprivation was Knowsley: the child income deprivation rate fell by 9.5 percentage points from 43.9% to 34.4% between 1999 and 2009. Enfield saw the greatest increase in child income deprivation rate, from 25.2% in 1999 to 33.1% in 2009, an increase of 7.9 percentage points. The majority (more than 80%) of all local authorities experienced a change in their child income deprivation rate of between -1.7 percentage points and 3.1 percentage points.

There are some commonalities between the ten most deprived local authorities based on the EDI and CIDI, as shown in Tables 1 and 2. Notably, the London authorities of Hackney, Newham and Tower Hamlets feature prominently across both indices.

List of annexes

Annex A presents the following LSOA-level maps:

- Figure A1 – EDI 2009 map
- Figure A2 – CIDI 2009 map

Annex B presents the following local authority district level summaries of economic deprivation:

- Table B1 - Local Authority District Rank of Average Rank on EDI, 1999 – 2009
- Table B2 - Local Authority District Average Score on Income Deprivation Domain, 1999 – 2009
- Table B3 - Local Authority District Average Score on Employment Deprivation Domain, 1999 – 2009
- Table B4 - Local Authority District Rank of Average Rank on CIDI, 1999 – 2009
- Table B5 - Local Authority District Average Score on CIDI, 1999 – 2009

Annexes are available from: <https://www.gov.uk/government/publications/tracking-economic-and-child-income-deprivation-at-neighbourhood-level-in-england-1999-to-2009>

Accompanying data and supporting documents

Accompanying data

Accompanying data is available from: <https://www.gov.uk/government/publications/tracking-economic-and-child-income-deprivation-at-neighbourhood-level-in-england-1999-to-2009>

The detailed data at LSOA level are available in 15 Excel spreadsheets: *Economic deprivation indices, England 1999 – 2009 at LSOA level*

Local authority summary data is available in 4 Excel spreadsheets: *Local authority summaries for the economic deprivation indices 1999 – 2009, England*

Supporting documents

The Social Disadvantage Research Centre (SDRC) at the University of Oxford has published two reports containing preliminary analysis to accompany the data. These include a detailed description of the methodology and definitions, and more detailed analysis than is presented in this Statistical Release. The reports each include three local authority case studies which illustrate how the data can be used to examine change over time within local authorities.

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- McLennan, D., Noble, M. and Barnes, H. (2012) *Tracking Neighbourhoods: The Economic Deprivation Index 1999-2009*.
 - McLennan, D., Noble, M. and Barnes, H. (2012) *Tracking Neighbourhoods: The Children in Income Deprived Households Index 1999-2009*.

The SDRC reports are available from: <http://www.oisp.ox.ac.uk/res/poverty-and-social-exclusion/indices-of-deprivation.html>

The economic deprivation indices represent a contribution to the existing body of work on small area indices of deprivation in England. This includes:

- English Indices of Deprivation 2010
- The English Indices of Deprivation 2010: Technical Report
- Guidance notes for the English Indices of Deprivation 2010

The most recent English Indices of Deprivation can be found at:

<https://www.gov.uk/government/publications/english-indices-of-deprivation-2010>

Definitions

Economic deprivation indices – this is the collective term for the Economic Deprivation Index (EDI) and the Children in Income Deprived households Index (CIDI).

Economic Deprivation Index

The Economic Deprivation Index (EDI) provides a means of tracking levels of economic deprivation over time from 1999 onwards at neighbourhood level. Economic deprivation is conceptualised and defined as consisting of two component dimensions, or domains: income deprivation and employment deprivation, combined with equal weight.

The two component domains allow analysis of absolute and relative changes in income deprivation and employment deprivation over time at neighbourhood level. The combined index (EDI) allows analysis of relative, but not absolute, changes in the ranking of neighbourhoods over time.

Income Deprivation Domain

The Income Deprivation Domain represents the proportion of people aged under 60 in an area that are living in low income households (more specifically, benefit units), that are claiming certain out-of-work means-tested social security benefits.² It does not capture low income working families or low income older people. This is also referred to as the income deprivation rate.

² The term 'means-tested' is used as shorthand to summarise a range of benefits and child tax credit, as described in detail in the SDRC reports.

Employment Deprivation Domain

The Employment Deprivation Domain represents the proportion of people of working age (males aged 18-64 and females aged 18-59) in an area that are involuntarily excluded from the labour market and are claiming one of four out-of-work benefits: Jobseeker's Allowance (income-based or contribution-based), Severe Disablement Allowance, Incapacity Benefit or, in 2009, Employment Support Allowance. This is also referred to as the employment deprivation rate.

Children in Income Deprived households Index (CIDI) – this is a measure of child poverty at neighbourhood level that is consistent from 1999 onwards.

The CIDI represents the proportion of dependent children aged under 16 in an area that are living in low income households (more specifically, benefit units), where an adult under the age of 60 is receiving certain out-of-work means-tested benefits.²

The CIDI is a subset of the Income Deprivation Domain of the EDI, focusing on children aged 0-15 (rather than the broader population aged under 60) in income deprived households. Analyses can be undertaken of both absolute and relative changes in child income deprivation using the CIDI.

Benefit unit – this is defined as a single adult or a married or cohabiting couple and any dependent children; since January 2006 same-sex partners (civil partners and cohabitantes) have been included in the same benefit unit.

Decile of deprivation – A decile is a group that represents one tenth of the whole. The Indices can be used to rank the 32,482 LSOAs in England from most to least deprived. Splitting the LSOAs into ten groups of equal size creates deciles which contain 10% of the total number of areas.

Lower layer Super Output Areas (LSOAs) are homogenous small areas of relatively even size (around 1,500 people) of which there are 32,482 in England, for more detail see:

www.neighbourhood.statistics.gov.uk/dissemination/Info.do?page=userguide/moreaboutareas/furtherareas/further-areas.htm

Population-weighted average ranks and rates/scores

In this release, we present two summary measures of deprivation at local authority district level:

The population weighted average rank of the Economic Deprivation Index ranks local authorities based on the average *rank* of the LSOAs within them, where the LSOAs are weighted by their population size. (This measure is also referred to as the 'rank of average rank')

The average rates/scores of the Income Deprivation Domain and the Employment Deprivation Domain are calculated as the population-weighted averages of the *rates* of the LSOAs within them. Similar measures are presented for the Children in Income Deprived households Index.

Economic downturn

For the purposes of this release, the 'downturn' is considered to be the period from Autumn 2008 when the crisis in the financial sector became acute and through 2009 when there was a significant decline in economic output and a corresponding rise in unemployment. The release does not consider deprivation levels beyond 2009.

Background: the economic deprivation indices

The economic deprivation indices (EDI and CIDI) were commissioned by DCLG in 2009 to address the need for a consistent measure of economic deprivation at small area level in England between the years 1999 and 2009. As far as possible, the production of the EDI and CIDI take account of changes to the tax and benefit systems over this period to provide 'backwards compatible' measures of economic deprivation from 2009 back to 1999. This means that, for each year of the time series, indicators are constructed to determine the proportion of population in each LSOA experiencing income or employment deprivation.

Methodology and data sources

The two domains of economic deprivation (income deprivation and employment deprivation) are each measured separately at neighbourhood level using indicators that can be constructed on a consistent basis over the entire time period. The income deprivation domain is based on a combination of tax and benefits data from the Department for Work and Pensions (DWP) and HM Revenue and Customs (HMRC), whilst the employment deprivation domain is based wholly on benefits data from DWP.³ The two domains are each ranked, transformed to exponential distributions and then combined using equal weights to form the overall Economic Deprivation Index at neighbourhood level.

The EDI methodology broadly follows that which has been used to construct the Index of Multiple Deprivation (IMD) in England since the year 2000. This is described in the Technical Report for the ID 2010 (see the section: Accompanying data and supporting documents).

The research team at SDRC have produced two reports which provide details of the methodological approach developed in order to maximise consistency over time in the indicators of income and employment deprivation (see: Accompanying data and supporting documents).

It should be noted that the CIDI and EDI, like the IMD, have been designed for the purpose of measuring levels of deprivation and therefore say nothing about the level of affluence or wealth in an area.

³ The data relate to an end-of-August snapshot each year. This is the only time when Job Seekers Allowance data can be reliably used to distinguish between income-based and contributions-based claimants.

Population estimates at LSOA level for 2001 to 2009 were constructed using population estimates from Office for National Statistics' Small Area Population Estimation Unit and subtracting counts of prison populations provided by the Ministry of Justice.

Uses of the data

The Indices of Deprivation (ID 2000, ID 2004, ID 2007 and ID 2010) have been used very widely for a range of purposes, including use by central government as criteria for allocating resources efficiently for programmes such as Community First and Troubled Families, and under the previous administration: the Neighbourhood Renewal Fund and Working Neighbourhoods Fund. They are also used extensively by local authorities and Primary Care Trusts in understanding the needs of their communities and for targeting resources and interventions. In public health, the Indices are used, for example, in exploring health inequalities and differences in health outcomes, and in estimating disease prevalence by place. The Voluntary and Community sector and social enterprises also use the indices in the commissioning process. As a composite index, the IMD fits well with moves from Government to take a holistic approach to developing local services. The fact that the Indices cover a range of domains means that they will also be useful to local communities as they drive forward policies in their own way to address their own local priorities. They allow communities to compare their areas with similar, or nearby, areas on a range of nationally consistent measures. This helps residents to gauge their relative levels of deprivation, assess whether progress is being made and hold relevant authorities accountable.

Many users of the Indices of Deprivation make comparisons between the ID 2010 and ID 2007 in an attempt to understand how places have changed over time, by examining how the areas have changed rank. The economic deprivation indices (EDI and CIDI) are explicitly designed to allow change over time to be assessed on a consistent basis. They therefore serve a different, but complementary, purpose to the Indices of Deprivation.

The SDRC reports provide case studies which can serve as a helpful guide to local researchers who wish to explore changes using the EDI and CIDI data at small area level in their areas. Nationally, researchers may find the accompanying data useful to aid understanding of changes in the spatial distribution of deprivation over time, both at the LSOA and local authority level.

The accompanying data for the domains of the EDI and the CIDI may also be used by researchers in regression analyses. For example, regression analyses can be used to test the extent to which different area-level characteristics are associated with changes over time in economic deprivation and child income deprivation, in both absolute and relative terms. Area-level characteristics could include demographic, geographic and labour market factors and these may relate to different spatial scales (e.g. neighbourhoods, local authorities, Local Enterprise Partnerships). The data for the domains may also be used in regression models to show how deprivation, and changes in deprivation, are related to outcomes of interest, for example health outcomes.

Comparison with the Indices of Deprivation

Because the EDI and CIDI serve a different but complementary purpose to the Indices of Deprivation, users may wish to understand the differences between these and the ID 2010, its domains and supplementary indices.

The English Indices of Deprivation 2010 (ID 2010) provide a *relative* measure of deprivation at the small area level across England. Areas are ranked from least deprived to most deprived on seven different dimensions of deprivation and an overall composite measure of multiple deprivation.⁴ Most of the data underlying the ID 2010 are for the year 2008 and there have been three earlier Indices of Deprivation.⁵ At each time point, these indices of deprivation have sought to represent the best possible relative measure of multiple deprivation. Improvements in data, new data sources, and changes in administrative data have generally been incorporated into the indices. Thus the Indices of Deprivation are well suited to the purpose of identifying the most deprived communities at a particular point in time but are not ideal for tracking the progress of neighbourhoods over time.

The indicators used for the EDI and CIDI are chosen to allow a backwards compatible time series and, as such, they focus on economic deprivation as measured by income and employment deprivation. Thus, the ID 2010 remains the best measure of *multiple* deprivation at a set point in time.

Users of the income and employment domains of the ID 2010 should note that ID2010 is based on data mainly for 2008, while the EDI and CIDI are based on more recent data, for 2009. But the indicators used for the EDI and CIDI, in order to be backwards compatible from 1999 to 2009, differ from the corresponding domains and supplementary indices of the ID 2010 in their coverage.⁶ Users should consider the trade-offs in using the EDI and CIDI to give a more up-to-date snapshot of economic deprivation than the income and employment deprivation domains of the ID 2010 because of the differences in coverage described below.

The Income Deprivation Domain of the Indices of Deprivation

The EDI Income Deprivation Domain created for this project is a good measure of income deprivation in the population aged under 60 but, unlike the Income Deprivation Domain of the ID 2010, it does not capture low income working families or low income older people. The EDI also does not capture asylum seekers in receipt of subsistence only and accommodation support. In practice, however, at LSOA level the Income Deprivation Domains in the EDI and ID 2010 are highly correlated. The reasons for differences between them are explained in detail in the SDRC report: Tracking Neighbourhoods: The Economic Deprivation Index 1999-2009.

⁴ The Indices of Deprivation identify and measure seven distinct domains of deprivation: Income, Employment, Health and Disability, Education Skills and Training, Barriers to Housing and Services, Living Environment, and Crime.

⁵ These are: ID 2007 which is based mainly on data for 2005, ID 2004 based mainly on data for 2001, and ID 2000 based mainly on data for 1998.

⁶ The domains and supplementary indices of ID 2010 which most closely relate to the EDI and CIDI are Income Deprivation, Employment Deprivation and the IDACI.

Employment Deprivation Domain of the Indices of Deprivation

The Employment Deprivation Domain of the new Economic Deprivation Index offers a good measure of employment deprivation at small area level and enables a consistent time series to be established, but it differs from that of the ID 2010 and previous indices of deprivation. The latter contained information on participants in New Deal training schemes but this information was not available on a consistent time series for the EDI project. 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.

Income Deprivation Affecting Children Index (IDACI)

The CIDI is similar to the Income Deprivation Affecting Children Index (IDACI) that was produced as a supplementary index to the Income Domains of the English Indices of Deprivation in 2004, 2007 and 2010. The main difference between the IDACI and the CIDI is that the IDACI is based on a slightly broader definition of income deprivation which includes, in addition to the children captured in the CIDI, children in households receiving Pension Credit Guarantee and children living in in-work households receiving CTC with an equivalised income below 60 per cent of the national median before housing costs.

Despite the differences in indicator composition, there is a very strong correlation between the IDACI and the CIDI indicating that the relative ranking of LSOAs on these two measures is very similar. However, it is worth noting that, compared to the IDACI, the CIDI will exclude some children in low-income families. The reason for these differences is explained in detail in the SDRC report: Tracking Neighbourhoods: The Children in Income Deprived households Index 1999-2009.

Data quality

The indices have been constructed by the SDRC. DWP and HMRC facilitated all access to the individual level benefit and tax credit data within secure government settings for the purpose of the EDI project.

With regard to the underlying data at DWP and HMRC, a range of procedures have been undertaken to check the quality of all elements of the EDI 1999 – 2009. These fall into five broad categories.

1. Comparisons of raw data to ensure consistency in data supplied
2. Comparisons between shrunk and unshrunk data to assess the impact of the shrinkage technique⁷
3. Comparisons between related domains and supplementary indices of the ID 2010, ID 2007 and ID 2004.
4. Comparisons with other published data to ensure consistency between the EDI/CIDI and other data sources
5. Reality checking of results using researcher judgement.

⁷ For an explanation of the shrinkage technique, see Annex E of the Technical Report of the ID 2010.

It should be noted that in this Statistical Release, figures have been rounded to whole numbers where the data under consideration is at LSOA level and to one decimal place where the data is an average at a higher geographical level, such as a local authority. This is consistent with the convention in the accompanying data to this Statistical Release.

Revisions policy

The Department for Communities and Local Government's revisions policy for statistical releases can be found at: <https://www.gov.uk/government/publications/statistical-notice-dclg-revisions-policy>

The Economic Deprivation Index 1999 – 2009 supersedes the Economic Deprivation Index 1999 – 2005 (Noble et al., 2009), giving a new backwards compatible index that can be used to track changes in deprivation at the neighbourhood level up to 2009. There are no planned scheduled revisions to the economic deprivation indices presented here and, as stated in the DCLG Statistics Plan 2011/2012, there is no plan to produce further updates of the EDI or CIDI.

Related links

All of the material relating to the English Indices of Deprivation 2010 and earlier versions of the Indices can be accessed from the Department for Communities and Local Government's website via the link below:

<https://www.gov.uk/government/organisations/department-for-communities-and-local-government/series/english-indices-of-deprivation>

The Social Disadvantage Research Centre webpage relating to the Indices of Deprivation and the Economic Deprivation Indices can be found at:

<http://www.oisp.ox.ac.uk/res/poverty-and-social-exclusion/indices-of-deprivation.html>

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User consultation

Users are encouraged to provide feedback on how these statistics are used and how well they meet user needs. Comments on any issues relating to this statistical release are welcomed and encouraged. Responses should be addressed to the "Public enquiries" contact given in the "Enquiries" section below.

The Department's engagement strategy to meet the needs of statistics users is published here: <https://www.gov.uk/government/publications/engagement-strategy-to-meet-the-needs-of-statistics-users>

Other information

Details of officials who receive pre-release access to this Statistical Release up to 24 hours before release can be found at:

<https://www.gov.uk/government/publications/tracking-economic-and-child-income-deprivation-at-neighbourhood-level-in-england-1999-to-2009>

Enquiries

This Statistical Release can be accessed and all text and tables downloaded electronically from the Department's website at:

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Further details on this Statistical Release are available from:

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