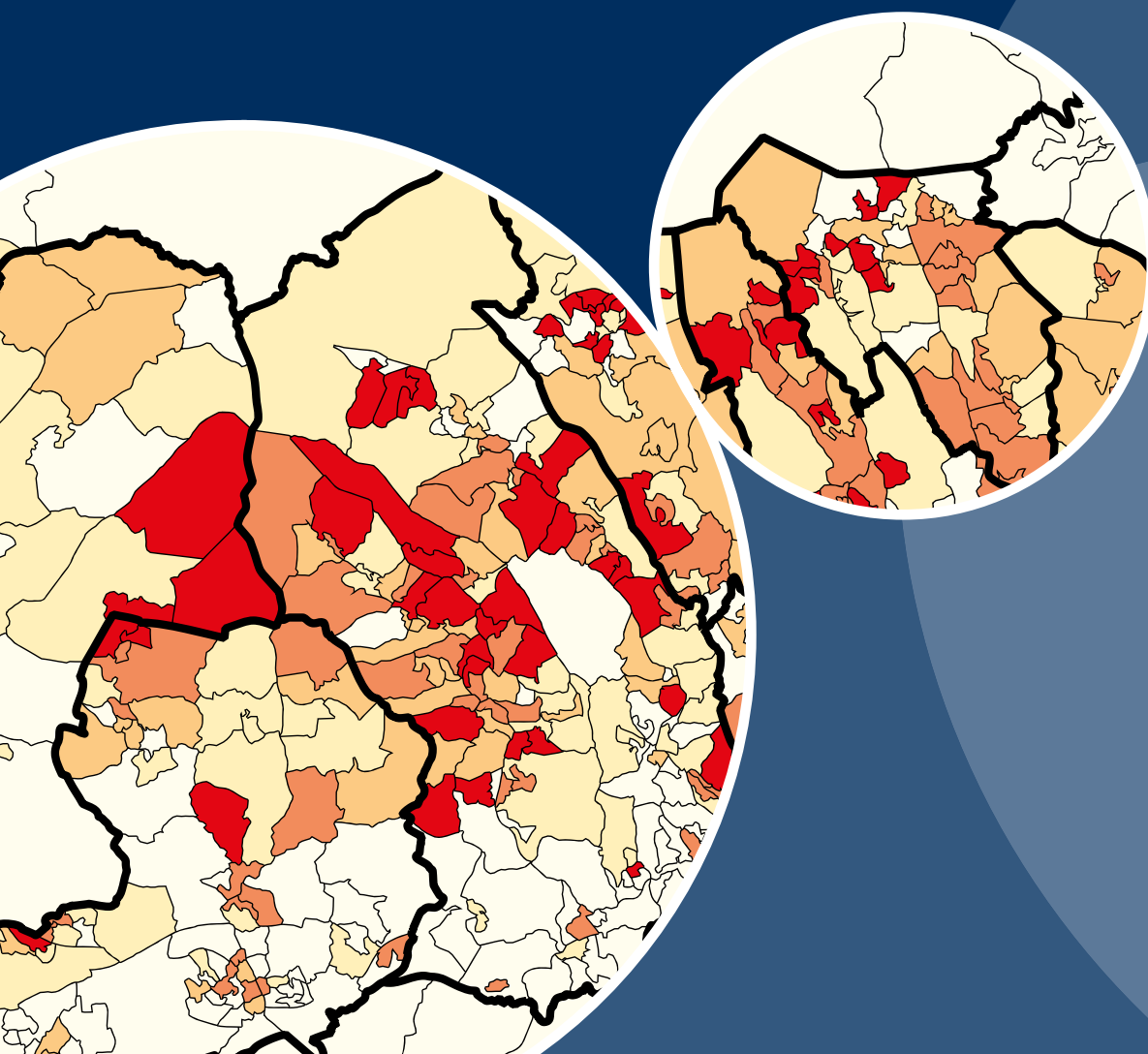


Welsh Index of Multiple Deprivation 2011

Summary Report



Contact points

Wales

For statistical enquiries contact the Statistical Directorate:

Tel: 029 2082 5050

E-mail: **stats.info.desk@wales.gsi.gov.uk**

Minicom: 029 2082 3280

Fax: 029 2082 5350

Address: Statistical Publication Unit,
Statistical Directorate,
Welsh Government,
Cathays Park,
CARDIFF, CF10 3NQ

You can also find Statistics for Wales on the internet:

www.wales.gov.uk/statistics

www.twitter.com/statisticswales

United Kingdom

For statistical enquiries, contact the Office for National Statistics:

Tel: 0845 601 3034

Enquiries in Welsh: 01633 813381

Minicom: 01633 812399

E-mail: **info@statistics.gov.uk**

Fax: 01633 652747

Address: Customer Contact Centre,
Room 1.015,
Office for National Statistics,
Cardiff Road,
Newport,
NP10 8XG

You can also find National Statistics on the internet:

www.statistics.gov.uk

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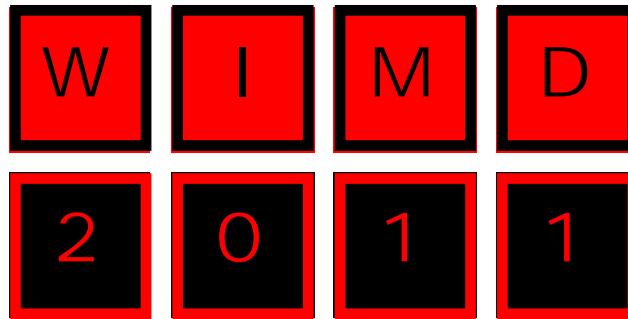
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For enquiries about this publication, contact

Tel: 029 2082 5061

E-mail: **stats.inclusion@wales.gsi.gov.uk**

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Welsh Index of Multiple Deprivation

Welsh Index of Multiple Deprivation 2011

Summary Report

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The Welsh Index of Multiple Deprivation

The Welsh Index of Multiple Deprivation (WIMD) 2011 is the official measure of **relative deprivation** for **small areas** in Wales. It was produced by the Welsh Government. The Index was developed as a tool to identify and understand deprivation in Wales, so that funding, policy, and programmes can be effectively focussed on the most disadvantaged communities. WIMD 2011 updates the Index published in 2008, without imposing methodological changes, except where data provision makes this unavoidable.

Deprivation is a wider concept than poverty. Poverty is usually considered to be a lack of money, whereas deprivation includes a lack of the opportunities and resources to which we might expect have access in our society, for example, good health, protection from crime, a clean and safe environment. ‘Multiple’ deprivation therefore refers to the different types of deprivation that might occur. Eight types of deprivation, or domains, are included in the Index. These are: employment, income, education, health, community safety, geographical access to services, housing and physical environment. It should be noted that, due to the nature of the area-based data from which the Index is constructed, we do not know whether individuals are multiply deprived, or if different individuals are suffering different types of deprivation. At present, we are not able to link the data included in the Index in order to understand this.

It is important to remember that a lack of deprivation is not the same as affluence. The least-deprived area is not necessarily the most affluent area in Wales.

The Index is produced as a set of ranks, with a rank of 1 assigned to the most deprived area. Ranks are a **relative** system of measurement; we can know which areas are more (or less) deprived than others, but not by how much. This is because of the way that the Index must be constructed. The construction of the Index is described in more detail below.

The ranks of the Index are calculated for each of the 1896 lower layer super output areas (LSOAs) of Wales. Although the *geographical* size of these **small areas** varies quite widely, and depends on the local population density, the *populations* are intended to be roughly the same in each LSOA, with an average population of 1500 people. LSOAs were designed by the Office for National Statistics to have consistent population sizes and stable geographies, so that statistical comparisons of small areas over time can be carried out.

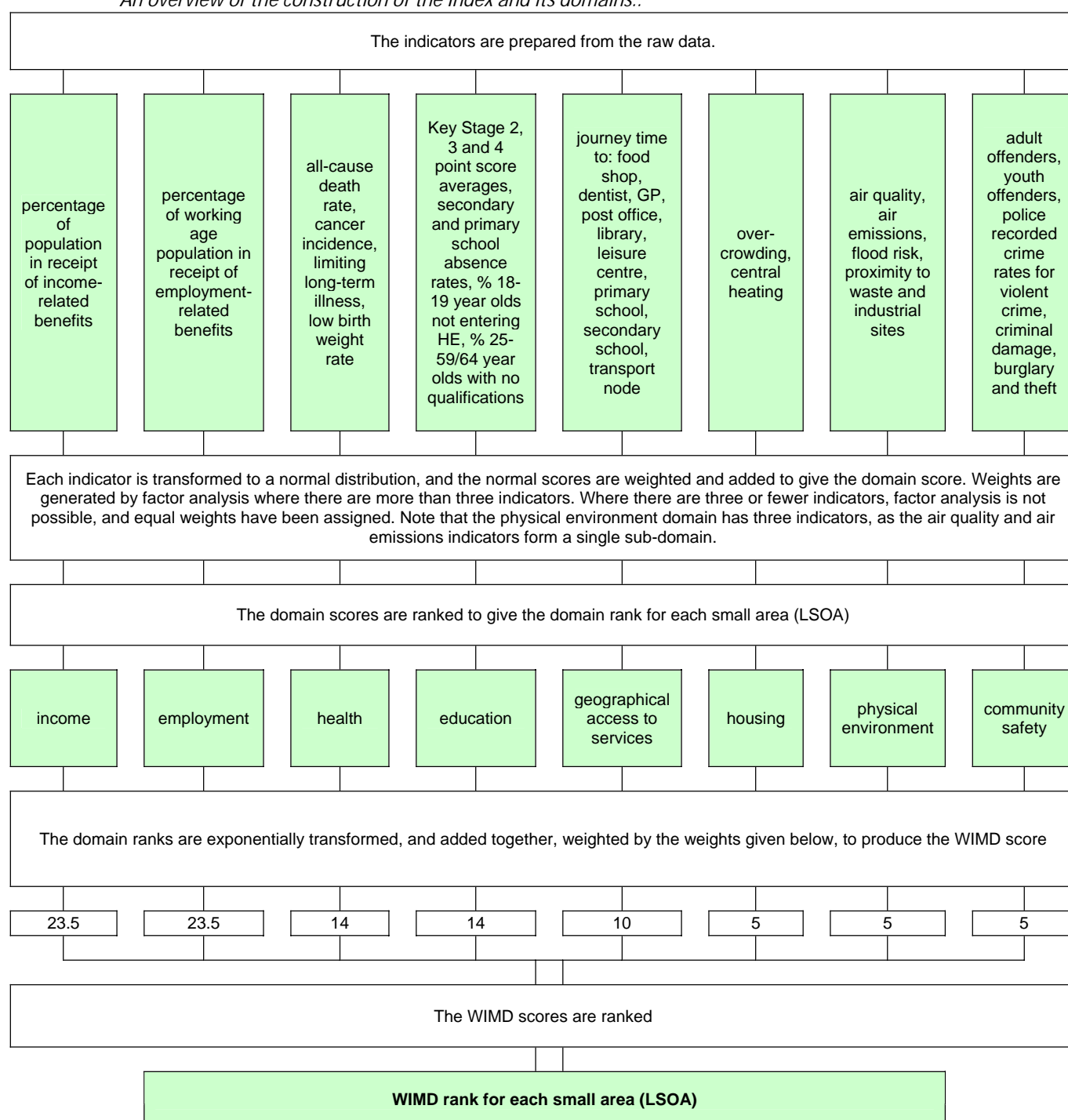
How the Index is constructed

The Index has three main components:

- the Index itself, which is a set of ranks;
- the ranks of the eight types of deprivation, or domains, from which the overall Index is constructed; and
- the underlying indicators, which are directly measurable, and which are combined to create the domain ranks. Many, but not all, of the indicators are produced as rates. The units depend on what is being measured.

All of these components are calculated for each of the 1896 small areas (LSOAs) of Wales, and are published on the Welsh Government's [StatsWales](https://stats.wales.gov.uk/) web pages. An overview of the construction of the Index is given in the diagram below.

An overview of the construction of the Index and its domains..



The Index is constructed from a weighted sum of the deprivation score for each domain. The weights reflect the importance of the domain as an aspect of deprivation, and the quality of the indicators available for that domain. The domains and their weights for WIMD 2011 are:

income	23.5%	geographical access to services	10%
employment	23.5%	community safety	5%
health	14%	physical environment	5%
education	14%	housing	5%

A detailed analysis of the weighting system can be found in [Paper 6 presented to the Steering Group on 22 October 2010](#).

The domains are in turn built up from sets of indicators, which are the measurable quantities which capture the concept of deprivation for each domain, e.g. the percentage of working age people in receipt of employment-based benefits for the employment domain; Key Stage scores in the education domain; crime rates in the community safety domain, etc.. Indicators must be robust at the small area level and consistent across Wales. In practice, this means that the Index is based largely on administrative data, with a limited number of Census variables where appropriate administrative data are not available.

A full list of the indicators included in the Index in 2011, together with their domains, is given in Annex A.

A complete description of the construction of the indicators, their combination into the domains, and the combination of the domains into the Index is presented in the Technical Report for WIMD 2011.

A summary of the methodological changes in the 2011 Index is given in Annex B.

How to use the Index

This section describes how to use the Index, its domains and indicators to carry out some typical analyses.

1. Read the first two sections in this Summary Report

The first two sections of this report (*The Welsh Index of Multiple Deprivation*, and *How the Index is constructed*) give an overview of the Index, and how it is constructed. It is also recommended that users look at the list of indicators and domains given in Annex A, to understand what data are used to create the Index, and are available for downloading.

2. Using the deprivation scores

The Index and domain scores are provided in an annex to the WIMD 2011 Technical Report, and are published for only two purposes, i) for transparency, so that users have access to all the stages of the construction of the Index, and ii) so that users can experiment with different weighting systems for the Index if they so wish. The scores should generally be seen as a stage in the construction of the Index rather than a product in themselves. For all purposes other than the two outlined above, the ranks should be used.

Because of the way in which the Index must be constructed, the scores do not represent a *level* of multiple deprivation. If, for example, area A has twice the score of area B, it does not necessarily mean that area A is twice as deprived as area B. This means that the scores do not in fact contain any more information on levels of multiple deprivation than the ranks do. The constraints on constructing an index mean that we can only produce a *relative* measure of deprivation. For *levels* of deprivation, the underlying indicator data must be used.

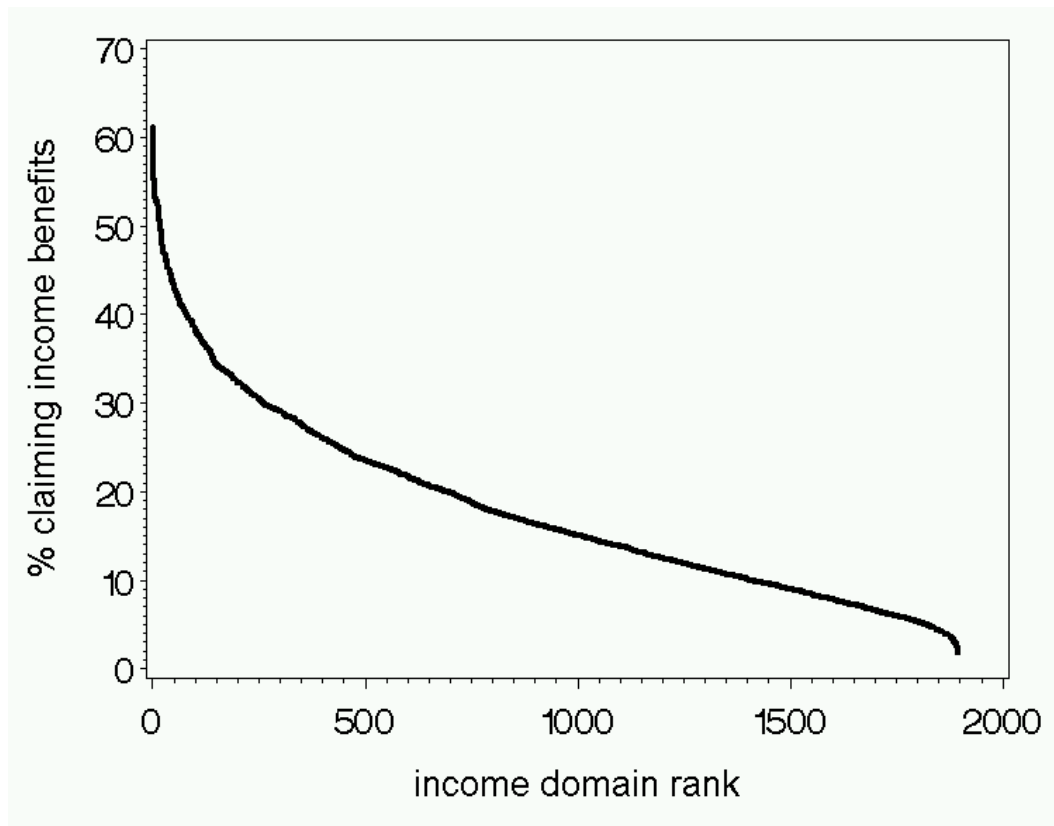
3. Identifying areas of need

Understanding how disadvantaged people are distributed through Wales by carrying out the following kind of analysis is important when developing area-based policies, programmes and funding.

The simplest use of WIMD is to identify the areas of greatest deprivation using the Index ranks. For example, the most deprived 10% of areas in Wales are those ranked 1 – 190 (inclusive). However, it should be understood that not all deprived people live in the most-deprived areas. Around 1 in 5 of the people in income-benefits households live in the most-deprived 10% of areas in Wales. This means that, although it is true to say that deprivation is much more concentrated in some areas than others, 4 out 5 people in income-benefits households live outside these areas, and this should be borne in mind when developing policy.

The figure below shows how the percentage of the population in income-benefit households is distributed by income domain rank in WIMD 2011. It is important to understand that:

- deprivation rates increase steeply for the most deprived areas;
- deprived people live outside the most-deprived areas;
- the 's-curve' shape of the distribution is seen to a greater or lesser extent in all the indicators of deprivation;
- at the most deprived end of the distribution, the steep curve means that large changes in the indicator value may only result in small changes to ranks. At the less deprived end, where the curve is flatter, the opposite is true, and small changes to the indicator values could result in large movements in the ranks.



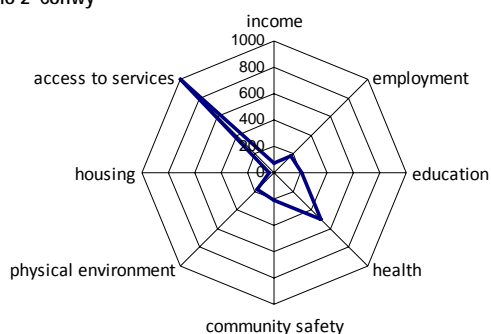
4. Understanding local areas using the domain ranks

One of the strengths of the Index is that, in addition to providing a rank for overall relative multiple deprivation for the small areas of Wales, ranks are also calculated for the eight different types of deprivation that make up the overall index. These domain ranks can be used to understand the drivers for deprivation in an area. For example, the three areas presented in the table and radar charts below are consecutive in their WIMD ranks, but the pattern of deprivation across their domains is quite different.

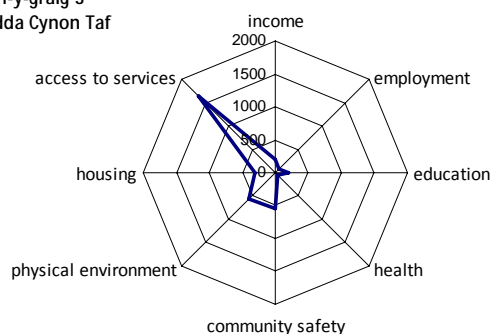
LSOA	W01000187	W01001219	W01001880
LSOA name	Tudno 2	Pen-y-graig 3	Trowbridge 4
local authority	Conwy	Rhondda Cynon Taf	Cardiff
WIMD 2011 rank	121	122	123
income rank	72	198	35
employment rank	182	81	400
education rank	205	200	89
health rank	499	53	229
community safety rank	208	544	157
physical environment rank	184	563	463
housing rank	32	312	647
access to services rank	996	1639	939

Radar plots for three areas with consecutive WIMD 2011 ranks, showing the different contributions from the domain ranks for each area, which nevertheless contribute to consecutive Index ranks. Note that deprivation increases towards the centre of the plots, and scales vary on the radar plots. The WIMD 2011 ranks are: Tudno 2 – 121; Pen-y-graig 3 – 122; Trowbridge 4 – 123.

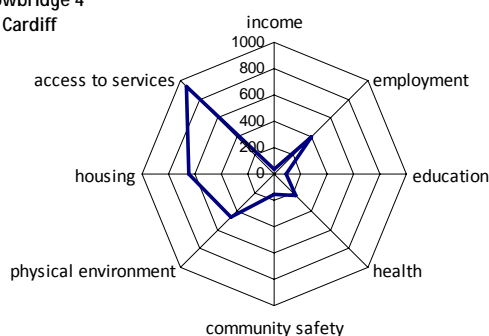
Tudno 2 Conwy



Pen-y-graig 3
Rhondda Cynon Taf



Trowbridge 4
Cardiff



5. Aggregating to larger geographies

It is not possible to aggregate the ranks of either the Index or the domains to larger geographies or non-geographic groups by taking an average of the ranks (or scores) of the small areas which make up the larger area. This is because of the way in which the Index is constructed. We can know if one area is more or less deprived, but not by how much, so taking an average does not make sense. However, if larger geographies (or non-geographic groups) are to be compared, there are two methods for doing this.

The first method is to calculate the percentage of the small areas in the larger geography which are in the most-deprived 10 (ranks 1-190) or 20 (ranks 1-380) per cent of areas in Wales. This has been done for the local authorities, and the results are presented in the Index and domain chapters of this report, with a summary in Annex D. The data are also available from the [StatsWales](#) web pages (Local Authority Analysis).

In general, the method for calculating the percentage for larger geographies is:

- count the number of LSOAs in the area of interest – n_LSOA;
- count the number of LSOAs ranked 1-190 (for the most-deprived 10%) in the area of interest – n_10%
- calculate the percentage of LSOAs in the most-deprived 10% - p_10%:
$$p_{10\%} = 100 \times (n_{10\%} / n_{LSOA})$$

If an area has more than 10% (20%) of its small areas in the most-deprived 10% (20%) it can be considered relatively deprived. If it has fewer than 10% (20%), then it can be considered relatively undeprived.

The second method is to use the individual indicators, which can be aggregated. Since March 2011, the indicators have been published not just at the small area level, but also for a range of other useful groups, including local authorities and Community First areas. These can simply be downloaded from the WIMD: indicator analysis folder on [StatsWales](https://stats.wales.gov.uk/) . A full list of the available aggregations can be found in Annex A.

6. Monitoring change over time

A ranking system cannot be used to monitor change over time. This is because it is not known whether a change in rank for an area is due to changes in that area itself, or to other areas moving up or down the ranks, changing its position without actual change in the area.

However, the indicator data offer a solution. The WIMD: indicator analysis will be updated annually, or as frequently as data are available. As the indicators represent absolute levels of the various measures of deprivation, they can be used to monitor change over time. The natural variability of small area statistics has been mitigated by the use of mean values over several years where appropriate, but care should still be taken with the interpretation of small number statistics. Annual updates to the indicator analysis will be carried out for all the available aggregations which were first published in March 2011, starting with the WIMD 2011 indicators in autumn 2011.

7. Adding contextual information

The Index is most useful if it is used in conjunction with other information, either from the Index indicators, other published data, or local information. Contextual information could include: the location of existing programmes or services; the number of people affected by a particular aspect of deprivation, for example, the number in receipt of benefits, or the number affected by a particular health issue; the Defra rural-urban class; broadband access, and so on. Exploring the indicators and using additional information ensures that the challenges in individual areas can be understood.

8. Making UK comparisons

England, Scotland and Northern Ireland all produce their own indexes of multiple deprivation. However, these are not directly comparable because:

- they are produced for different geographies; there is no suitable small area geography which is consistent across the four nations;
- there are differences between the indicators. Not all data is collected consistently across the UK. For example, the justice and education systems for Scotland are different from England and Wales, so many crime and education indicators are not comparable;
- the Indexes have developed according to the policy drivers in each of the countries. As devolution has evolved, these differences have grown;
- the Indexes are produced on different timescales, so they do not tend to refer to the same year of data across the UK. Again, this is often driven by different policy requirements in the different countries.

However, users often want to compare deprivation across the UK, for example, to allocate funding. The Four Nations have therefore worked together with the Office for National Statistics to produce a paper which outlines several approaches to doing this. The guidance paper [*Comparing countries' indices of deprivation*](#) can be found on the website of the Office for National Statistics.

How to download the Index, its domains and indicators

This section presents a step-by-step introduction to downloading WIMD data from the Welsh Government's StatsWales web site.

- go to the [StatsWales](#) web pages;
- WIMD data can be found under Social Inclusion -> Welsh Index of Multiple Deprivation;
- select required data set, e.g. WIMD 2011 for the 2011 publication of the Index, WIMD: indicator analysis, for indicator data. See Annex A for a list of available data;
- click on the data set of interest, and view the table of data;
- to explore the table:
 - click on 'Area' to select areas of interest, and then 'Show table' to return to the edited table;
 - use the **arrows** at the top of the table, next to 'other', to view different data sets;
 - click on the 'i' icons for more information;
 - to download data, click on the **open folder** symbol, at the top left of the page, and download as an Excel or csv spreadsheet;
 - to change the LSOA labels, from names (e.g. Braint) to codes (e.g. W01000008 or 008A), click on 'Area', and then the label icon, fourth

from the left, top left of the table. 'View alternate labels' will appear as you hover over the correct icon. Then click on 'Show table'.

- The figure below shows the location of the icons listed above.

Screenshots of StatsWales tables, with useful icons marked.

download data

download data

select geographical areas

explore data sets

read information

Measure	Rank	Deprivation score
Isle of Anglesey	-	-
Aberffraw & Rhosneigr 1 (W01000001)	(r) 616	(r) 24.7
Aberffraw & Rhosneigr 2 (W01000002)	(r) 772	(r) 21.0
Amlwch Port (W01000003)	(r) 1111	(r) 20.7

view alternate labels

display edited table

view alternate labels

display edited table

Table size: 1918 rows by 2 columns

COLUMNS: Measure

ROWS: Area

Other: Domain

Select range

- ☒ Isle of Anglesey
 - ☒ Aberffraw & Rhosneigr 1 (W01000001)
 - ☒ Aberffraw & Rhosneigr 2 (W01000002)
 - ☒ Amlwch Port (W01000003)
 - ☒ Amlwch Rural (W01000004)
 - ☒ Beaumaris (W01000005)
 - ☒ Bodffordd (W01000006)
 - ☒ Bodorgan (W01000007)
 - ☒ Braint (W01000008)
 - ☒ Bryngwran (W01000009)

Further guidance and information

The Welsh Index of Multiple Deprivation [web pages](#) host further information on the Index, including:

WIMD 2011 Technical Report

WIMD 2011 Quality Report

A summary of methodological changes in WIMD 2011

WIMD 2011 Guidance Leaflet

[Papers and minutes from the Index governance groups](#)



Welsh Index of Multiple Deprivation

Index methodology

For a complete description of the construction of the Index, its domains, and the underlying indicators, please see the WIMD 2011 Technical Report.

Domains

The Index contains eight domains, which have the following weights in the Index:

domain	weight / %
employment	23.5
income	23.5
education	14
health	14
community safety	5
geographical access to services	10
housing	5
physical environment	5

The housing domain and the geographical access to services domain were not updated in 2011, as appropriate data were not available. The 2008 ranks for these domains were used to construct the 2011 Index.

Methodological changes

There are no methodological changes in the construction of the Index from its domains. There are some minor changes to some of the domains and their indicators. These are described in the relevant domain chapters, and in Annex B: a summary of methodological changes in WIMD 2011.

Index results and analysis

The Index and domain ranks (WIMD 2011) and indicators (WIMD: indicator analysis) can be downloaded from the Welsh Government's [StatsWales](#) web pages. The following sub-section describes some of the changes occurring to LSOAs in the Index since WIMD 2008.

The table below shows the number of small areas (LSOAs) in each of the WIMD deprivation groups for WIMD 2008 and 2011. The diagonal, in bold, shows the number of LSOAs which have remained in the same deprivation group. Above the diagonal are the numbers of areas which have moved from a more to a less deprived group. Below the diagonal are the numbers of areas which have moved from a less to a more deprived group.

		WIMD 2011					total ranks 1-1896
		10% most deprived ranks 1-190	10-20% most deprived ranks 191-380	20-30% most deprived ranks 381-570	30-50% most deprived ranks 571 - 950	50% least deprived ranks 951 - 1896	
WIMD 2008	10% most deprived ranks 1-190	165	25	0	0	0	
	10-20% most deprived ranks 191-380	25	133	32	0	0	190
	20-30% most deprived ranks 381-570	0	32	128	30	0	190
	30-50% most deprived ranks 571-950	0	0	30	302	48	380
	50% least deprived ranks 951-1896	0	0	0	48	898	946
	total ranks 1-1896	190	190	190	380	946	1896

No area has either improved or worsened by more than one deprivation group. However, it should be remembered that the ranks are *relative*, and no conclusion about changes to the overall *level* of deprivation can be drawn from changes to the Index ranks. The underlying indicators, which measure levels of various types of deprivation, must be analysed in order to understand how levels of deprivation have changed in individual areas.

The table below lists the ten most deprived areas in Wales, as determined by the 2011 Index, together with the two areas that were ranked between 1 and 10 in WIMD 2008, but have moved out of that group in 2011.

LSOA	local authority	LSOA name	WIMD 2011	WIMD 2008
W01000240	Denbighshire	Rhyl West 2	1	1
W01001421	Caerphilly	St. James 3	2	9
W01001428	Caerphilly	Twyn Carno 1	3	8
W01001308	Merthyr Tydfil	Penydarren 1	4	7
W01001209	Rhondda Cynon Taf	Penrhiwceiber 1	5	10
W01000862	Swansea	Townhill 1	6	6
W01000239	Denbighshire	Rhyl West 1	7	3
W01000991	Bridgend	Caerau (Bridgend) 1	8	12
W01000413	Wrexham	Queensway 1	9	2
W01001274	Rhondda Cynon Taf	Tylorstown 1	10	16
W01001700	Cardiff	Butetown 2	68	4
W01000237	Denbighshire	Rhyl South West 2	12	5

- Rhy West 2, Denbighshire, remains the most deprived small area in Wales.
- Eight of the ten most-deprived areas in WIMD 2008 remain in the most deprived 10 areas in WIMD 2011.
- Rhyl South West 2, Denbighshire, has moved from rank 5 (WIMD 2008) to rank 12 (WIMD 2011).
- Butetown 2, Cardiff, has improved its ranking from 4 in WIMD 2008 to 68 in 2011. This change has been driven by absolute improvements in the level of deprivation in the income and employment domains.
- Castle 2, Swansea (W010000743) was ranked 11th in WIMD 2008. In WIMD 2011, it has a rank of 62. Whilst this is still inside the most deprived 10% of all LSOAs in Wales, this reflects a real improvement in the employment and income domains, with the percentage of working-age population in receipt of employment-related benefits dropping from 55.8% in WIMD 2008, to 38% in WIMD 2011.

Local authority analysis

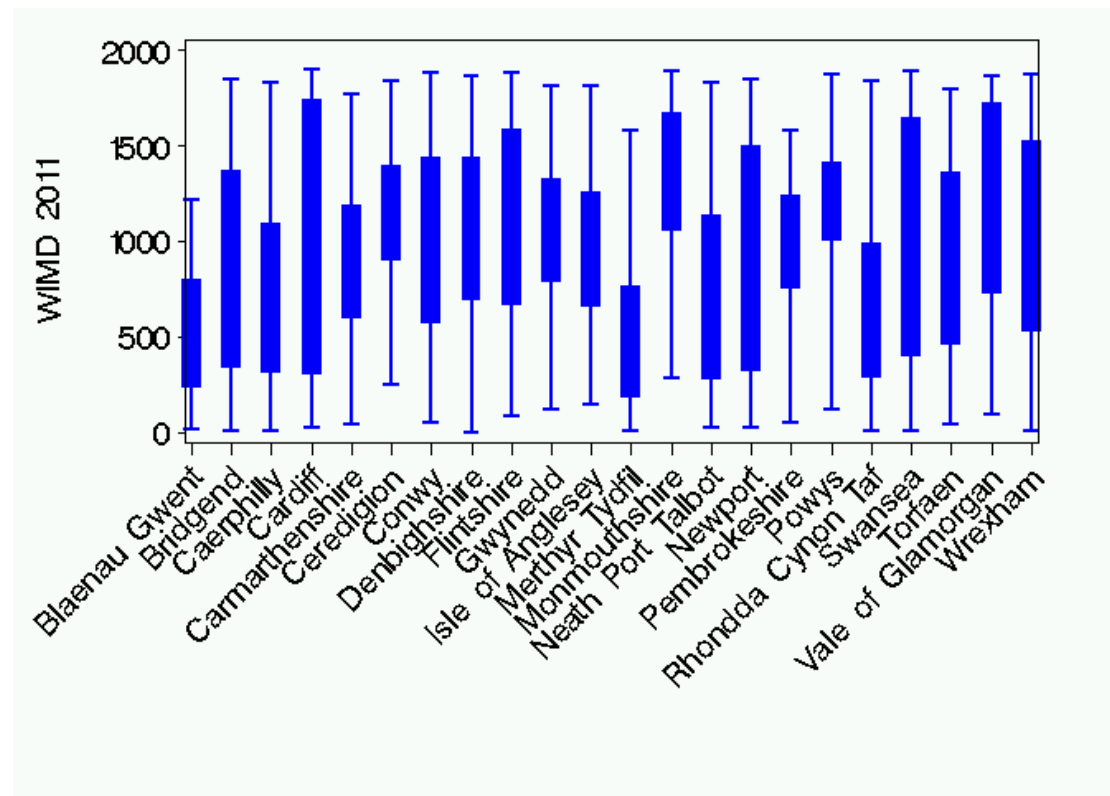
The table below shows, for WIMD 2011, the percentage of small areas (LSOAs) in each local authority which are in the most deprived 10% (ranks 1-190), 20% (ranks 1-380), 30% (ranks 1-570) and 50% (ranks 1-950) LSOAs in Wales.

In this analysis, the most deprived local authority is defined as the authority with the greatest fraction of its LSOAs in the most deprived 10% of all LSOAs in Wales. This method can be seen as identifying the concentration of the most deprived areas in a local authority, rather than an average level of deprivation.

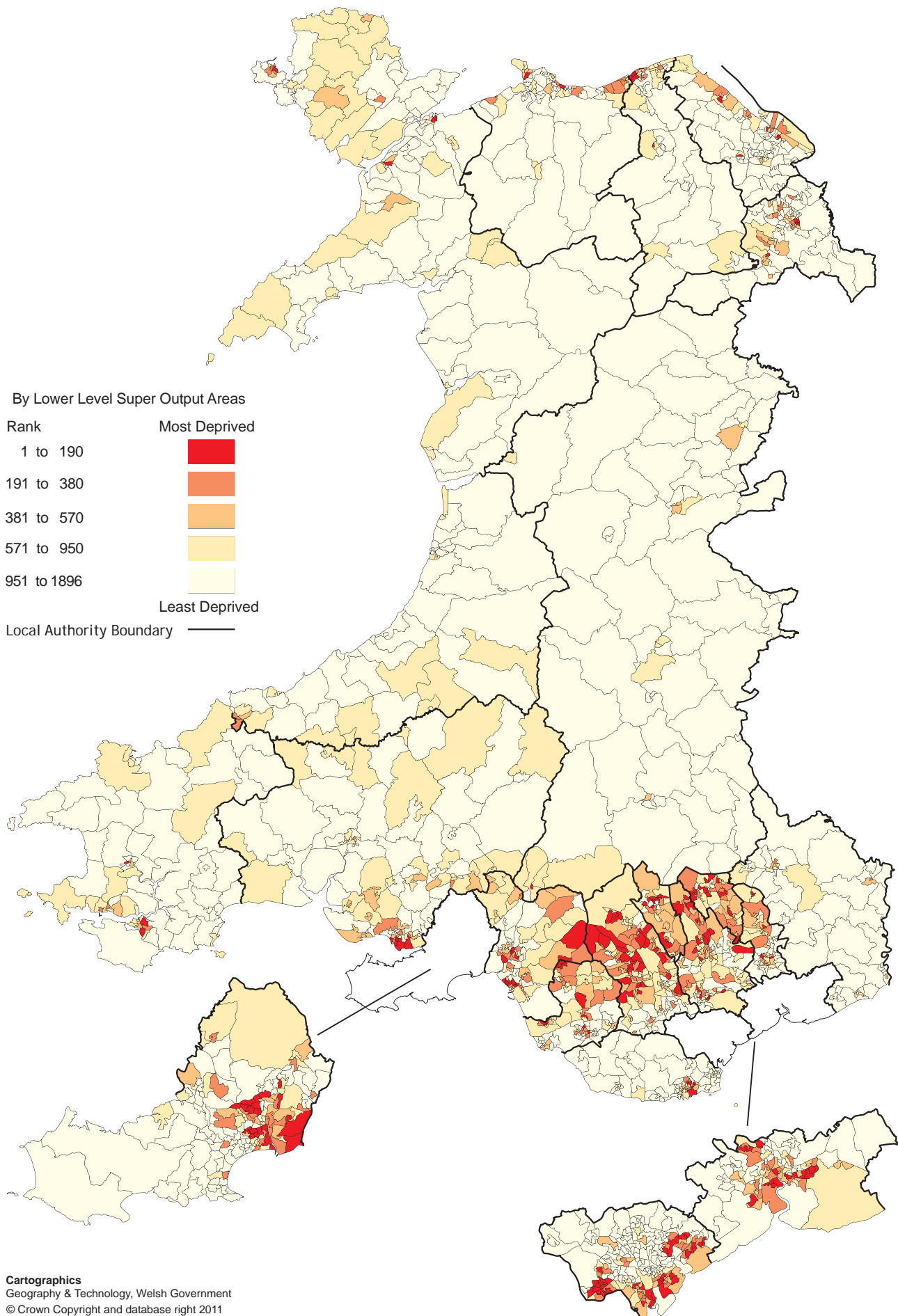
- The most deprived local authority is Merthyr Tydfil, with 25.0% of its LSOAs in the most deprived 10% in Wales, followed by Blaenau Gwent (23.4%) and Rhondda Cynon Taff (17.8%).
- Blaenau Gwent has 87.2%, Merthyr Tydfil 77.8% and Rhondda Cynon Taf 73.7% of their LSOAs in the most deprived 50% in Wales.
- The least deprived local authorities are Ceredigion and Monmouthshire, with no LSOAs in the most deprived 10% in Wales.
- In general, the Valleys and urban local authorities tend to be more deprived than those which are largely rural.

local authority	number of LSOAs in local authority	% LSOAs in most-deprived 10% ranks 1-190	% LSOAs in most-deprived 20% ranks 1-380	% LSOAs in most-deprived 30% ranks 1-570	% LSOAs in most-deprived 50% ranks 1-950
Isle of Anglesey	44	2.3	15.9	20.5	54.5
Gwynedd	75	4.0	4.0	6.7	32.0
Conwy	71	2.8	14.1	22.5	43.7
Denbighshire	58	10.3	15.5	19.0	46.6
Flintshire	92	4.3	10.9	17.4	31.5
Wrexham	85	5.9	14.1	29.4	43.5
Powys	80	1.3	1.3	7.5	20.0
Ceredigion	47	0.0	4.3	4.3	31.9
Pembrokeshire	71	4.2	8.5	14.1	39.4
Carmarthenshire	112	5.4	10.7	22.3	53.6
Swansea	147	11.6	24.5	32.0	49.0
Neath Port Talbot	91	15.4	30.8	44.0	68.1
Bridgend	85	10.6	28.2	40.0	60.0
Vale of Glamorgan	78	6.4	12.8	17.9	35.9
Cardiff	203	15.8	26.6	34.5	44.3
Rhondda Cynon Taf	152	17.8	34.9	50.7	73.7
Merthyr Tydfil	36	25.0	44.4	61.1	77.8
Blaenau Gwent	47	23.4	40.4	66.0	87.2
Caerphilly	110	14.5	26.4	40.0	68.2
Monmouthshire	58	0.0	1.7	8.6	22.4
Torfaen	60	6.7	16.7	35.0	56.7
Newport	94	16.0	29.8	42.6	56.4
Wales	1896	10.0	20.0	30.0	50.0

The box plot below shows the spread of Index ranks for each local authority in Wales. The blue boxes contain half the total number of LSOAs in each local authority, centred on the median (middle) rank for each local authority and the 'whiskers' show the full range of ranks in that local authority. Deprivation increases with decreasing rank (that is, towards the bottom of the plot).



Welsh Index of Multiple Deprivation





Employment domain methodology

The employment domain has a weight of 23.5% in the Index. This domain and the income domain are the highest weighted components of the Index. For a complete description of the construction of the employment domain, please see the WIMD 2011 Technical Report.

Indicators

The employment domain contains one indicator:

indicator	units	denominator	indicator year(s)	data source
percentage in receipt of employment-related benefits	%	LSOA working age population	2009/10	DWP

The employment-related benefits included in the indicator are the de-duplicated total of working-age people in receipt of: Incapacity Benefit, Severe Disablement Allowance, New Deal for Young People, New Deal for 25+, New Deal for Lone Parents, Jobseeker's Allowance, and Employment and Support Allowance.

Methodological changes

The Employment and Support Allowance (ESA) has replaced Incapacity Benefit for new claimants since October 2008.

For WIMD 2011, data from DWP has been received as percentages by LSOA rounded to the nearest whole number. This means that it is possible for several LSOAs to have the same indicator values (percentage of working age people in receipt of employment-related benefits) and therefore there are a relatively large number of tied ranks in this domain. This means that the standard rank ranges (1-190, 191-380 etc) do not correspond exactly to the usual 10, 20, 30% etc. of the number of LSOAs in Wales.

Employment domain results and analysis

The full set of domain ranks (WIMD 2011) and indicators (WIMD: indicator analysis) can be downloaded from the Welsh Government's [StatsWales](#) web pages. The following sub-section describes some of the changes occurring to LSOAs in the employment domain since WIMD 2008.

The table below shows the number of small areas (LSOAs) in each of the WIMD deprivation groups for WIMD 2008 and 2011. The diagonal, in bold, shows the number of LSOAs which have remained in the same deprivation group. Above the

diagonal are the numbers of areas which have moved from a more to a less deprived group. Below the diagonal are the numbers of areas which have moved from a less to a more deprived group.

		employment domain 2011					total ranks 1-1896
		10% most deprived ranks 1-190	10-20% most deprived ranks 191-380	20-30% most deprived ranks 381-570	30-50% most deprived ranks 571 - 950	50% least deprived ranks 951 - 1896	
employment domain 2008	10% most deprived ranks 1-190	175	15	0	0	0	190
	10-20% most deprived ranks 191-380	47	114	29	0	0	190
	20-30% most deprived ranks 381-570	0	43	108	39	0	190
	30-50% most deprived ranks 571-950	0	5	48	298	29	380
	50% least deprived ranks 951-1896	0	0	0	100	846	946
	total ranks 1-1896	222	177	185	437	875	1896

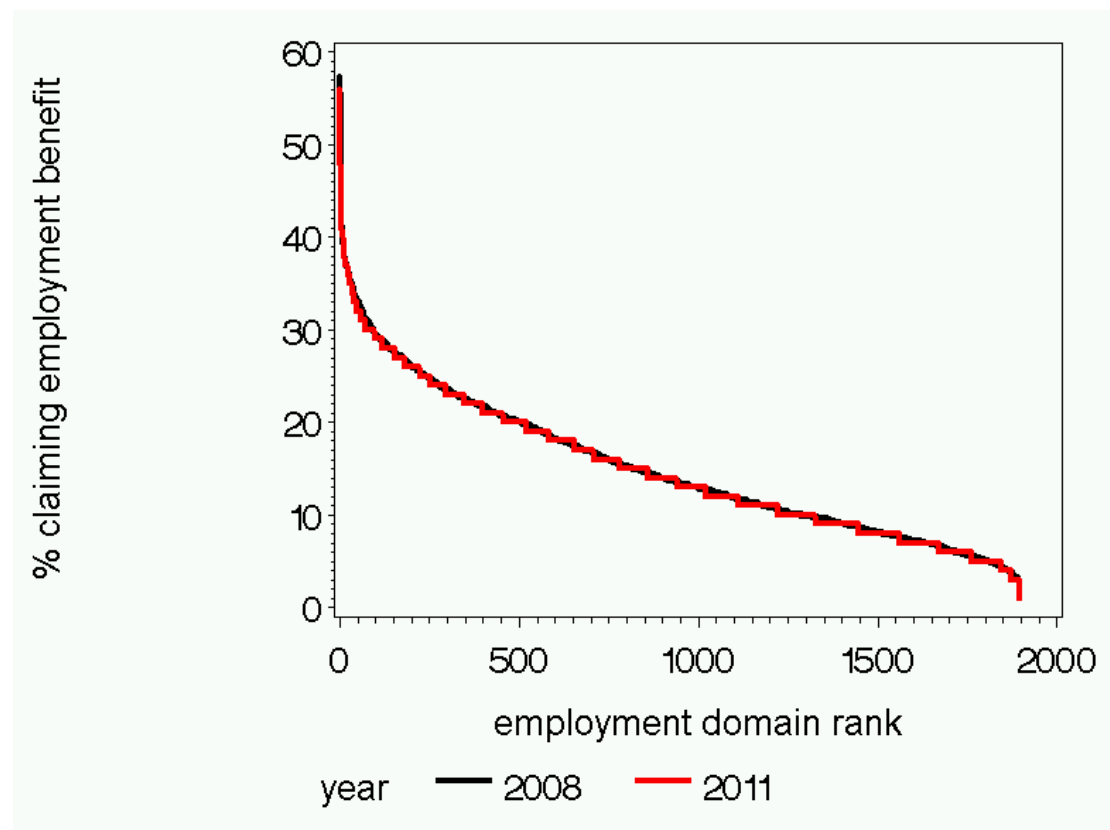
The table below lists the biggest climbers and fallers in the employment domain, between WIMD 2008 and WIMD 2011. It should be noted that:

- there has not been much substantial movement between WIMD 2011 and WIMD 2008 deprivation groups in this domain;
- no area has moved by more than two groups, and only five of them have moved by two groups;
- these five areas have all fallen from the fourth to the second-most deprived group. These are listed in the table below;
- although W01000743, Castle 2 in Swansea has moved only 11 ranks, from rank 2 in this domain in WIMD 2008 to rank 13 in WIMD 2011, this represents a decrease in the percentage of working-age people in receipt of employment-related benefits of 17.8 percentage points, from 55.8% (WIMD 2008) to 38% (WIMD 2011). This is the biggest fall in percentage points for any LSOA, and illustrates the difficulty of escaping from the most-deprived end of the most deprived group in this domain.

	LSOA	LSOA name	local authority	employment 2011	employment 2008
biggest fallers	W01000592	Milford: Hubberston 2	Pembrokeshire	295	591
	W01001633	Gaer 5	Newport	347	571
	W01001558	Lansdown	Monmouthshire	347	683
	W01001094	Gibbonsdown 1	Vale of Glamorgan	347	588
	W01000752	Clydach 3	Swansea	347	576

The distribution of deprived population in the employment domain

The plot below shows the employment domain ranks and indicator values for the employment domain in WIMD 2008 and WIMD 2011. It should be remembered that two points with the same rank for 2008 and 2011 may not refer to the same area.



The plot shows that there has been very little change in the percentage of working-age people in receipt of employment-related benefits between WIMD 2008 and WIMD 2011.

At the most deprived end of the distribution there is a steep increase in the percentage of people receiving employment benefits with small increases in rank. The percentage falls by half in only the first 120 ranks, from 56% at rank = 1, to 28% at rank = 120.

The table below puts some numbers to the plot above. Around half of those people in receipt of employment-related benefits are found in the most-deprived 30% of LSOAs in Wales. Over 20% are found at a rank less than or equal to 190, that is, in the most deprived 10% of areas in Wales. Note that, due to the relatively large number of tied ranks in this domain, the ranks ranges do not correspond exactly to the usual 10, 20, 30% etc. of LSOAs in Wales.

% of total number of employment- deprived people	% of Welsh LSOAs	domain ranks
22.4	most-deprived 11.7%	1 - 190
36.6	most-deprived 21.0%	1 - 380
50	most-deprived 30.8%	1 - 585
7.4	least-deprived 17.8%	1516 - 1896

Local authority analysis

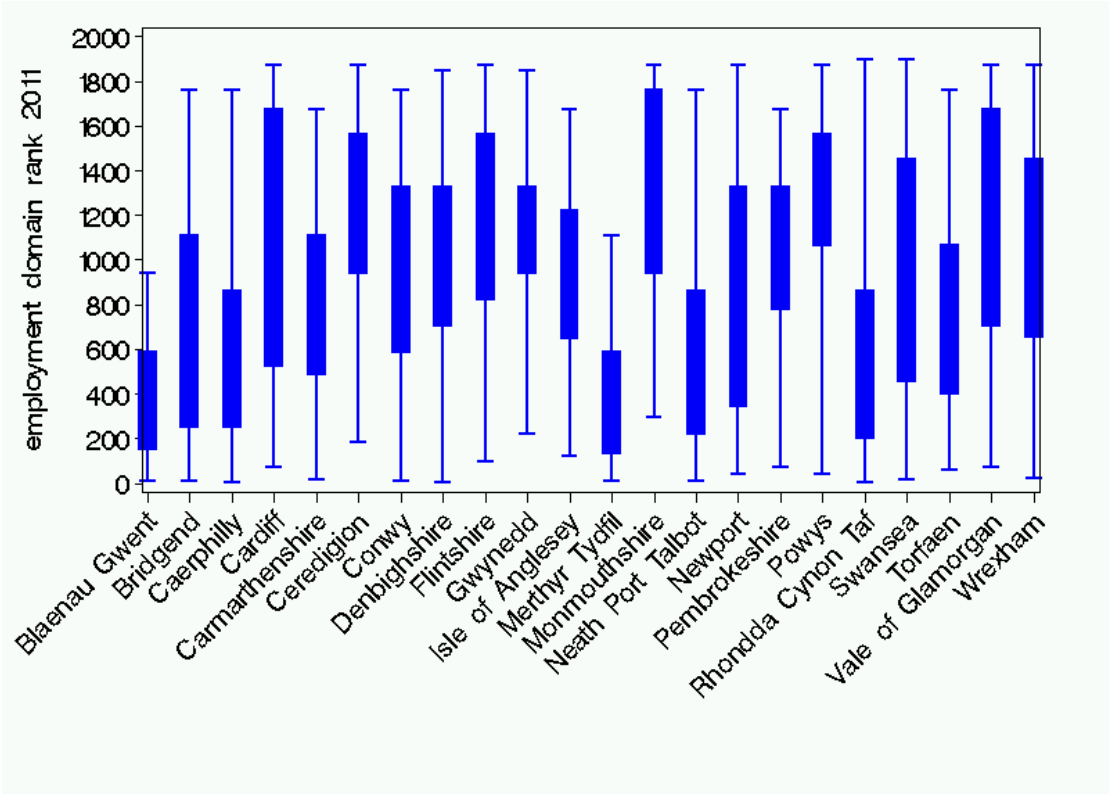
The table below shows, for the employment domain of WIMD 2011, the percentage of small areas (LSOAs) in each local authority which are in the most deprived 11.7% (ranks 1-190), 21.0% (ranks 1-380), 30.1% (ranks 1-570) and 54.0% (ranks 1-950) LSOAs in Wales. Note that, due to the relatively large number of tied ranks in this domain, the ranks ranges do not correspond exactly to the usual 10, 20, 30% etc. of LSOAs in Wales.

In this analysis, the most deprived local authority is defined as the authority with the greatest fraction of its LSOAs in the most deprived 10% of all LSOAs in Wales. This method can be seen as identifying the concentration of the most deprived areas in a local authority, rather than an average level of deprivation.

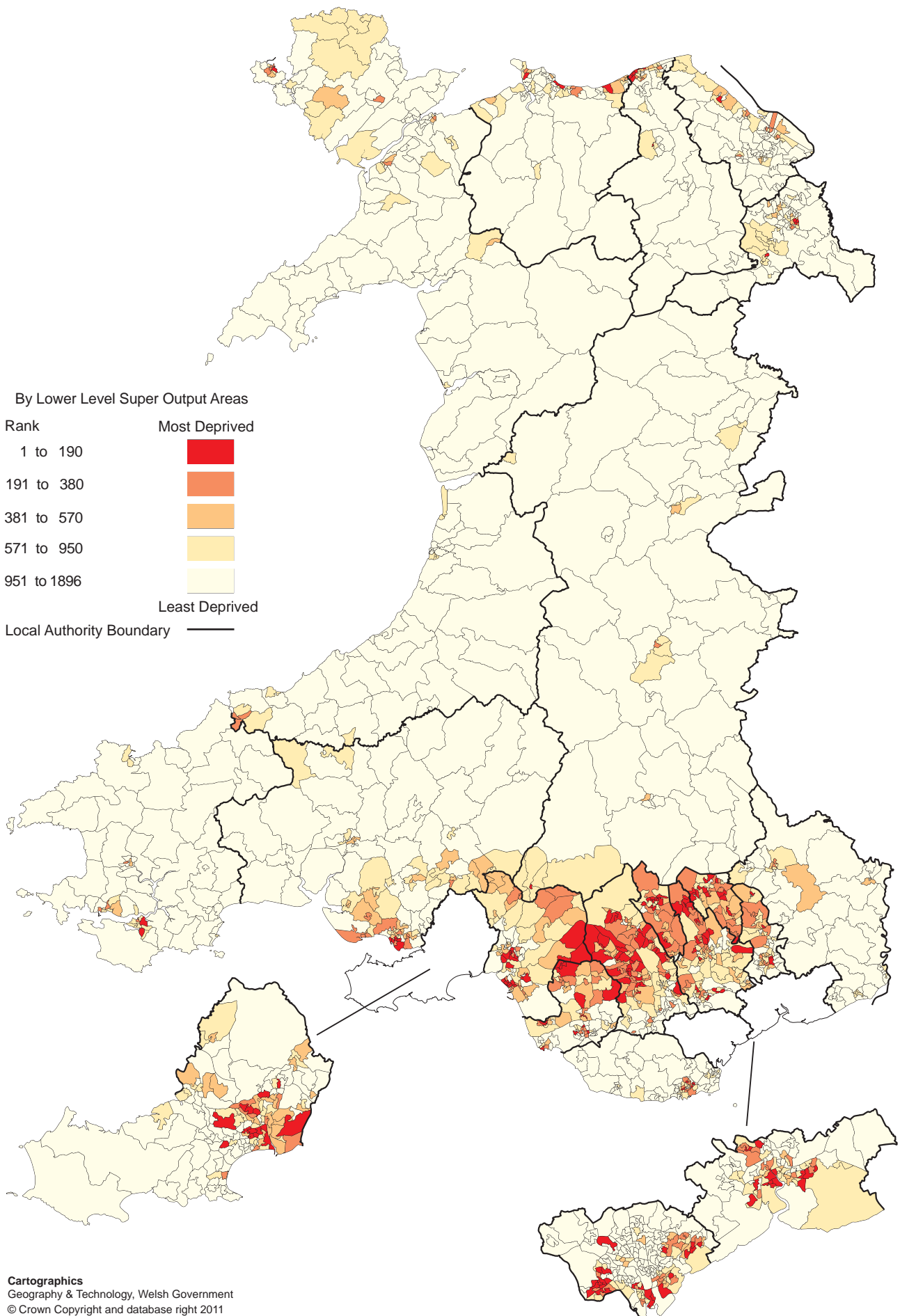
- The most deprived local authorities in the employment domain are Merthyr Tydfil, with 33.3% of its LSOAs in the most deprived 10% in Wales, and Blaenau Gwent with 31.9%. All of the LSOAs of Merthyr Tydfil are ranked in the most deprived half of LSOAs in Wales. 94.4% of Blaenau Gwent's LSOAs are in the most deprived half of Welsh LSOAs.
- The least deprived local authorities in the employment domain are Gwynedd and Monmouthshire, with no LSOAs in the most deprived 10% in Wales. Gwynedd has only 28.0% of its LSOAs in the most deprived 50% in Wales, and Monmouthshire 29.3%.
- In general, the urban and Valleys local authorities are more deprived than the rural authorities. Further analysis of this domain by Defra rural-urban class can be found in the WIMD: indicator analysis data on StatsWales.

local authority	number of LSOAs in local authority	% LSOAs in most-deprived 10% ranks 1-190	% LSOAs in most-deprived 20% ranks 1-380	% LSOAs in most-deprived 30% ranks 1-570	% LSOAs in most-deprived 50% ranks 1-950
Isle of Anglesey	44	6.8	11.4	22.7	56.8
Gwynedd	75	0.0	2.7	8.0	28.0
Conwy	71	5.6	11.3	22.5	43.7
Denbighshire	58	10.3	17.2	20.7	46.6
Flintshire	92	1.1	7.6	14.1	35.9
Wrexham	85	4.7	7.1	18.8	43.5
Powys	80	1.3	2.5	7.5	23.8
Ceredigion	47	4.3	4.3	4.3	25.5
Pembrokeshire	71	2.8	11.3	14.1	39.4
Carmarthenshire	112	7.1	16.1	27.7	58.0
Swansea	147	10.2	20.4	31.3	54.4
Neath Port Talbot	91	24.2	37.4	53.8	83.5
Bridgend	85	18.8	34.1	48.2	67.1
Vale of Glamorgan	78	7.7	14.1	14.1	41.0
Cardiff	203	11.3	20.2	26.1	39.9
Rhondda Cynon Taf	152	25.0	43.4	59.9	79.6
Merthyr Tydfil	36	33.3	52.8	69.4	94.4
Blaenau Gwent	47	31.9	57.4	74.5	100.0
Caerphilly	110	21.8	31.8	46.4	77.3
Monmouthshire	58	0.0	3.4	8.6	29.3
Torfaen	60	8.3	21.7	41.7	65.0
Newport	94	16.0	25.5	31.9	57.4
Wales	1896	11.7	21.0	30.1	54.0

The box plot below shows the spread of employment domain ranks for each local authority in Wales. The blue boxes contain half the total number of LSOAs in each local authority, centred on the median (middle) rank for each local authority and the 'whiskers' show the full range of ranks. Deprivation increases with decreasing rank (that is, towards the bottom of the plot).



Employment Domain





Income domain methodology

The income domain has a weight of 23.5% in the Index. This domain and the employment domain are the highest weighted components of the Index. For a complete description of the construction of the income domain, please see the WIMD 2011 Technical Report.

Indicators

The income domain contains one indicator:

indicator	units	denominator	indicator year(s)	data source
percentage in receipt of income-related benefits, or dependent child of same			2009/10	DWP
percentage in households receiving Tax Credits with income less than 60% of the Wales median, or dependent child of same	%	LSOA population	2009/10	HMRC
NASS-supported asylum seekers			2010	NASS

The income-related benefits included in the indicator are the de-duplicated total of adults in receipt of: Income Support, Jobseekers Allowance, Pension Credit, Income-Based Employment and Support Allowance, and their dependent children.

Methodological changes

The Employment and Support Allowance (ESA) has replaced Incapacity Benefit for new claimants since October 2008. The Income Support element of Incapacity Benefit is replaced with the income-based element of ESA.

No comparison with the income domain of WIMD 2008 has been carried out, because the 2008 income indicator values are not comparable with the WIMD 2011 income indicator. This is because the dependent children of claimants of income-related Department of Work and Pensions (DWP) benefits were erroneously omitted from the indicator in 2008. This was only discovered during the production of WIMD 2011 and at the time of publication the WIMD 2008 indicators and ranks had not been revised. Significant changes to the income domain and Index ranks in WIMD 2008 are not expected as a result of correcting this error.

However, for transparency, a comparison between the ranks of the income domain in WIMD 2008 and WIMD 2011 is included here.

Income domain results and analysis

The full set of domain ranks (WIMD 2011) and indicators (WIMD: indicator analysis) can be downloaded from the Welsh Government's [StatsWales](#) web pages. The following sub-section describes some of the changes occurring to LSOAs in the income domain since WIMD 2008.

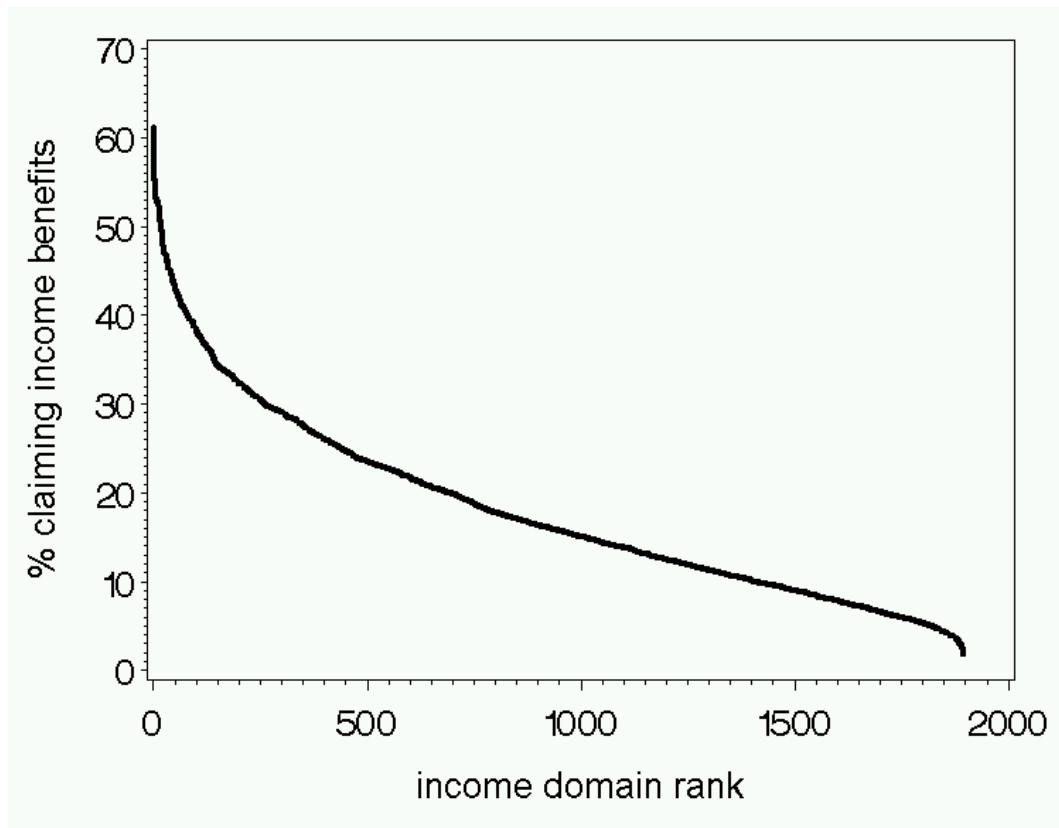
The table below shows the number of small areas (LSOAs) in each of the WIMD deprivation groups for WIMD 2008 and 2011. The diagonal, in bold, shows the number of LSOAs which have remained in the same deprivation group. Above the diagonal are the numbers of areas which have moved from a more to a less deprived group. Below the diagonal are the numbers of areas which have moved from a less to a more deprived group.

Ten areas have improved their ranking by two groups, and five have fallen by two groups.

		income domain 2011					total ranks 1-1896
		10% most deprived ranks 1-190	10-20% most deprived ranks 191-380	20-30% most deprived ranks 381-570	30-50% most deprived ranks 571 - 950	50% least deprived ranks 951 - 1896	
income domain 2008	10% most deprived ranks 1-190	143	44	3	0	0	190
	10-20% most deprived ranks 191-380	45	98	40	7	0	190
	20-30% most deprived ranks 381-570	2	45	90	53	0	190
	30-50% most deprived ranks 571-950	0	3	57	250	70	380
	50% least deprived ranks 951-1896	0	0	0	70	876	946
	total ranks 1-1896	222	177	185	437	875	1896

The distribution of deprived population in the income domain

The plot below shows the income domain ranks and indicator values for the income domain in WIMD 2011.



The plot shows that at the most deprived end of the distribution there is a steep increase in the percentage of people receiving income benefits. The percentage falls by half in the first 250 ranks, from 61.1% at rank = 1, to 30.5% at rank = 252.

The table below puts some numbers to the plot above. Around half of those people in receipt of income-related benefits are found in the most-deprived 30% of LSOAs in Wales. Over 20% are found at a rank less than or equal to 190, that is, in the most deprived 10% of areas in Wales.

% of total number of deprived people	% of Welsh LSOAs	domain ranks
21.7	most-deprived 10%	1 - 190
37.6	most-deprived 20%	1 - 380
50	most-deprived 29.2%	1 - 554
7.3	least-deprived 20%	1516 - 1896

Local authority analysis

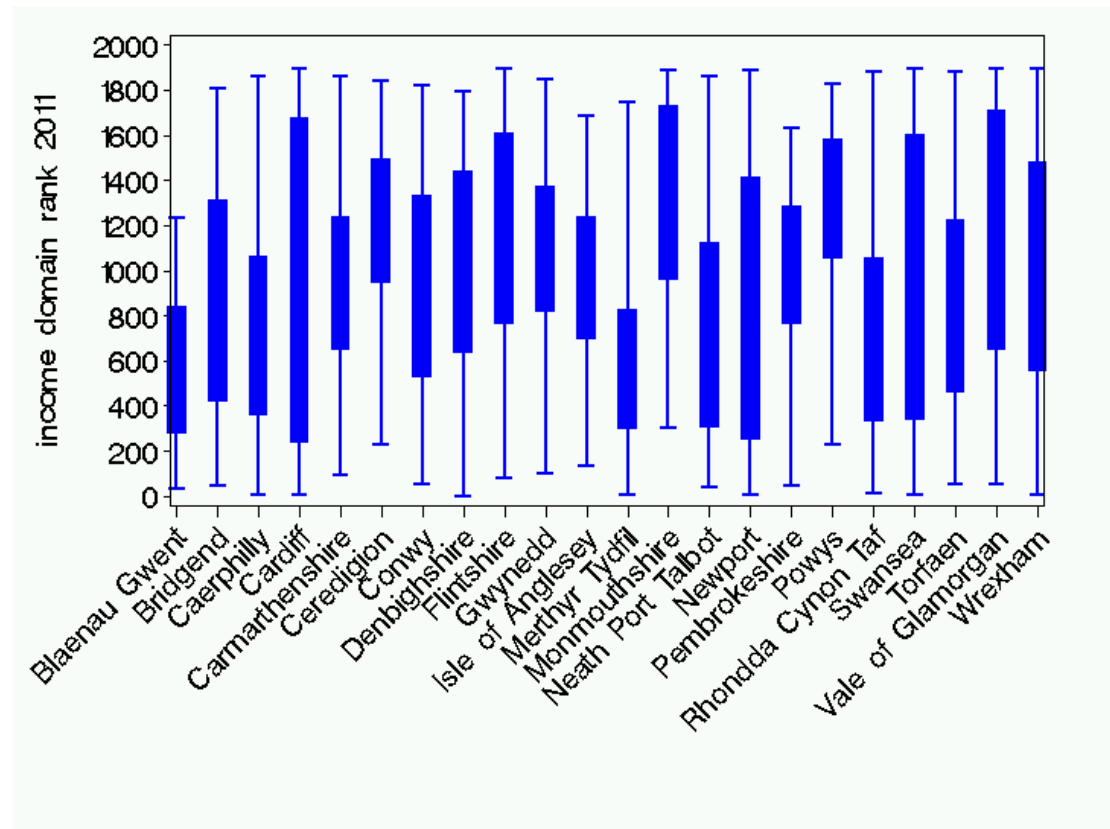
The table below shows, for the income domain of WIMD 2011, the percentage of small areas (LSOAs) in each local authority which are in the most deprived 10% (ranks 1-190), 20 % (ranks 1-380), 30% (ranks 1-570) and 50% (ranks 1-950) LSOAs in Wales.

In this analysis, the most deprived local authority is defined as the authority with the greatest fraction of its LSOAs in the most deprived 10% of all LSOAs in Wales. This method can be seen as identifying the concentration of the most deprived areas in a local authority, rather than an average level of deprivation.

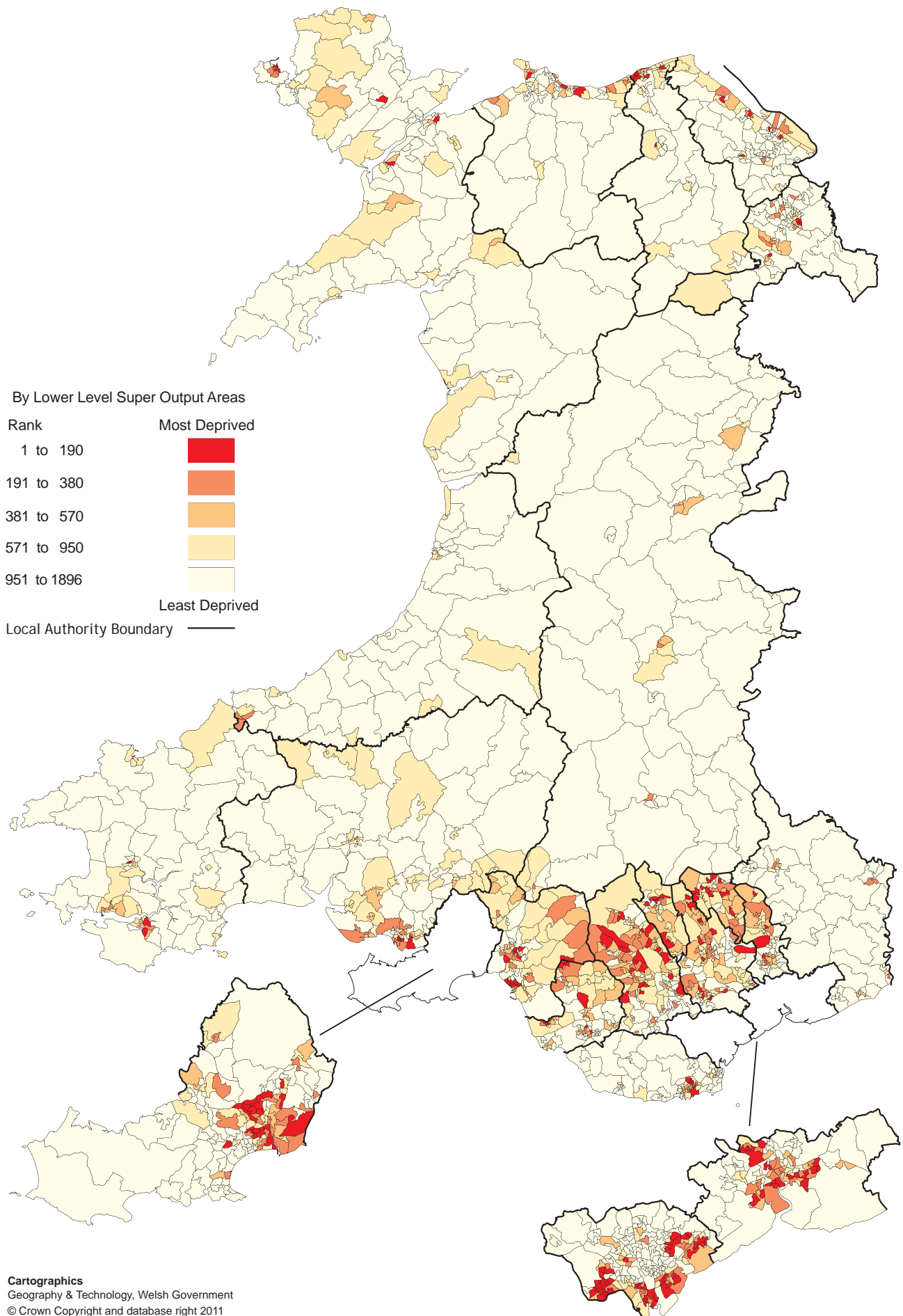
- The most deprived local authorities in the income domain are Blaenau Gwent, with 21.3% of its LSOAs in the most deprived 10% in Wales, Cardiff with 21.2% and Merthyr Tydfil with 19.4%.
- Although Cardiff has a high proportion of its LSOAs in the most deprived 10% in Wales, only 46.3% of its LSOAs are in the most deprived 50%, that is, about the expected number if deprivation is distributed uniformly in Wales.. This compares with much higher percentages for Blaenau Gwent (83.0%) and Merthyr Tydfil (77.8%).
- Powys, Ceredigion and Monmouthshire have none of their LSOAs in the most deprived 10%, and only around one in five in the most deprived 50%, that is, much fewer than expected if deprivation was uniformly distributed in Wales

local authority	number of LSOAs in local authority	% LSOAs in most-deprived 10% ranks 1-190	% LSOAs in most-deprived 20% ranks 1-380	% LSOAs in most-deprived 30% ranks 1-570	% LSOAs in most-deprived 50% ranks 1-950
Isle of Anglesey	44	6.8	15.9	20.5	45.5
Gwynedd	75	4.0	4.0	9.3	34.7
Conwy	71	4.2	16.9	25.4	49.3
Denbighshire	58	13.8	15.5	20.7	50.0
Flintshire	92	5.4	13.0	15.2	34.8
Wrexham	85	5.9	15.3	25.9	37.6
Powys	80	0.0	3.8	11.3	18.8
Ceredigion	47	0.0	4.3	4.3	23.4
Pembrokeshire	71	4.2	8.5	16.9	45.1
Carmarthenshire	112	3.6	11.6	17.9	46.4
Swansea	147	12.9	27.2	34.0	50.3
Neath Port Talbot	91	15.4	30.8	39.6	72.5
Bridgend	85	7.1	17.6	38.8	57.6
Vale of Glamorgan	78	7.7	14.1	23.1	38.5
Cardiff	203	21.2	30.0	36.0	46.3
Rhondda Cynon Taf	152	11.8	28.3	46.7	70.4
Merthyr Tydfil	36	19.4	27.8	47.2	77.8
Blaenau Gwent	47	21.3	34.0	57.4	83.0
Caerphilly	110	10.9	25.5	42.7	70.0
Monmouthshire	58	0.0	5.2	10.3	22.4
Torfaen	60	6.7	21.7	40.0	61.7
Newport	94	18.1	34.0	45.7	55.3
Wales	1896	10	20	30	50

The box plot below shows the spread of income domain ranks for each local authority in Wales. The blue boxes contain half the total number of LSOAs in each local authority, centred on the median (middle) rank for each local authority and the 'whiskers' show the full range of ranks. Deprivation increases with decreasing rank (that is, towards the bottom of the plot).



Income Domain





Education domain methodology

The education domain has a relative weight of 14% in the Index. For a complete description of the construction of the education domain, please see the WIMD 2011 Technical Report.

Indicators

The education domain contains seven indicators.

indicator	units	denominator	indicator year(s)	data source	weight
Key Stage 2 average point scores	points score	number of KS2 pupils	2008-10	National Pupil Database / Pupil-Level Annual School Census / National Data Collection	0.08
Key Stage 3 average point scores	points score	number of KS3 pupils	2008-10		0.22
Key Stage 4 average point scores	points score	number of KS4 pupils	2009-10		0.10
percentage of people not entering higher education age 18-19	%	number of 18-19 year olds	1998-2005	HEFCE	0.18
percentage of adults aged 25-59/64 with no qualifications	%	number of adults aged 25-59/64	2001	Census	0.20
percentage primary school half day absence	%	number of half day school sessions	2008/9-2009/10	National Pupil Database / Pupil-Level Annual School Census / National Data Collection	0.10
percentage secondary school half day absence	%	number of half day school sessions	2008/9-2009/10		0.13

The percentage of adults with no qualifications was not updated for WIMD 2011, because Census 2011 data were not yet available. The percentage of people not entering higher education indicator was not updated as HEFCE were unable to supply the data.

Methodological changes

Pupil postcodes are now available for both primary and secondary absences. This is an improvement over WIMD 2008, where the school-level data had to be apportioned to postcodes. The Key Stage 4 (GCSE)-level points scoring system changed in 2008, and it also now includes qualifications other than GCSEs. Data are no longer available for the old points system. The inclusion of qualifications other than GCSEs improves this indicator, but both the level and the ratio between successive grades are changed, which may lead to differences in the ranking.

Education domain results and analysis

The full set of domain ranks (WIMD 2011) and indicators (WIMD: indicator analysis) can be downloaded from the Welsh Government's [StatsWales](#) web pages. The following sub-section describes some of the changes occurring to LSOAs in the education domain since WIMD 2008.

The table below shows the number of small areas (LSOAs) in each of the WIMD deprivation groups for WIMD 2008 and 2011. The diagonal, in bold, shows the number of LSOAs which have remained in the same deprivation group. Above the diagonal are the numbers of areas which have moved from a more to a less deprived group. Below the diagonal are the numbers of areas which have moved from a less to a more deprived group.

		education domain 2011					total ranks 1-1896
		10% most deprived ranks 1-190	10-20% most deprived ranks 191-380	20-30% most deprived ranks 381-570	30-50% most deprived ranks 571 - 950	50% least deprived ranks 951 - 1896	
education domain 2008	10% most deprived ranks 1-190	159	30	1	0	0	190
	10-20% most deprived ranks 191-380	29	114	43	4	0	190
	20-30% most deprived ranks 381-570	0	41	93	55	1	190
	30-50% most deprived ranks 571-950	2	4	52	249	73	380
	50% least deprived ranks 951-1896	0	1	1	72	872	946
	total ranks 1-1896	190	190	190	380	946	1896

The table below lists the biggest climbers and fallers in the education domain, between WIMD 2008 and WIMD 2011. It should be noted that:

- across all the LSOAs, Key Stage 2 and 3 LSOA average point scores have, on average remained fairly constant, although of course there will be differences in the changes to individual LSOAs;
- LSOA average secondary and primary school absences have fallen slightly;
- as the scoring system for Key Stage 4 has changed, we cannot compare the WIMD 2008 data with the WIMD 2011 data directly, although we can compare changes in individual LSOAs with the average change across all the LSOAs;
- although there is no clear single driver for the highest climbers listed below, all the LSOAs which have improved their position have better than average increases in their Key Stage 4 scores, primary or secondary absences, or a combination of those three indicators;
- the biggest fallers have all seen an above average drop in either their Key Stage 3 or Key Stage 4 performances, compared with the WIMD 2008 indicators, as well as a rise in primary absences (Castle 2) or secondary absences (Treforest 2).

	LSOA	LSOA name	local authority	education 2011	education 2008
biggest fallers	W01001263	Treforest 2	Rhondda Cynon Taf	46	638
	W01000743	Castle 2	Swansea	172	803
	W01001832	Plasnewydd 4	Cardiff	207	1360
highest climbers	W01000637	Carmarthen Town North 1	Carmarthenshire	601	366
	W01001436	Abertillery 2	Blaenau Gwent	604	357
	W01000366	Esclusham 1	Wrexham	646	333
	W01001215	Pentre 3	Rhondda Cynon Taf	613	273
	W01001701	Butetown 3	Cardiff	522	157
	W01001713	Canton 5	Cardiff	1005	502

Local authority analysis

The table below shows, for the education domain of WIMD 2011, the percentage of small areas (LSOAs) in each local authority which are in the most deprived 10% (ranks 1-190), 20% (ranks 1-380), 30% (ranks 1-570) and 50% (ranks 1-95) LSOAs in Wales.

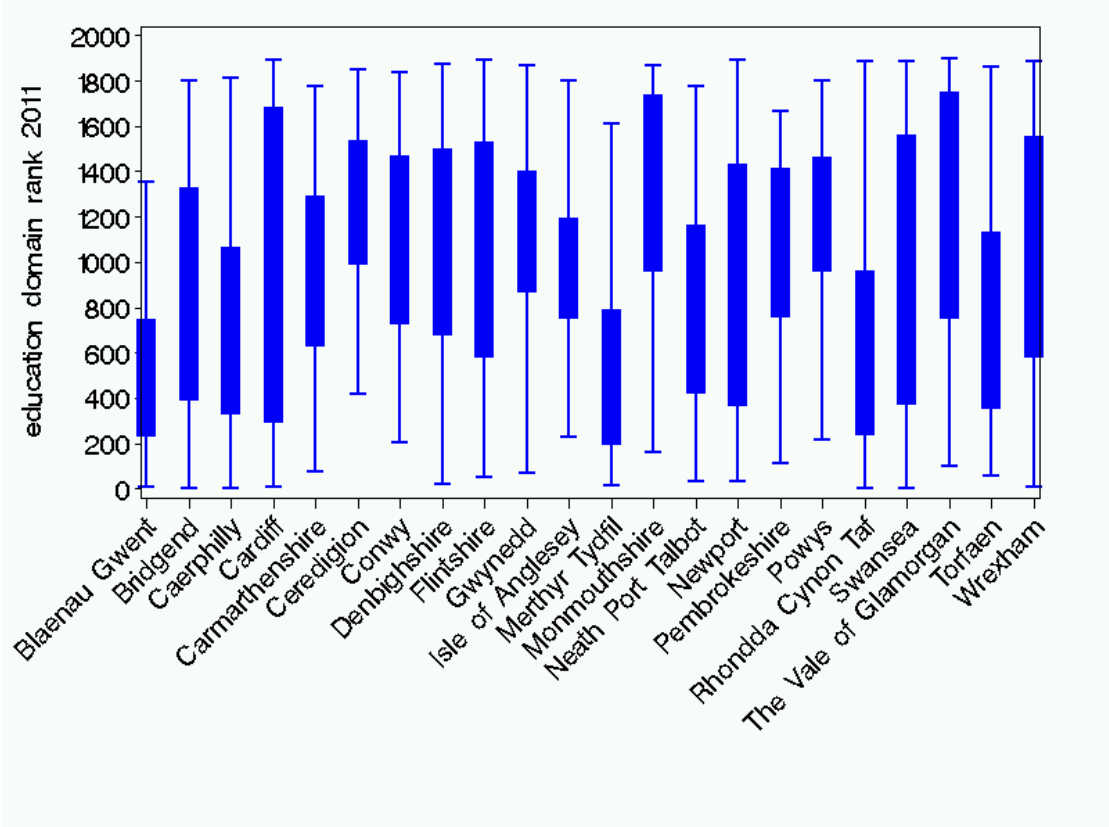
In this analysis, the most deprived local authority is defined as the authority with the greatest fraction of its LSOAs in the most deprived 10% of all LSOAs in Wales. This method can be seen as identifying the concentration of the most deprived areas in a local authority, rather than an average level of deprivation.

- The most deprived local authority in the education domain is Merthyr Tydfil, with 25.0% of its LSOAs in the most deprived 10% in Wales.
- The least deprived local authorities in the education domain are the Isle of Anglesey, Conwy, Powys and Ceredigion with 0.0% of their LSOAs in the most deprived 10% in Wales. Ceredigion has only 21.3% of its lowest LSOAs in the most deprived half of LSOAs in Wales.
- Blaenau Gwent has a slightly smaller percentage of its LSOAs in the most deprived 10% (21.3%) than Merthyr Tydfil (25.0%), but at 87.2%, it has the highest proportion in the most deprived half of Wales, compared with 77.8%, the next highest, in Merthyr Tydfil.

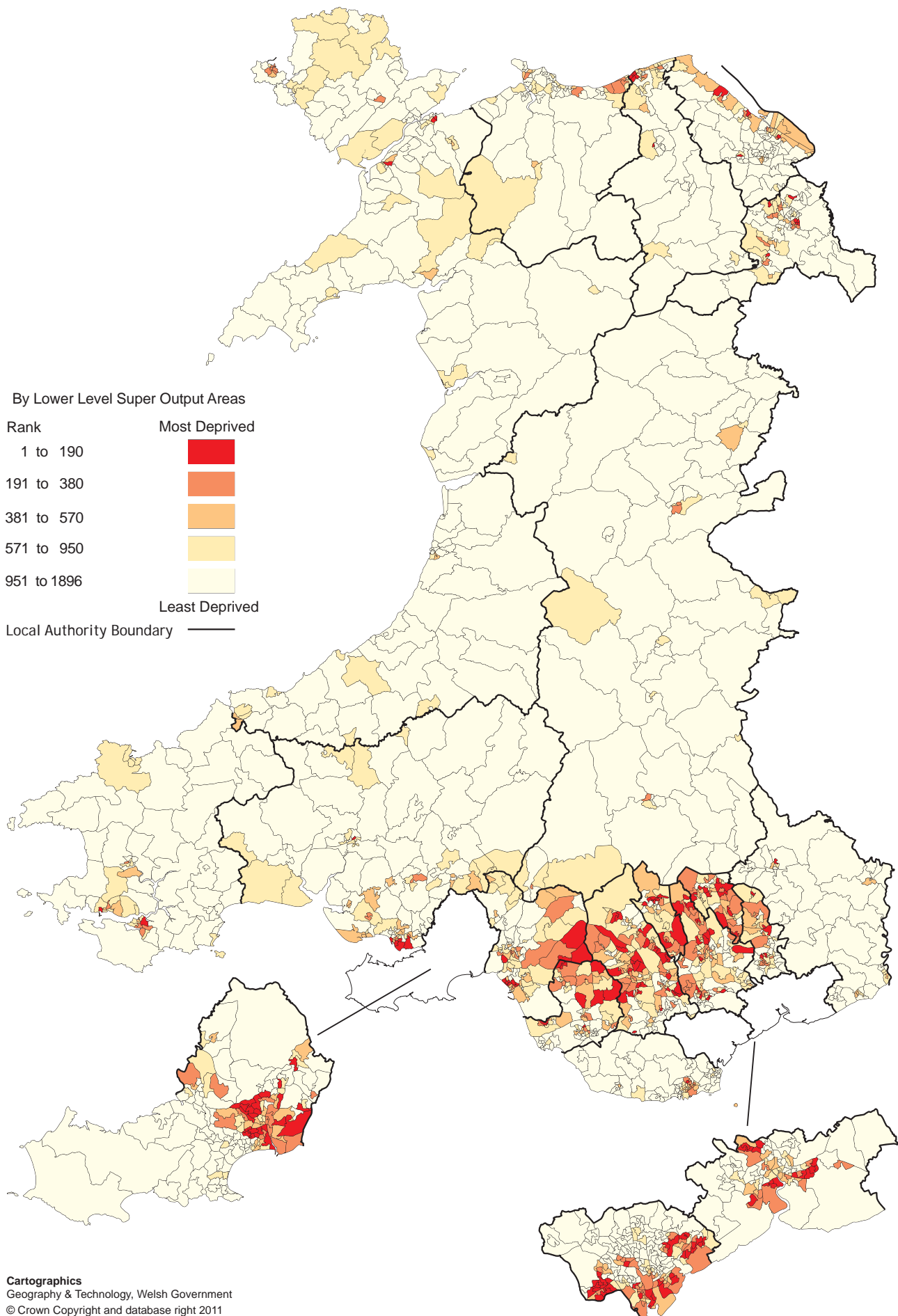
local authority	number of LSOAs in local authority	% LSOAs in most-deprived 10% ranks 1-190	% LSOAs in most-deprived 20% ranks 1-380	% LSOAs in most-deprived 30% ranks 1-570	% LSOAs in most-deprived 50% ranks 1-950
Isle of Anglesey	44	0.0	13.6	15.9	43.2
Gwynedd	75	4.0	4.0	8.0	32.0
Conwy	71	0.0	8.5	14.1	38.0
Denbighshire	58	10.3	13.8	20.7	50.0
Flintshire	92	4.4	9.8	25.0	38.0
Wrexham	85	8.2	18.8	24.7	44.7
Powys	80	0.0	5.0	6.3	23.8
Ceredigion	47	0.0	0.0	4.3	21.3
Pembrokeshire	71	2.8	9.9	15.5	39.4
Carmarthenshire	112	4.5	8.0	21.4	43.8
Swansea	147	15.7	25.2	36.7	50.3
Neath Port Talbot	91	12.1	20.9	39.6	68.1
Bridgend	85	11.8	24.7	37.7	58.8
Vale of Glamorgan	78	1.3	10.3	18.0	33.3
Cardiff	203	16.3	29.6	37.0	48.3
Rhondda Cynon Taf	152	19.7	34.2	50.0	74.3
Merthyr Tydfil	36	25.0	41.7	52.8	77.8
Blaenau Gwent (r)	47	21.3	48.9	61.7	87.2
Caerphilly (r)	110	13.6	30.0	43.6	70.9
Monmouthshire (r)	58	1.7	1.7	12.1	24.1
Torfaen (r)	60	8.3	28.3	36.7	63.3
Newport	94	16.0	26.6	38.3	51.1
Wales	1896	10.0	20.0	30.0	50.0

(r) Data revised on 2 September 2011; previous data for these authorities was published in the incorrect order.

The box plot below shows the spread of education domain ranks for each local authority in Wales. The blue boxes contain half the total number of LSOAs in each local authority, centred on the median (middle) rank for each local authority and the 'whiskers' show the full range of ranks. Deprivation increases with decreasing rank (that is, towards the bottom of the plot).



Education, Skills and Training Domain



Health domain methodology

The health domain has a relative weight of 14% in the Index. For a complete description of the construction of the health domain, please see the WIMD 2011 Technical Report.

Indicators

The health domain contains four indicators:

domain	indicator	denominator	indicator year(s)	data source	weight
cancer incidence	number per 100,000	direct age-sex standardised populations	2000-2009	Velindre NHS Trust	0.13
all-cause death rate	number per 100,000	direct age-sex standardised populations	2000-2009	ONS	0.39
percentage of live single births < 2.5kg	%	number of live single births	2000-2009	ONS	0.10
limiting long-term illness	number per 100,000	direct age-sex standardised populations	2001	Census, ONS	0.38

The limiting long-term illness indicator was not update for WIMD 2011, because Census 2011 data were not yet available.

Methodological changes

Following the discovery of some anomalous data points in the health domain of WIMD 2008, the WIMD Steering Group approved a change to the age-sex standardisation methodology of the health indicators from direct to indirect standardisation for WIMD 2011. Indirect standardisation is a more robust approach for small number statistics such as the Index indicators. The effect of the change of methodology on the ranks is limited, and is greatest where use of direct standardisation for very small numbers produced anomalous results for WIMD 2008. The new methodology corrects this problem.

Full analysis of the effects of direct versus indirect standardisation is presented in the [paper and minutes](#) of the Health Domain Working Group in May 2011. The discussion and agreement of the WIMD Steering Group can be found in the [minutes](#) of the Steering Group meeting of 2 June 2011.

Health domain results and analysis

The full set of domain ranks (WIMD 2011) and indicators (WIMD: indicator analysis) can be downloaded from the Welsh Government's [StatsWales](#) web pages. The following sub-section describes some of the changes occurring to LSOAs in the health domain since WIMD 2008.

The table below shows the number of small areas (LSOAs) in each of the WIMD deprivation groups for WIMD 2008 and 2011. The diagonal, in bold, shows the number of LSOAs which have remained in the same deprivation group. Above the diagonal are the numbers of areas which have moved from a more to a less deprived group. Below the diagonal are the numbers of areas which have moved from a less to a more deprived group.

		health domain 2011					total ranks 1-1896
		10% most deprived ranks 1-190	10-20% most deprived ranks 191-380	20-30% most deprived ranks 381-570	30-50% most deprived ranks 571 - 950	50% least deprived ranks 951 - 1896	
health domain 2008	10% most deprived ranks 1-190	134	31	15	4	6	190
	10-20% most deprived ranks 191-380	41	85	42	20	2	190
	20-30% most deprived ranks 381-570	11	45	63	61	10	190
	30-50% most deprived ranks 571-950	2	27	62	199	90	380
	50% least deprived ranks 951-1896	2	2	8	96	838	946
	total ranks 1-1896	190	190	190	380	946	1896

The table below lists the biggest climbers and fallers in the health domain, between WIMD 2008 and WIMD 2011. It should be noted that:

- two LSOAs have fallen from the least deprived group in WIMD 2008 to the most deprived group in WIMD 2011;
- six LSOAs have improved from being in the most deprived group in WIMD 2011, to being in the least deprived group in WIMD 2011;
- Some of the movement in rank of Flint Coleshill1, St James 2, Blaenavon 1 and Trowbridge 8 is due to the change in the standardisation methodology. These all had very small populations in the age-sex population cells used to standardise the data in WIMD 2008. In the old methodology, very small

populations can falsely inflate health indicator rates. The new methodology is more robust, and represents an improvement to the indicator calculations.

	LSOA	LSOA name	local authority	health 2011	health 2008
biggest fallers	W01001884	Trowbridge 8	Cardiff	85	1629
	W01000981	Brackla 3	Bridgend	161	960
highest climbers	W01001759	Grangetown 1	Cardiff	960	136
	W01001836	Plasnewydd 8	Cardiff	968	46
	W01001487	Blaenavon 1	Torfaen	1015	39
	W01001420	St James 2	Caerphilly	1254	143
	W01001829	Plasnewydd 1	Cardiff	1355	116
	W01000289	Flint Coleshill 1	Flintshire	1579	98

Local authority analysis

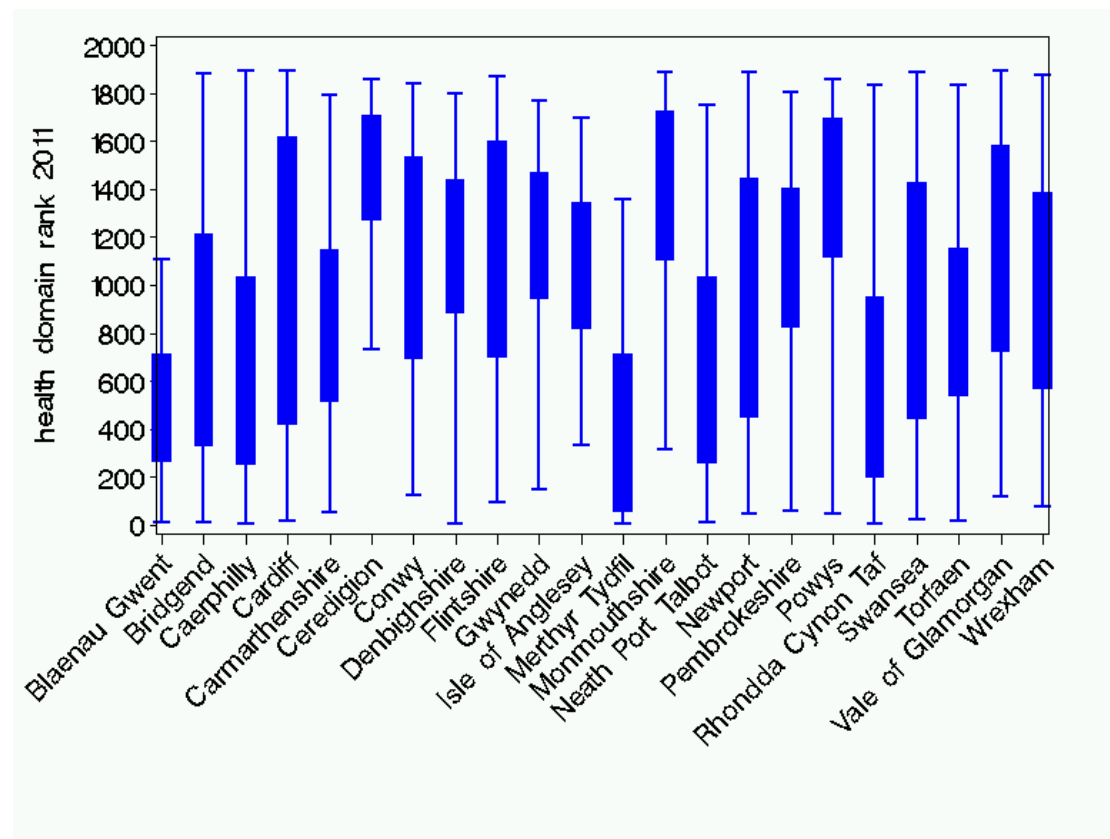
The table below shows, for the health domain of WIMD 2011, the percentage of small areas (LSOAs) in each local authority which are in the most deprived 10% (ranks 1-190), 20% (ranks 1-380), 30% (ranks 1-570) and 50% (ranks 1-950) LSOAs in Wales.

In this analysis, the most deprived local authority is defined as the authority with the greatest fraction of its LSOAs in the most deprived 10% of all LSOAs in Wales. This method can be seen as identifying the concentration of the most deprived areas in a local authority, rather than an average level of deprivation.

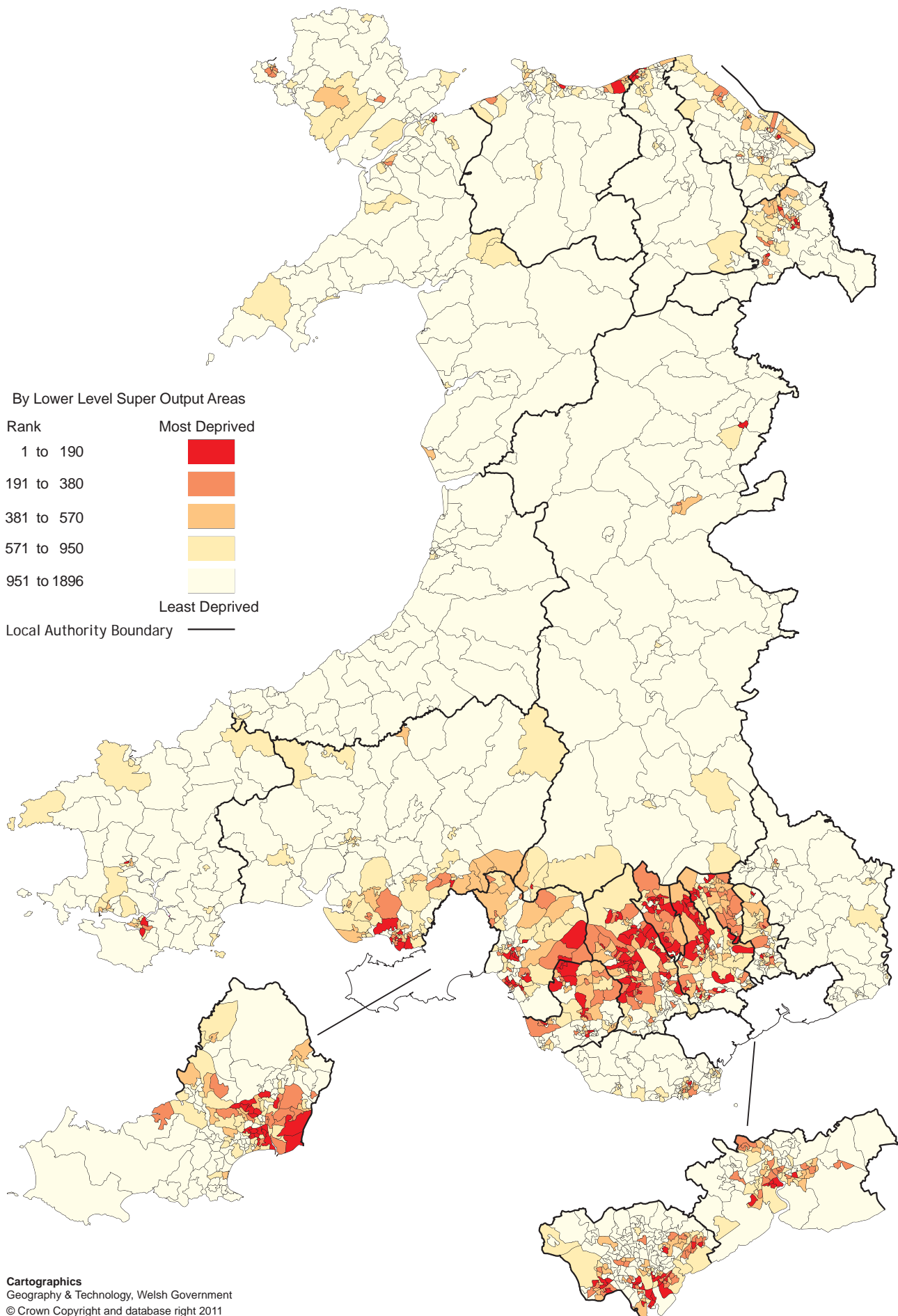
- The most deprived local authority in the health domain is Merthyr Tydfil, with nearly half (44.4%) of its LSOAs in the most deprived 10% in Wales.
- The least deprived local authorities in the health domain are the Isle of Anglesey, Ceredigion and Monmouthshire, with no LSOAs in the most deprived 10% in Wales.
- Only 3 of the 47 LSOAs in Ceredigion (6.4%) are ranked in the most deprived half of the health domain in Wales.

local authority	number of LSOAs in local authority	% LSOAs in most-deprived 10% ranks 1-190	% LSOAs in most-deprived 20% ranks 1-380	% LSOAs in most-deprived 30% ranks 1-570	% LSOAs in most-deprived 50% ranks 1-950
Isle of Anglesey	44	0.0	9.1	18.2	36.4
Gwynedd	75	1.3	4.0	6.7	25.3
Conwy	71	2.8	5.6	15.5	42.3
Denbighshire	58	10.3	10.3	15.5	32.8
Flintshire	92	2.2	9.8	17.4	38.0
Wrexham	85	7.1	17.6	25.9	51.8
Powys	80	2.5	3.8	7.5	17.5
Ceredigion	47	0.0	0.0	0.0	6.4
Pembrokeshire	71	4.2	7.0	12.7	36.6
Carmarthenshire	112	6.3	13.4	30.4	58.9
Swansea	147	12.2	23.1	31.3	55.1
Neath Port Talbot	91	18.7	39.6	47.3	70.3
Bridgend	85	15.3	28.2	48.2	61.2
Vale of Glamorgan	78	1.3	6.4	14.1	35.9
Cardiff	203	9.9	22.7	34.5	45.8
Rhondda Cynon Taf	152	23.7	40.8	54.6	75.0
Merthyr Tydfil	36	44.4	55.6	72.2	86.1
Blaenau Gwent	47	17.0	44.7	66.0	91.5
Caerphilly	110	20.9	32.7	47.3	70.9
Monmouthshire	58	0.0	1.7	1.7	13.8
Torfaen	60	6.7	18.3	25.0	58.3
Newport	94	5.3	21.3	33.0	54.3
Wales	1896	10.0	20.0	30.0	50.0

The box plot below shows the spread of health domain ranks for each local authority in Wales. The blue boxes contain half the total number of LSOAs in each local authority, centred on the median (middle) rank for each local authority and the 'whiskers' show the full range of ranks. Deprivation increases with decreasing rank (that is, towards the bottom of the plot).



Health Domain





Community safety

Community safety domain methodology

For a complete description of the construction of the community safety domain, please see the WIMD 2011 Technical Report.

Indicators

The community safety domain contains seven indicators:

indicator	units	denominator	indicator year(s)	data source	weight
percentage of adult offenders	%	resident population age 18+, less prison population age 18+	2008/9 – 2009/10	Wales Probation Trust	0.20
police recorded burglary	%	number of dwellings, plus total number of business addresses	2008/9 – 2009/10	Welsh Police Forces	0.06
police recorded criminal damage	%	resident population excluding prisoners, plus total non-resident workplace population	2008/9 – 2009/10	Welsh Police Forces	0.35
fire incidence	%	resident population	2009/10-2010/11	Welsh Government	0.04
police recorded theft	%	resident population excluding prisoners, plus total non-resident workplace population	2008/9 – 2009/10	Welsh Police Forces	0.07
police recorded violent crime	%	resident population excluding prisoners, plus total non-resident workplace population	2009/10	Welsh Police Forces	0.19
percentage of youth offenders	%	resident population age 10-17, less prison population age 10-16	2008/9 – 2009/10	Ministry of Justice	0.08

Methodological changes

In WIMD 2011, the violent crime rate is based on a single year (2009/10) of data, instead of the average over two years of data. This is due to a crime coding issue in the 2008/9 data year.

Community safety domain results and analysis

The full set of domain ranks (WIMD 2011) and indicators (WIMD: indicator analysis) can be downloaded from the Welsh Government's [StatsWales](#) web pages. The following sub-section describes some of the changes occurring to LSOAs in the community safety domain since WIMD 2008.

The table below shows the number of small areas (LSOAs) in each of the WIMD deprivation groups for WIMD 2008 and 2011. The diagonal, in bold, shows the number of LSOAs which have remained in the same deprivation group. Above the diagonal are the numbers of areas which have moved from a more to a less deprived group. Below the diagonal are the numbers of areas which have moved from a less to a more deprived group.

		community safety domain 2011					total ranks 1-1896
		10% most deprived ranks 1-190	10-20% most deprived ranks 191-380	20-30% most deprived ranks 381-570	30-50% most deprived ranks 571 - 950	50% least deprived ranks 951 - 1896	
community safety domain 2008	10% most deprived ranks 1-190	141	41	8	0	0	190
	10-20% most deprived ranks 191-380	33	85	48	24	0	190
	20-30% most deprived ranks 381-570	13	36	73	65	3	190
	30-50% most deprived ranks 571-950	3	27	55	201	94	380
	50% least deprived ranks 951-1896	0	1	6	90	849	946
	total ranks 1-1896	190	190	190	380	946	1896

The table below lists the biggest fallers in the community safety domain, between WIMD 2008 and WIMD 2011. It should be noted that:

- no area climbed by more than two deprivation groups;
- four areas fell by three groups;
- Abercynon2 (Rhondda Cynon Taf), Cwm 2 and Cwmtillery 1 (both in Blaenau Gwent) all fell from the fourth deprivation group (ranks 571 – 950) to the most deprived group (ranks 1 – 190);
- Grangetown 2, Cardiff, fell from the least deprived group (ranks 951 – 1896) to the second most deprived group (ranks 191 – 380).

- The fall in ranks for this domain in these areas is driven largely by increases in violent crime and criminal damage rates. Criminal damage was a lesser driver for Cwmtillery 1, and an increase in youth offending was a significant factor for Abercynon 2.

	LSOA	LSOA name	local authority	community safety 2011	community safety 2008
biggest fallers	W01001144	Abercynon 2	Rhondda Cynon Taf	166	684
	W01001451	Cwm 2	Blaenau Gwent	148	734
	W01001453	Cwmtillery 1	Blaenau Gwent	125	615
	W01001760	Grangetown 2	Cardiff	366	1096

Local authority analysis

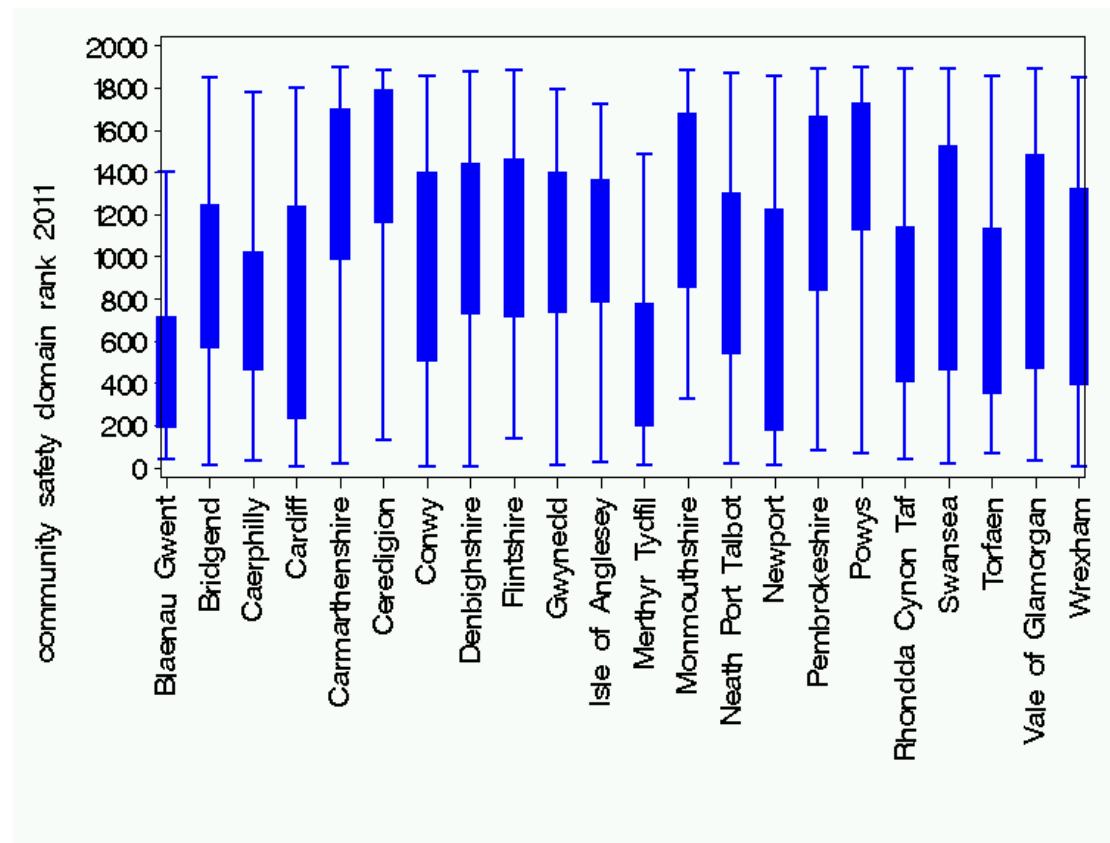
The table below shows, for the community safety domain of WIMD 2011, the percentage of small areas (LSOAs) in each local authority which are in the most deprived 10% (ranks 1-190), 20% (ranks 1-380), 30% (ranks 1-570) and 50% (ranks 1-950) LSOAs in Wales.

In this analysis, the most deprived local authority is defined as the authority with the greatest fraction of its LSOAs in the most deprived 10% of all LSOAs in Wales. This method can be seen as identifying the concentration of the most deprived areas in a local authority, rather than an average level of deprivation.

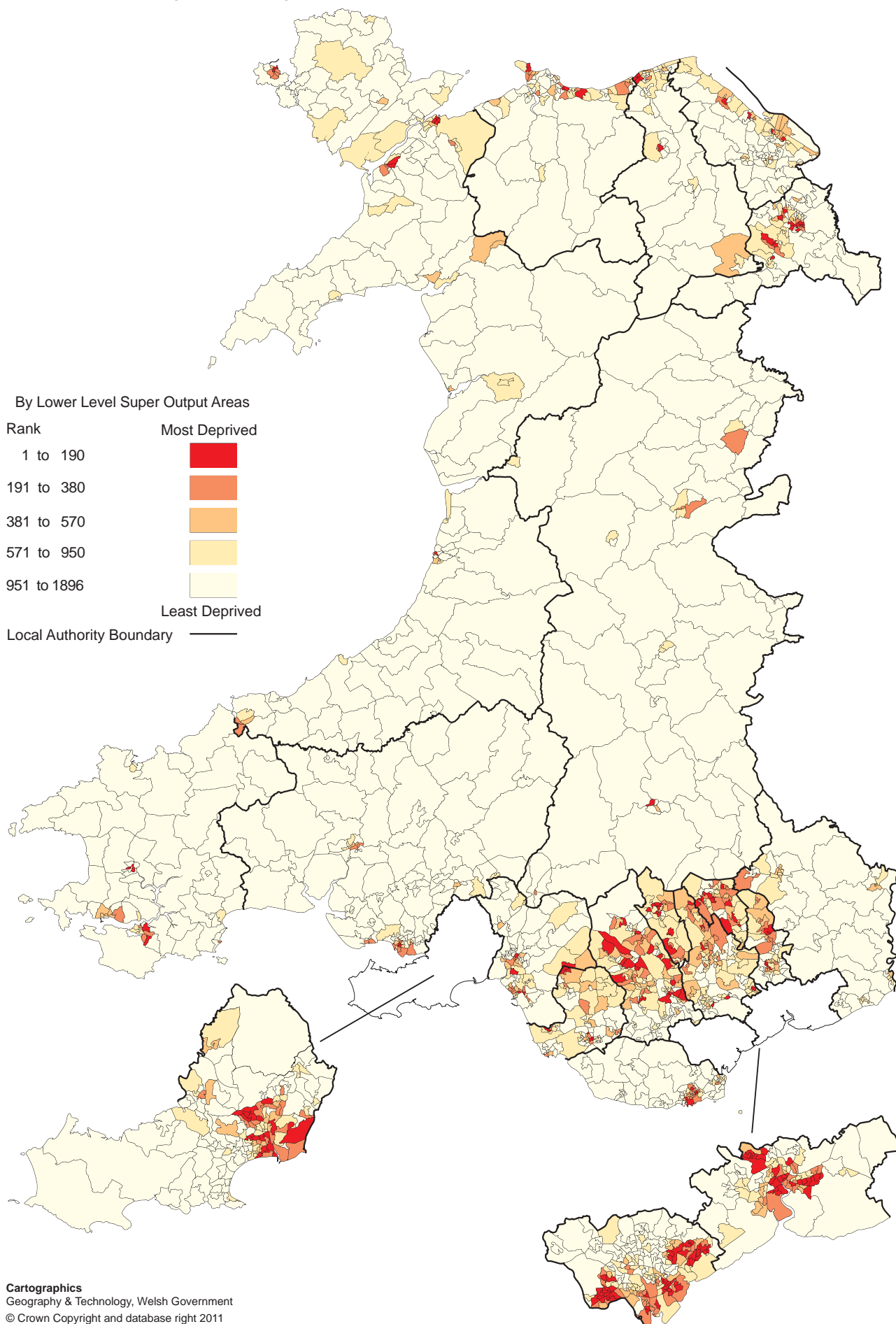
- The most deprived local authority in the community safety domain is Newport, with 25.5% of its LSOAs in the most deprived 10% in Wales, with Merthyr Tydfil next, with 25.0% of its LSOA in the most deprived 10%.
- Merthyr Tydfil has 88.9% and Blaenau Gwent 87.2% of their LSOAs in the most deprived 50% in Wales.
- The least deprived local authority in the community safety domain is Monmouthshire, with no LSOAs in the most deprived 10% in Wales.
- In general, rural local authorities tend to be less deprived in this domain than the local authorities of urban and Valleys regions.

local authority	number of LSOAs in local authority	% LSOAs in most-deprived 10% ranks 1-190	% LSOAs in most-deprived 20% ranks 1-380	% LSOAs in most-deprived 30% ranks 1-570	% LSOAs in most-deprived 50% ranks 1-950
Isle of Anglesey	44	4.5	13.6	18.2	34.1
Gwynedd	75	8.0	12.0	17.3	34.7
Conwy	71	5.6	18.3	28.2	49.3
Denbighshire	58	10.3	13.8	20.7	44.8
Flintshire	92	4.3	8.7	21.7	43.5
Wrexham	85	15.3	22.4	29.4	52.9
Powys	80	1.3	7.5	8.8	17.5
Ceredigion	47	2.1	6.4	10.6	19.1
Pembrokeshire	71	5.6	12.7	19.7	28.2
Carmarthenshire	112	1.8	8.9	14.3	23.2
Swansea	147	10.2	21.8	29.9	48.3
Neath Port Talbot	91	5.5	16.5	26.4	45.1
Bridgend	85	7.1	16.5	25.9	55.3
Vale of Glamorgan	78	6.4	20.5	29.5	42.3
Cardiff	203	20.7	33.5	43.3	62.6
Rhondda Cynon Taf	152	11.8	23.0	38.8	65.8
Merthyr Tydfil	36	25.0	44.4	55.6	88.9
Blaenau Gwent	47	23.4	44.7	55.3	87.2
Caerphilly	110	6.4	17.3	37.3	70.9
Monmouthshire	58	0.0	1.7	12.1	36.2
Torfaen	60	8.3	26.7	46.7	65.0
Newport	94	25.5	38.3	51.1	68.1
Wales	1896	10.0	20.0	30.0	50.0

The box plot below shows the spread of community safety domain ranks for each local authority in Wales. The blue boxes contain half the total number of LSOAs in each local authority, centred on the median (middle) rank for each local authority and the 'whiskers' show the full range of ranks. Deprivation increases with decreasing rank (that is, towards the bottom of the plot).



Community Safety Domain





Geographical access to services

Access to services domain methodology

The geographical access to services domain was not updated for WIMD 2011. Therefore, it is exactly the same as the domain in WIMD 2008. It has a weight of 10% in the Index.

For a complete description of the construction of the access to services domain, please see the WIMD 2011 Technical Report.

Indicators

The access to services domain contains nine indicators:

indicator	units	denominator	indicator year(s)	data source	weight
mean bus + walking journey time to NHS dentist					0.12
mean bus + walking journey time to food shop					0.14
mean bus + walking journey time to GP					0.18
mean bus + walking journey time to leisure centre				Public Transport & Road Network	0.06
mean bus + walking journey time to library	minutes	number of journeys	2008	Postal Address File, Ordnance Survey	0.09
mean bus + walking journey time to Post Office					0.10
mean bus + walking journey time to primary school					0.16
mean bus + walking journey time to secondary school					0.07
mean bus + walking journey time to transport node					0.07

Access to services domain results and analysis

The full set of domain ranks (WIMD 2011) and indicators (WIMD: indicator analysis) can be downloaded from the Welsh Government's [StatsWales](#) web pages.

Local authority analysis

The table below shows, for the access to services domain of WIMD 2011, the percentage of small areas (LSOAs) in each local authority which are in the most deprived 10% (ranks 1-190), 20% (ranks 1-380), 30% (ranks 1-570) and 50% (ranks 1-950) LSOAs in Wales.

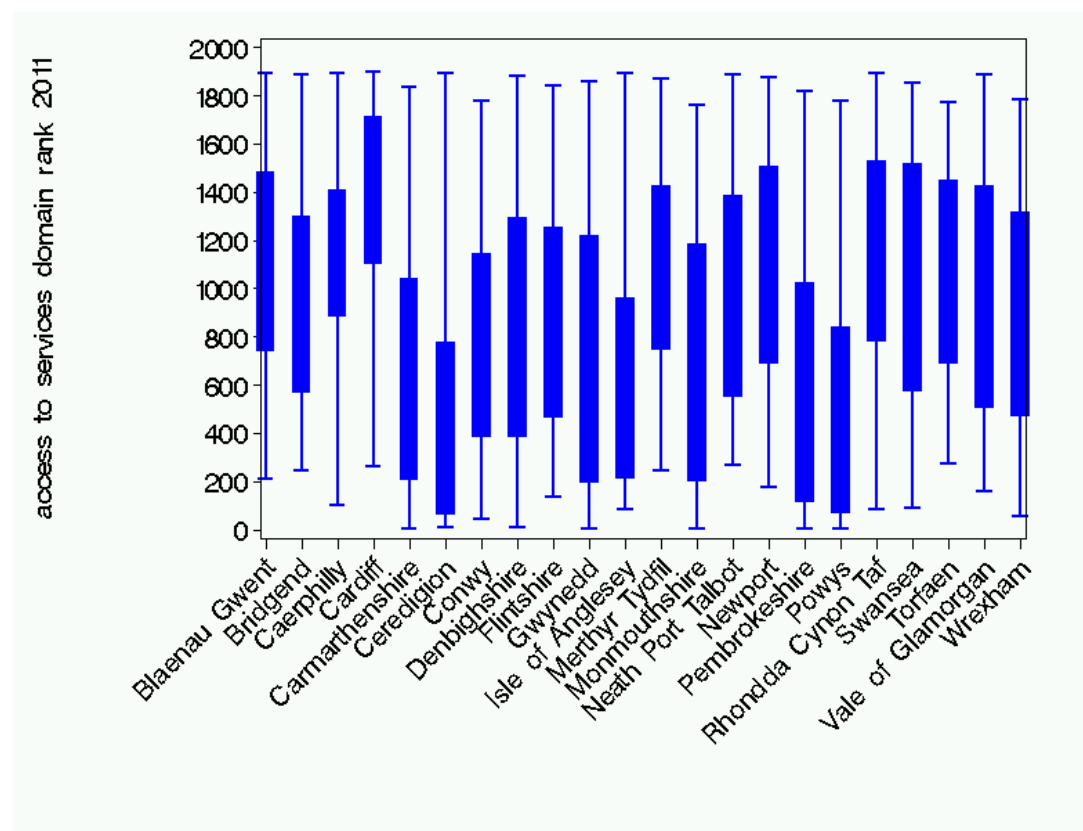
In this analysis, the most deprived local authority is defined as the authority with the greatest fraction of its LSOAs in the most deprived 10% of all LSOAs in Wales. This method can be seen as identifying the concentration of the most deprived areas in a local authority, rather than an average level of deprivation.

- The most deprived local authority in the access to services domain is Powys, with over half (52.5%) of its LSOAs in the most deprived 10% in Wales. The second most deprived is Ceredigion, with 44.7% of its LSOAs in the most deprived 10% in Wales.
- The least deprived local authorities in the access to services domain are Neath Port Talbot, Cardiff, Bridgend, Merthyr Tydfil, Blaenau Gwent and Torfaen, none of which have any of their LSOAs in the most deprived 10% in Wales. Cardiff has only 19.2% of its LSOAs in the most deprived 50% of LSOAs in Wales.
- In general, in the access to services domain, the urban and Valleys areas tend to be less deprived than rural local authorities.

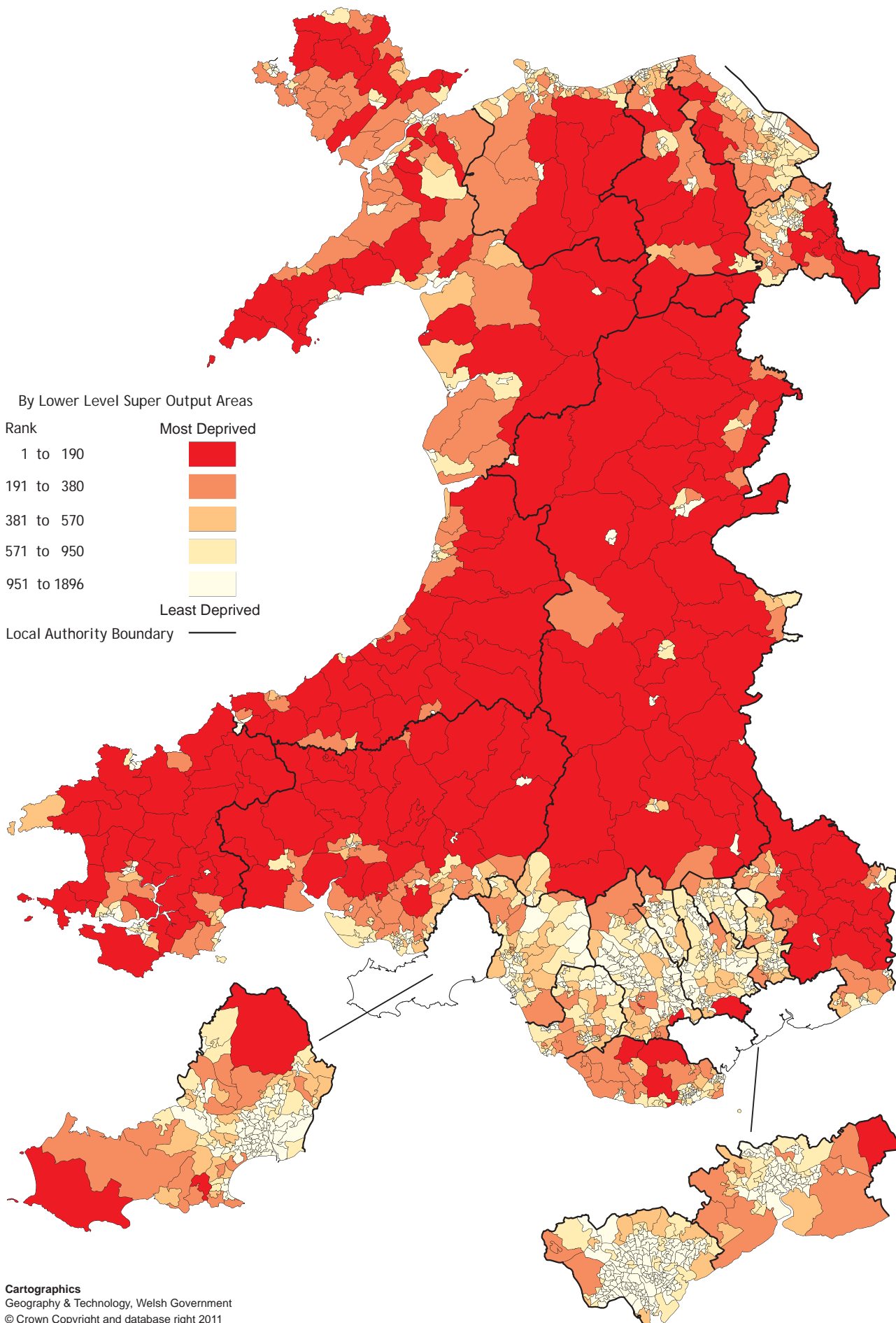
local authority	number of LSOAs in local authority	% LSOAs in most-deprived 10% ranks 1-190	% LSOAs in most-deprived 20% ranks 1-380	% LSOAs in most-deprived 30% ranks 1-570	% LSOAs in most-deprived 50% ranks 1-950
Isle of Anglesey	44	18.2	54.5	61.4	75.0
Gwynedd	75	24.0	44.0	56.0	69.3
Conwy	71	8.5	22.5	36.6	63.4
Denbighshire	58	13.8	24.1	37.9	56.9
Flintshire	92	3.3	19.6	31.5	67.4
Wrexham	85	8.2	18.8	34.1	55.3
Powys	80	52.5	62.5	68.8	78.8
Ceredigion	47	44.7	63.8	72.3	78.7
Pembrokeshire	71	38.0	49.3	56.3	71.8
Carmarthenshire	112	24.1	43.8	54.5	72.3
Swansea	147	2.0	11.6	23.8	41.5
Neath Port Talbot	91	0.0	6.6	26.4	54.9
Bridgend	85	0.0	9.4	23.5	52.9
Vale of Glamorgan	78	3.8	17.9	30.8	53.8
Cardiff	203	0.0	1.5	5.9	19.2
Rhondda Cynon Taf	152	1.3	5.3	11.8	29.6
Merthyr Tydfil	36	0.0	5.6	13.9	38.9
Blaenau Gwent	47	0.0	2.1	6.4	38.3

Caerphilly	110	0.9	1.8	8.2	34.5
Monmouthshire	58	22.4	37.9	50.0	62.1
Torfaen	60	0.0	5.0	18.3	45.0
Newport	94	1.1	9.6	16.0	33.0
Wales	1896	10.0	20.0	30.0	50.0

The box plot below shows the spread of access to services domain ranks for each local authority in Wales. The blue boxes contain half the total number of LSOAs in each local authority, centred on the median (middle) rank for each local authority and the 'whiskers' show the full range of ranks. Deprivation increases with decreasing rank (that is, towards the bottom of the plot).



Geographical Access to Services Domain





Housing domain methodology

The housing domain has a weight of 5% in the Index. The housing domain was not updated for WIMD 2011. It is based on Census data, and new data were not yet available from Census 2011. The domain remains exactly the same as in WIMD 2008 and 2005. Caution is therefore advised, as changes to the housing stock are likely to have taken place over the last ten years, and the impact of this on the housing domain will not be established until the Census 2011 data are released.

For a complete description of the construction of the housing domain, please see the WIMD 2011 Technical Report.

Indicators

The housing domain contains two indicators:

indicator	units	denominator	indicator year(s)	data source	weight
percentage of population in households with no central heating	%	number of people living in households	2001	Census, ONS	0.5
percentage of population living in overcrowded households	%	number of people living in households (excluding student households)	2001	Census, ONS	0.5

Housing domain results and analysis

The full set of domain ranks (WIMD 2011) and indicators (WIMD: indicator analysis) can be downloaded from the Welsh Government's [StatsWales](#) web pages.

Local authority analysis

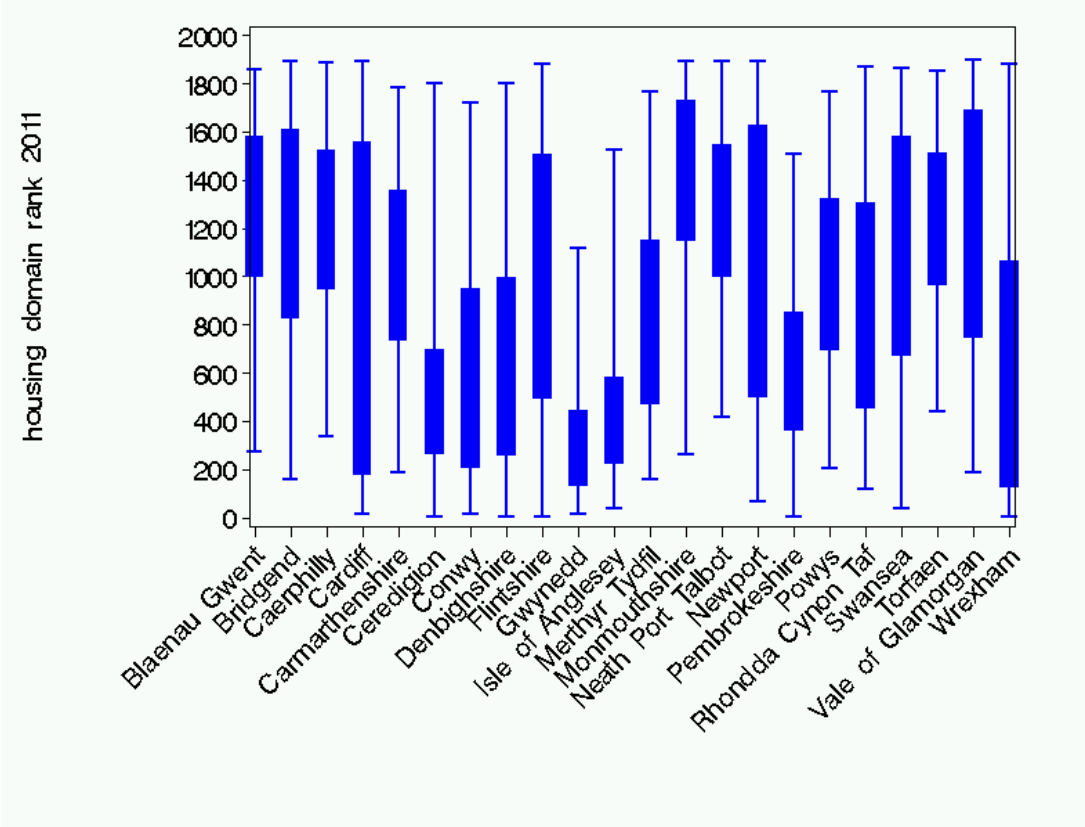
The table below shows, for the housing domain of WIMD 2011, the percentage of small areas (LSOAs) in each local authority which are in the most deprived 10% (ranks 1-190), 20% (ranks 1-380), 30% (ranks 1-570) and 50% (ranks 1-950) LSOAs in Wales.

In this analysis, the most deprived local authority is defined as the authority with the greatest fraction of its LSOAs in the most deprived 10% of all LSOAs in Wales. This method can be seen as identifying the concentration of the most deprived areas in a local authority, rather than an average level of deprivation.

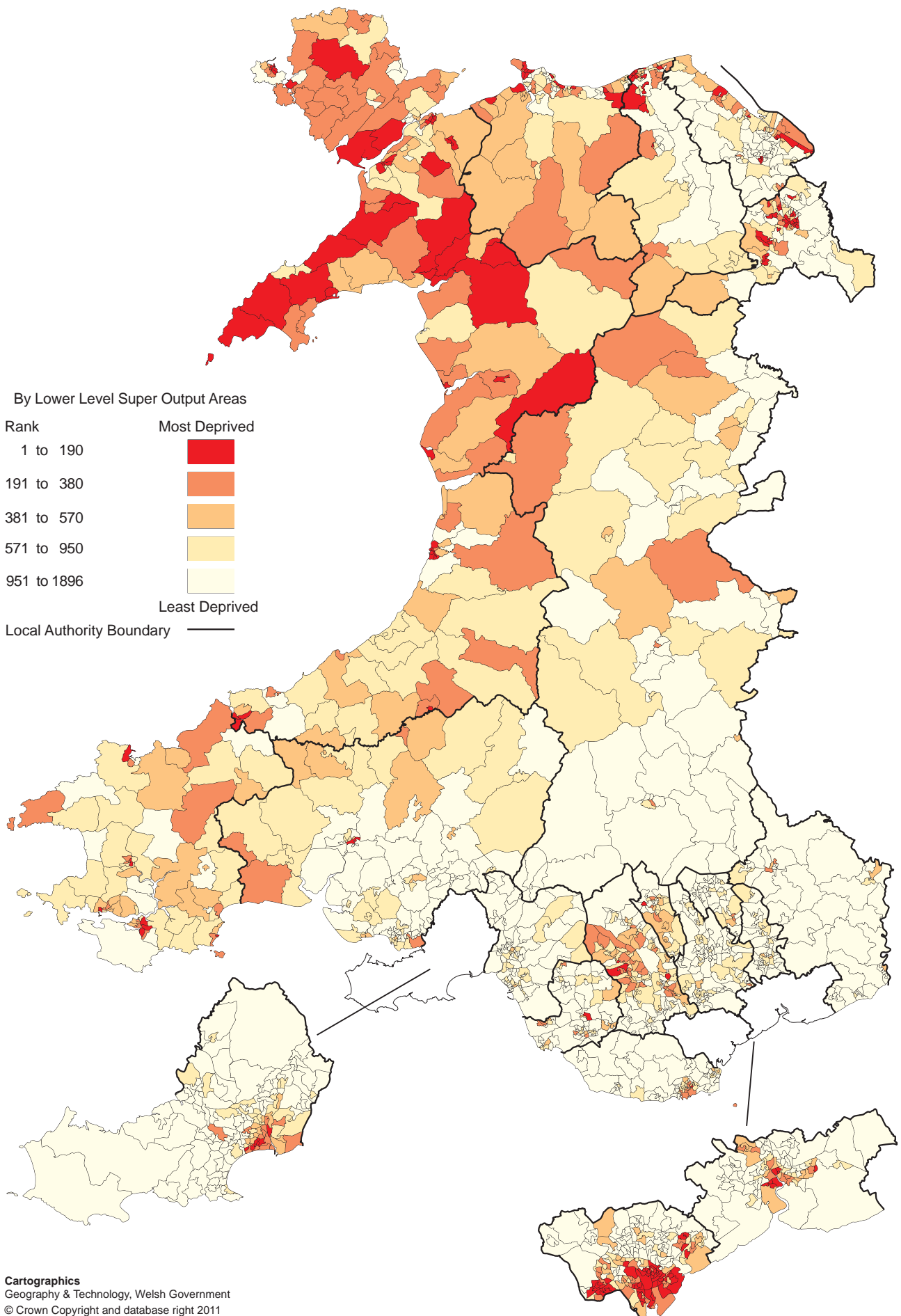
- Neither Torfaen nor Neath Port Talbot have any of their LSOAs in the most deprived 20% in Wales, making them the least deprived local authorities in the housing domain by this measure.
- Powys, Blaenau Gwent, Caerphilly and Monmouthshire have none of their LSOAs in the most deprived 10% in Wales.
- Gwynedd has 41.3 of its LSOAs in the most deprived 10% in Wales, and all but two of its 75 LSOAs in the most deprived 50%, making it the most deprived local authority in this domain.

local authority	number of LSOAs in local authority	% LSOAs in most-deprived 10% ranks 1-190	% LSOAs in most-deprived 20% ranks 1-380	% LSOAs in most-deprived 30% ranks 1-570	% LSOAs in most-deprived 50% ranks 1-950
Isle of Anglesey	44	18.2	63.6	75.0	84.1
Gwynedd	75	41.3	64.0	81.3	97.3
Conwy	71	19.7	35.2	54.9	76.1
Denbighshire	58	20.7	34.5	41.4	70.7
Flintshire	92	9.8	20.7	27.2	44.6
Wrexham	85	30.6	37.6	49.4	67.1
Powys	80	0.0	7.5	16.3	41.3
Ceredigion	47	19.1	38.3	57.4	87.2
Pembrokeshire	71	9.9	28.2	50.7	84.5
Carmarthenshire	112	0.9	5.4	13.4	42.0
Swansea	147	4.1	12.2	19.0	36.1
Neath Port Talbot	91	0.0	0.0	2.2	23.1
Bridgend	85	1.2	7.1	16.5	31.8
Vale of Glamorgan	78	1.3	9.0	15.4	39.7
Cardiff	203	26.6	37.9	48.3	59.1
Rhondda Cynon Taf	152	2.6	17.1	34.2	62.5
Merthyr Tydfil	36	2.8	13.9	30.6	58.3
Blaenau Gwent	47	0.0	4.3	6.4	19.1
Caerphilly	110	0.0	0.9	1.8	24.5
Monmouthshire	58	0.0	3.4	8.6	13.8
Torfaen	60	0.0	0.0	3.3	25.0
Newport	94	6.4	14.9	27.7	41.5
Wales	1896	10.0	20.0	30.0	50.0

The box plot below shows the spread of housing domain ranks for each local authority in Wales. The blue boxes contain half the total number of LSOAs in each local authority, centred on the median (middle) rank for each local authority and the 'whiskers' show the full range of ranks. Deprivation increases with decreasing rank (that is, towards the bottom of the plot).



Housing Domain





Physical environment

Physical environment domain methodology

The physical environment domain has a weight of 5% in the Index. For a complete description of the construction of the physical environment domain, please see the WIMD 2011 Technical Report.

Indicators

The physical environment domain contains four indicators:

indicator	units	indicator year	data source	weight
air emissions	score	2008	Environment Agency	0.17
air quality	score	2008	Environment Agency	0.17
flood risk	score	2009	Environment Agency	0.33
proximity to waste disposal and industrial sites	score	2010	Environment Agency	0.33

All the indicators were updated for WIMD 2011.

Methodological changes

The methodology used to create the indicators of the physical environment domain is the same for WIMD 2011 as it was for WIMD 2008. However, there have been some improvements to the air emissions mapping, and the flood risk mapping.

Changes in flood risk between WIMD 2008 and WIMD 2011 are largely due to the improved flood risk mapping. Although over 4,500 properties in Wales have benefited from reduced flood risk due to capital improvement and maintenance schemes since April 2005, half of these were in the last three years, and so not all of them will be included in the 2009 flood risk data used in WIMD 2011.

Physical environment domain results and analysis

The full set of domain ranks (WIMD 2011) and indicators (WIMD: indicator analysis) can be downloaded from the Welsh Government's [StatsWales](#) web pages. The following sub-section describes some of the changes occurring to LSOAs in the physical environment domain since WIMD 2008.

The table below shows the number of small areas (LSOAs) in each of the WIMD deprivation groups for WIMD 2008 and 2011. The diagonal, in bold, shows the number of LSOAs which have remained in the same deprivation group. Above the

diagonal are the numbers of areas which have moved from a more to a less deprived group. Below the diagonal are the numbers of areas which have moved from a less to a more deprived group.

		physical environment domain 2011					total ranks 1-1896
		10% most deprived ranks 1-190	10-20% most deprived ranks 191-380	20-30% most deprived ranks 381-570	30-50% most deprived ranks 571 - 950	50% least deprived ranks 951 - 1896	
physical environment domain 2008	10% most deprived ranks 1-190	113	48	14	14	1	190
	10-20% most deprived ranks 191-380	45	50	37	43	15	190
	20-30% most deprived ranks 381-570	14	38	42	67	29	190
	30-50% most deprived ranks 571-950	14	37	59	126	144	380
	50% least deprived ranks 951-1896	4	17	38	130	757	946
	total ranks 1-1896	190	190	190	380	946	1896

The table below lists the biggest climbers and fallers in the physical environment domain, between WIMD 2008 and WIMD 2011.

- W01000734, Tyisha 3 in Carmarthenshire, has fallen 955 ranks. This movement is largely driven by a decrease in air quality, and an increase in the flood risk indicator due to improved flood risk mapping.
- The fall from the least to the most deprived group by W01001422, St James 4 in Caerphilly, and W01000925, Glynneath 1, Neath Port Talbot, has been driven by a decrease in air quality. Glynneath 1 has also had a significant increase in its proximity to waste or industrial sites score.
- W01001087, Dinas Powys 2, Vale of Glamorgan, has seen significantly worsening air emissions since WIMD 2008, which has driven its fall to join the most deprived group.
- W01001037, Oldcastle 3, Bridgend, has improved air quality, and a reduced risk of flood compared with WIMD 2008.
- A few LSOAs have moved relative to other LSOAs within the proximity to regulated (waste and industrial) sites. This is either because a site has ceased to operate, or the site has moved from one OPRA band to another due to a change in environmental performance.

	LSOA	LSOA name	local authority	physical environment 2011	physical environment 2008
biggest fallers	W01000734	Tyisha 3	Carmarthenshire	40	995
	W01000925	Glynneath 1	Neath Port Talbot	106	1193
	W01001087	Dinas Powys 2	Vale of Glamorgan	85	1099
	W01001422	St James 4	Caerphilly	185	1223
highest climbers	W01001037	Oldcastle 3	Bridgend	1066	166

Local authority analysis

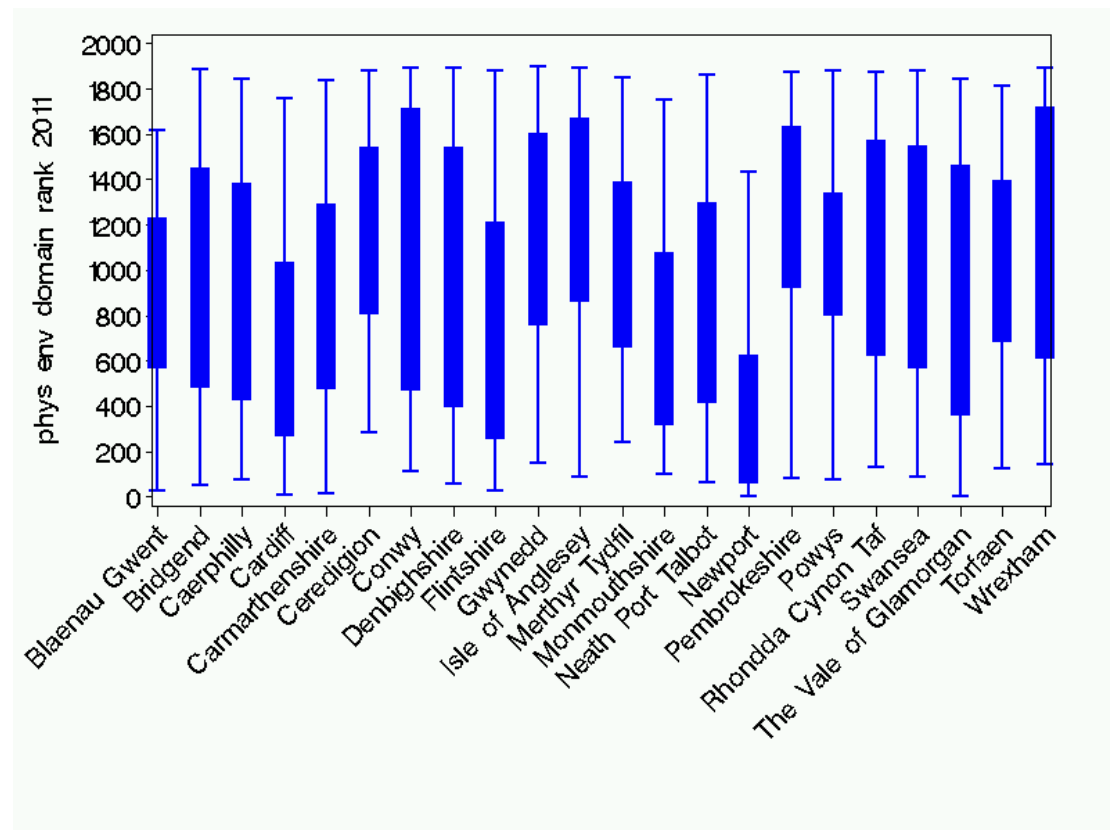
The table below shows, for the physical environment domain of WIMD 2011, the percentage of small areas (LSOAs) in each local authority which are in the most deprived 10% (ranks 1-190), 20% (ranks 1-380), 30% (ranks 1-570) and 50% (ranks 1-950) LSOAs in Wales.

In this analysis, the most deprived local authority is defined as the authority with the greatest fraction of its LSOAs in the most deprived 10% of all LSOAs in Wales. This method can be seen as identifying the concentration of the most deprived areas in a local authority, rather than an average level of deprivation.

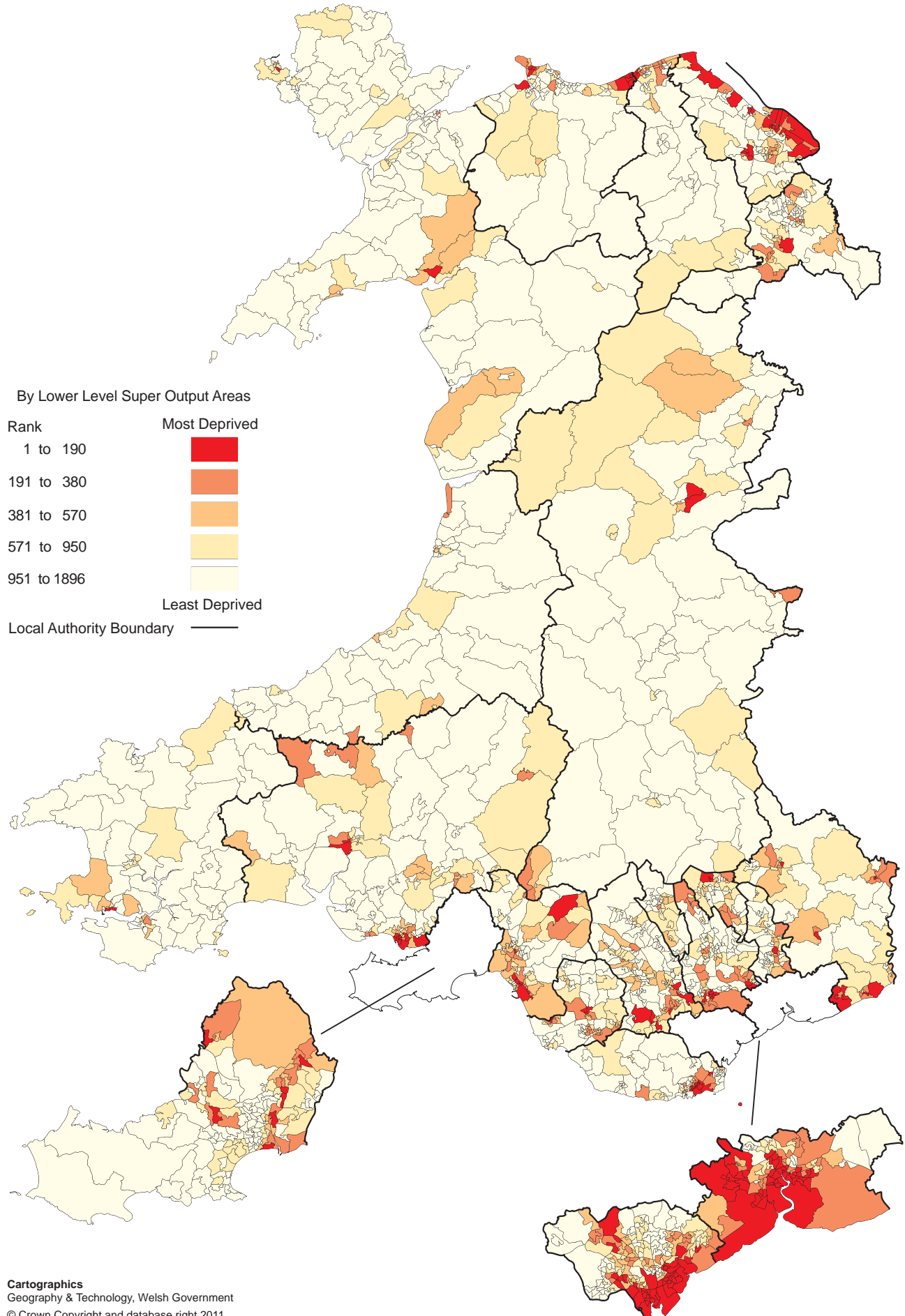
- The most deprived local authority in the physical environment domain is Newport, with 43.6% of its LSOAs in the most deprived 10% in Wales. This is driven by Newport's poor air quality, and proximity to waste and industrial sites.
- This is almost twice as high as the next most deprived local authority, Flintshire, with 23.9% of its LSOAs in the most deprived 10% in Wales. Many Flintshire residents live in proximity to waste or industrial sites.
- The least deprived local authorities in the physical environment domain are Ceredigion and Merthyr Tydfil, with none of their LSOAs in the most deprived 10% in Wales.
- Newport also has the highest percentage of its LSOAs in the most deprived 50% of LSOAs in Wales (86.2%), followed by Cardiff (69.0%).
- The Isle of Anglesey has only 27.3% of its LSOAs in the most deprived half of Welsh LSOAs, and Ceredigion only 29.8%.

local authority	number of LSOAs in local authority	% LSOAs in most-deprived 10% ranks 1-190	% LSOAs in most-deprived 20% ranks 1-380	% LSOAs in most-deprived 30% ranks 1-570	% LSOAs in most-deprived 50% ranks 1-950
Isle of Anglesey	44	2.3	2.3	4.5	27.3
Gwynedd	75	1.3	2.7	12.0	29.3
Conwy	71	12.7	21.1	29.6	46.5
Denbighshire	58	5.2	22.4	31.0	39.7
Flintshire	92	23.9	30.4	42.4	59.8
Wrexham	85	1.2	15.3	23.5	36.5
Powys	80	2.5	7.5	13.8	38.8
Ceredigion	47	0.0	4.3	10.6	29.8
Pembrokeshire	71	2.8	4.2	12.7	26.8
Carmarthenshire	112	9.8	19.6	33.0	54.5
Swansea	147	4.8	15.6	23.8	45.6
Neath Port Talbot	91	8.8	20.9	36.3	63.7
Bridgend	85	3.5	18.8	29.4	47.1
Vale of Glamorgan	78	14.1	25.6	29.5	42.3
Cardiff	203	21.7	32.5	46.8	69.0
Rhondda Cynon Taf	152	3.3	10.5	23.0	43.4
Merthyr Tydfil	36	0.0	2.8	13.9	41.7
Blaenau Gwent	47	8.2	22.7	30.0	49.1
Caerphilly	110	4.3	12.8	23.4	59.6
Monmouthshire	58	1.7	8.3	21.7	43.3
Torfaen	60	12.1	27.6	39.7	67.2
Newport	94	43.6	64.9	71.3	86.2
Wales	1896	10.0	20.0	30.0	50.0

The box plot below shows the spread of physical environment domain ranks for each local authority in Wales. The blue boxes contain half the total number of LSOAs in each local authority, centred on the median (middle) rank for each local authority and the 'whiskers' show the full range of ranks. Deprivation increases with decreasing rank (that is, towards the bottom of the plot).



Physical Environment Domain





Annex A: the indicators

This section contains:

- table A1, a description of the indicators of the Welsh Index of Multiple Deprivation 2011; and
- table A2, a list of the geographical and non-geographical aggregations of the indicator data available on the Welsh Government's [StatsWales](#) web pages.

*Table A1: the indicators for the Welsh index of Multiple Deprivation 2011. Indicators which have been updated in this publication are in **bold**.*

domain	indicator	units	denominator	indicator year(s)	data source
geographical access to services	mean bus + walking journey time to NHS dentist	minutes	number of journeys	2008	Public Transport & Road Network Postal Address File, Ordnance Survey
	mean bus + walking journey time to food shop	minutes	number of journeys	2008	
	mean bus + walking journey time to GP	minutes	number of journeys	2008	
	mean bus + walking journey time to leisure centre	minutes	number of journeys	2008	
	mean bus + walking journey time to library	minutes	number of journeys	2008	
	mean bus + walking journey time to Post Office	minutes	number of journeys	2008	
	mean bus + walking journey time to primary school	minutes	number of journeys	2008	
	mean bus + walking journey time to secondary school	minutes	number of journeys	2008	
	mean bus + walking journey time to transport node	minutes	number of journeys	2008	
community safety	percentage of adult offenders	%	resident population age 18+, less prison population age 18+ number of dwellings, plus total number of business addresses	2008/9 – 2009/10	Wales Probation Trust
	police recorded burglary	%	resident population excluding prisoners, plus total non-resident workplace population	2008/9 – 2009/10	Welsh Police Forces
	police recorded criminal damage	%		2008/9 – 2009/10	Welsh Police Forces
	fire incidence	%	resident	2009/10-	Welsh

			population resident population excluding prisoners, plus total non-resident workplace population resident population excluding prisoners, plus total non-resident workplace population resident population age 10-17, less prison population age 10-16	2010/11	Government
	police recorded theft	%		2008/9 – 2009/10	Welsh Police Forces
	police recorded violent crime	%		2009/10	Welsh Police Forces
	percentage of youth offenders	%		2008/9 – 2009/10	Ministry of Justice
education	Key Stage 2 average point scores	point score	number of KS2 pupils	2008-10	National Pupil Database /
	Key Stage 3 average point scores	point score	number of KS3 pupils	2008-10	Pupil-Level Annual School Census /
	Key Stage 4 average point scores	Point score	number of KS4 pupils	2009-10	National Data Collection
	percentage of people not entering higher education age 18-19	%	number of 18- 19 year olds	1998- 2005	HEFCE
	percentage of adults aged 25- 59/64 with no qualifications	%	number of adults aged 25-59/64	2001	Census
	percentage primary school half day absence	%	number of half day school sessions	2008/9- 2009/10	National Pupil Database / Pupil-Level Annual School Census /
	percentage secondary school half day absence	%	number of half day school sessions	2008/9- 2009/10	National Data Collection
employment	percentage in receipt of employment-related benefits	%	LSOA working age population	2009/10	DWP
physical environment	air emissions	score		2008	Environment Agency
	air quality	score		2008	Environment Agency
	flood risk	score		2009	Environment Agency
	proximity to waste disposal and industrial sites	score		2010	Environment Agency

health	cancer incidence	number per 100,000	direct age-sex standardised populations	2000-2009	Velindre NHS Trust
	all-cause death rate	number per 100,000	direct age-sex standardised populations	2000-2009	ONS
	percentage of live single births < 2.5kg	%	number of live single births	2000-2009	ONS
	limiting long-term illness	number per 100,000	indirect age-sex standardised populations	2001	Census, ONS
housing	percentage of population in households with no central heating	%	number of people living in households	2001	Census, ONS
	percentage of population living in overcrowded households	%	number of people living in households (excluding student households)	2001	Census, ONS
income	percentage in receipt of income-related benefits, or dependent child of same			2009/10	DWP
	percentage in households receiving Tax Credits with income less than 60% of the Wales median, or dependent child of same	%	LSOA population	2009/10	HMRC
	NASS-supported asylum seekers			2010	NASS

Table A2: available aggregations for the indicators for the Welsh index of Multiple Deprivation 2011

aggregation	description
Lower Layer Super Output Area (LSOA)	Lower-layer super output areas are part of the hierarchy of area building blocks designed to improve the reporting of small area statistics in England and Wales. They are designed to all be of a similar size in population terms and each contain a minimum population of 1,000 and a mean population of 1,500. They are an aggregation of adjacent Census Output Areas with similar social characteristics. Each LSOA typically contains between 4 and 6 Census Output Areas, and is constrained by the boundaries of the Standard Table (ST) wards used for the 2001 Census. In Wales there are 1,896 LSOAs.
Middle Layer Super Output Area (MSOA)	Middle-layer super output areas are part of the hierarchy of area building blocks designed to improve the reporting of small area statistics in England and Wales. They are designed to all be of a similar size in population terms and each contains a minimum population of 5,000 people and a mean population of around 7,200. MSOAs are an aggregation of adjacent LSOAs - each MSOA typically contains 4 to 5 LSOAs. In Wales there are 413 MSOAs.
Local Authority (LA)	The current arrangement of 22 local authorities in Wales dates from 1996.
Strategic Regeneration Area (SRA)	Strategic Regeneration Areas have been established in areas of greatest need. They are in places which offer the greatest potential to benefit areas. They link physical and community regeneration with public and private funding, in a programme of change to tackle a range of social and economic issues affecting the most deprived communities. In Wales there are 7 established Strategic Regeneration Areas: Aberystwyth Heads of the Valleys Mon a Menai North Wales Coast Swansea Western Valleys Barry
Communities First Partnerships	Communities First is the Welsh Assembly Government's flagship programme to improve the living conditions and prospects for people in the most disadvantaged communities across Wales. The programme was launched in 2001 and initially worked with 142 communities comprising of the 100 most deprived wards from the Welsh Index of Multiple Deprivation (WIMD) 2000, 32 pockets of deprivation and 10 Communities of Interest (Col). Following the publication of the WIMD 2005, a further 46 areas identified by the Index as being in the 10% most deprived in Wales and were invited to apply for inclusion in the Programme. After 2006 various partnerships were combined – at the time of publication, there are a total of 149 Communities First Partnerships.

Defra Urban/Rural Classification	<p>The Urban/Rural Classification was introduced in 2004 as a joint project between a number of government departments and was delivered by the Rural Evidence Research Centre at Birkbeck College (RERC).</p> <p>The Urban/Rural Classification below defines the rurality of Super Output Area-based geographies. Three settlement types are identified and assigned to either a 'sparse' or 'less sparse' regional setting to give the following six classes:</p> <ol style="list-style-type: none"> 1. large town (sparse) - settlements in the less densely populated areas with a population of at least 10,000 people; 2. small town and fringe (sparse) - towns and urban fringes that have fewer than 10,000 people, in less densely populated areas; 3. village, hamlet and isolated dwellings (sparse); 4. large town (less sparse) - settlements in the more densely populated areas with a population of at least 10,000 people; 5. small town and fringe (less sparse) - towns in densely populated areas that have fewer than 10,000 people. This category includes traditional small towns – for example Usk, Denbigh, Beaumaris and Monmouth – and also areas of urban fringe around the major settlements; 6. village, hamlet and isolated dwellings (less sparse).
WIMD deprivation tenths	<p>The 1896 Lower Layer Super Output Areas (LSOAs) in Wales were ranked according to their overall 2008 Index of Multiple Deprivation and were split into 10 groups (tenths) as listed below:</p> <ol style="list-style-type: none"> 1. 10% most deprived - LSOAs ranked 1 to 190 2. 10-20% most deprived - LSOAs ranked 191 to 380 3. 20-30% most deprived - LSOAs ranked 381 to 570 4. 30-40% most deprived - LSOAs ranked 571 to 760 5. 40-50% most deprived - LSOAs ranked 761 to 950 6. 40-50% least deprived - LSOAs ranked 951 to 1140 7. 30-40% least deprived - LSOAs ranked 1141 to 1330 8. 20-30% least deprived - LSOAs ranked 1331 to 1520 9. 10-20% least deprived - LSOAs ranked 1521 to 1710 10. 10% least deprived - LSOAs ranked 1711 to 1896
Defra Urban/Rural Classification in each Local Authority	<p>The Urban/Rural Classification was introduced in 2004 as a joint project between a number of government departments and was delivered by the Rural Evidence Research Centre at Birkbeck College (RERC).</p> <p>The Urban/Rural Classification below defines the rurality of Super Output Area-based geographies. Three settlement types are identified and assigned to either a 'sparse' or 'less sparse' regional setting to give the following six classes:</p> <ol style="list-style-type: none"> 1. large town (sparse) - settlements in the less densely populated areas with a population of at least 10,000 people; 2. small town and fringe (sparse) - towns and urban fringes that have fewer than 10,000 people, in less densely populated areas; 3. village, hamlet and isolated dwellings (sparse); 4. large town (less sparse) - settlements in the more densely populated areas with a population of at least 10,000 people; 5. small town and fringe (less sparse) - towns in densely populated areas that have fewer than 10,000 people. This category includes traditional small towns – for example Usk, Denbigh, Beaumaris and Monmouth – and also areas of urban fringe around the major settlements; 6. village, hamlet and isolated dwellings (less sparse).



Annex B: methodological changes

This section gives a summary of the methodological changes made in WIMD 2011. The purpose of WIMD 2011 was to update WIMD 2008, so methodological changes have been avoided, except where changes to data provision have made it unavoidable.

Income domain: Employment and Support Allowance (ESA) has replaced Incapacity Benefit for new claimants since October 2008. The Income Support element of Incapacity Benefit is replaced with the Income-Based element of ESA.

No comparison with the income domain of WIMD 2008 has been carried out, because the 2008 income indicator values are not comparable with the WIMD 2011 income indicator. This is because the dependent children of claimants of income-related Department of Work and Pensions (DWP) benefits were erroneously omitted from the indicator in 2008. This was only discovered during the production of WIMD 2011 and at the time of publication the WIMD 2008 indicators and ranks had not been revised. Significant changes to the income domain and Index ranks in WIMD 2008 are not expected as a result of correcting this error.

Employment domain: the Employment and Support Allowance (ESA) has replaced Incapacity Benefit for new claimants since October 2008.

Community safety: in WIMD 2011, the violent crime rate is based on a single year (2009/10) of data, instead of the average over two years of data. This is due to a crime coding issue in the 2008/9 data year.

Education: pupil postcodes are now available for both primary and secondary absences. This is an improvement over WIMD 2008, where the school-level data had to be apportioned to postcodes. The Key Stage 4 (GCSE)-level) points scoring system changed in 2008, and it also now includes qualifications other than GCSEs. Data are no longer available for the old points system. The inclusion of qualifications other than GCSE improves this indicator, but both the level and the ratio between successive grades are changed, which may lead to differences in the ranking.

Health: following the discovery of some anomalous data points in the health domain of WIMD 2008, the WIMD Steering Group agreed to change the age-sex standardisation methodology of the health indicators from direct to indirect standardisation for WIMD 2011. Indirect standardisation is a more robust approach for small number statistics such as the Index indicators. The effect of the change of methodology is limited, and is greatest where use of direct standardisation for very small numbers produced anomalous results for WIMD 2008. The new methodology corrects this problem.

Full analysis of the effects of direct versus indirect standardisation is presented in the [paper and minutes](#) of the Health Domain Working Group in May 2011. The

discussion and agreement of the WIMD Steering Group can be found in the [minutes](#) of the Steering Group meeting of 2 June 2011.

Physical environment: the methodology used to create the indicators of the physical environment domain is the same for WIMD 2011 as it was for WIMD 2008. However, there have been some improvements to the air emissions mapping, and the flood risk mapping.

Changes in flood risk between WIMD 2008 and WIMD 2011 are largely due to the improved flood risk mapping. Although over 4,500 properties in Wales have benefited from reduced flood risk due to capital improvement and maintenance schemes since April 2005, half of these were in the last three years, and so not all of them will be included in the 2009 flood risk data used in WIMD 2011.



Annex C: uses and users

The Index and the Child Index are used extensively across the Welsh Government to inform policy and programmes focussed on deprivation and poverty. They are used widely by local authorities, other public bodies, the voluntary sector, and also by academics and students, in the private sector. Below are some examples of the uses of the Index and the Child Index. The list is not exhaustive.

Welsh Government

- The Index was used to identify areas for Communities First Programme, the flagship deprivation programme of the Welsh Government. The Index, its domains and indicators are used in understanding deprivation in these areas.
- The education domain is used to provide a deprivation uplift for funding allocations within the National Planning and Funding System. The funding model applies the uplift to provision undertaken by learners residing in areas that are in the most-deprived 30% of areas in the educational domain of the Index.
- The 'Flying Start' program focuses on 0 – 3 year olds, and aims to improve outcomes for disadvantaged children. Both the Index and, more recently, the Child Index have been used in identifying areas in which to put Flying Start services.
- The Index, with the health domain removed, has been used to assess health gain targets across different levels of deprivation.
- The Index is used in the creation of indicators used to monitor inequalities as part of the Welsh Government's Child Poverty Strategy.
- The Index, its domains and indicators are used to identify and understand deprivation in the Welsh Government's Strategic Regeneration Areas.
- Prior to 2009/10, a small percentage of Standard Spending Assessments was allocated on the basis of the Index.

Local Government

Local authorities and their partners find the Index a useful tool for targeting local resources and supporting funding bids. It is also useful in developing an understanding of their local areas and helping highlight issues and particular areas which need more study to fully identify local needs. The following is a list of some of the local government activities where the Index or Child Index has been used:

- needs assessments for health, social care & wellbeing; Children & Young People's Partnership and Community Safety Partnership (Cardiff CC);
- housing renewal initiatives;
- adult services commissioning;
- local profiles, funding bids (Ceredigion CC);

- identifying priority areas, framing discussions on deprivation (Flintshire CC);
- research and information in all its forms (City & County of Swansea);
- producing a poverty profile of Swansea, providing detailed info on child poverty to members / senior managers (City & County of Swansea);
- comparison of areas – used in deciding Flying Start areas etc. (Carmarthenshire CC);
- data requests and funding bids (Torfaen CBC);
- area profiles, deprivation analysis for children and young people (City & County of Swansea);
- ward profiles, illustration of small levels of deprivation, funding bids (Neath-Port Talbot CC);
- Welsh Local Government Association and health improvement work – concentrating policy efforts on areas of greatest deprivation; and
- funding bids & needs assessments (Monmouthshire CC).

Other public bodies

- The regulator OFWAT has used the index for looking at the relationship between deprivation and levels of debt.
- The Lottery Fund has used the Index to allocate funds to deprived areas.
- The Index has been used to support bids for European funding, targeting local services and in analysis of the links between localised deprivation and various problems including health issues.
- The Index has been used for public health research, assisting the understanding of wider social and environmental determinants of health and illness.
- Chief Medical Officer uses the Index in his Annual Reports on health in Wales.
- The Index is used by the Welsh Police Forces to plan neighbourhood police resourcing.
- The National Public Health Service for Wales uses the Index for population profiles, used to look at the health and well-being of defined populations.
- The Wales European Funding Office uses the Index when assessing project applications.
- Mid and West Wales Fire and Rescue Services use the Index for planning.

Voluntary sector

- The End Child Poverty Network Cymru group uses the Child Index to highlight deprivation in Wales, and intend to use it as an effective mechanism at a local level as guidance for Children and Young People's Partnerships in the development of Single Plans.
- Catch-22, a charity focussed on young adults, uses the Index to support funding bids, choosing localities to focus work in, and much more.
- The National Day Nurseries Association uses the Index.



Annex D: local authority analysis

In this analysis, the most deprived local authority is defined as the authority with the greatest fraction of its LSOAs in the most deprived 10% of all LSOAs in Wales. This method can be seen as identifying the concentration of the most deprived areas in a local authority, rather than an average level of deprivation. Entries in **bold** mark the most deprived local authority in each domain by this measure.

<i>percentage of local authority LSOAs in the most-deprived 10% in Wales for WIMD 2011 and its domains</i>									
local authority	WIMD 2011	employment	income	education	health	access to services	community safety	housing	physical environment
Blaenau Gwent	23.4	31.9	21.3	21.3	17.0	0.0	23.4	0.0	4.3
Bridgend	10.6	18.8	7.1	11.8	15.3	0.0	7.1	1.2	3.5
Caerphilly	14.5	21.8	10.9	13.6	20.9	0.9	6.4	0.0	8.2
Cardiff	15.8	11.3	21.2	16.3	9.9	0.0	20.7	26.6	21.7
Carmarthenshire	5.4	7.1	3.6	4.5	6.3	24.1	1.8	0.9	9.8
Ceredigion	0.0	4.3	0.0	0.0	0.0	44.7	2.1	19.1	0.0
Conwy	2.8	5.6	4.2	0.0	2.8	8.5	5.6	19.7	12.7
Denbighshire	10.3	10.3	13.8	10.3	10.3	13.8	10.3	20.7	5.2
Flintshire	4.3	1.1	5.4	4.3	2.2	3.3	4.3	9.8	23.9
Gwynedd	4.0	0.0	4.0	4.0	1.3	24.0	8.0	41.3	1.3
Isle of Anglesey	2.3	6.8	6.8	0.0	0.0	18.2	4.5	18.2	2.3
Merthyr Tydfil	25.0	33.3	19.4	25.0	44.4	0.0	25.0	2.8	0.0
Monmouthshire	0.0	0.0	0.0	1.7	0.0	22.4	0.0	0.0	12.1
Neath Port Talbot	15.4	24.2	15.4	12.1	18.7	0.0	5.5	0.0	8.8
Newport	16.0	16.0	18.1	16.0	5.3	1.1	25.5	6.4	43.6
Pembrokeshire	4.2	2.8	4.2	2.8	4.2	38.0	5.6	9.9	2.8
Powys	1.3	1.3	0.0	0.0	2.5	52.5	1.3	0.0	2.5
Rhondda Cynon Taff	17.8	25.0	11.8	19.7	23.7	1.3	11.8	2.6	3.3
Swansea	11.6	10.2	12.9	15.6	12.2	2.0	10.2	4.1	4.8
Torfaen	6.7	8.3	6.7	1.3	6.7	0.0	8.3	0.0	14.1
Vale of Glamorgan	6.4	7.7	7.7	8.3	1.3	3.8	6.4	1.3	1.7
Wrexham	5.9	4.7	5.9	8.2	7.1	8.2	15.3	30.6	1.2



Annex E: glossary

Defra	Department for Environment, Food and Rural Affairs
DWP	Department for Work and Pensions
HEFCE	Higher Education Funding Council for England
HMRC	Her Majesty's Revenue and Customs
KS2, KS3, KS4	Key Stage 2, 3, 4
LSOA	lower-layer super output area - the small areas on which WIMD and the Child Index are based
NASS	National Asylum Support Service
ONS	Office for National Statistics
WIMD	Welsh Index of Multiple Deprivation