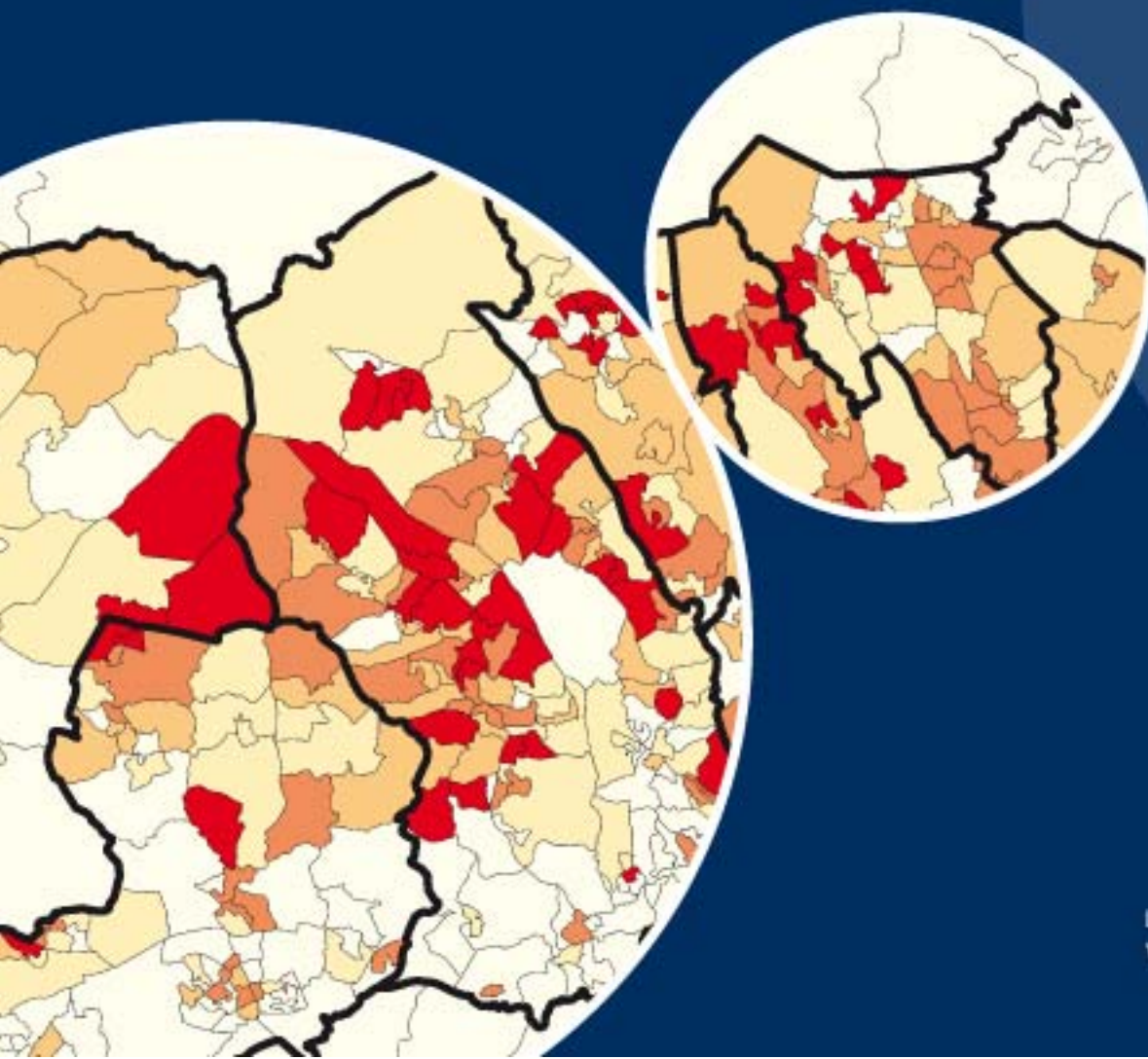


Welsh Index of Multiple Deprivation (WIMD) 2008

Local Authority Analysis





introduction

This report presents the deprivation scores from the Welsh Index of Multiple Deprivation 2008 for the Lower Layer Super Output Areas in Wales on a local authority by local authority basis.

background

Indexes of deprivation were originally designed to be applied in specific policy areas, like health or education. But over the past two decades the concept of a more general index of multiple deprivation at the local level has become increasingly important.

The Welsh Index of Socio-Economic Conditions was originally prepared for targeting urban regeneration funds, and so did not specifically reflect rural deprivation. It was developed in the 1980s and used eight ward-level indicators. Newer methodologies and sources of data made it possible to model deprivation at the small area level with greater reliability.

In 1999 the Welsh Office in partnership with the Welsh Local Government Association awarded a contract to Oxford University to develop a Welsh Index of Multiple Deprivation. The Welsh Index of Multiple Deprivation 2000 was designed to model levels of deprivation in Wales and support the objective targeting of resources. It used a more sophisticated methodology than the earlier Index of Socio-Economic Conditions and was based on more representative measures of deprivation at the small area level, some of which used administrative data from new sources.

The 2000 index was replaced by the Welsh Index of Multiple Deprivation 2005. This new index was produced in house in a partnership between the Welsh Assembly Government and the Local Government Data Unit ~Wales. The index was based on similar methodology to the previous index and was more transparent and easier to understand (so that users could understand how the values were derived). It was based on a new geography called Super Output Areas (SOAs).

Welsh Index of Multiple Deprivation 2008

To take forward the task of considering indicators for WIMD 2008, seven separate domain working groups were established:

- Income & Employment
- Education, Skills and Training
- Health
- Access to Services
- Housing
- Physical Environment
- Community Safety

Members of these groups were drawn from a wide range of organisations with relevant expertise in the topic area. Each domain working group was tasked with examining the issues outstanding from WIMD 2005 plus any developments in the availability of data, and with producing recommendations for possible indicators for WIMD 2008.

As part of the WIMD project, a Project Board and Advisory Group were also formed. The composition of the project board reflects the key stakeholders' interests in the project. The Advisory Group includes those with expertise in the possible techniques to employ, as well as the usage and the implications arising from the use of an Index.

Alongside this process, the Welsh Assembly Government Statistical Directorate and the Local Government Data Unit ~ Wales hold six-monthly meeting with colleagues from the other 3 UK nations to share experiences. In this way developments in the other 3 nations, including relevant research projects, have been fed into the domain working group process in Wales.

The document '*Welsh Index of Multiple Deprivation (WIMD) – Consultation on the proposed indicators for updating WIMD*' was published at the start of the formal consultation on 11th June 2007. Consultation lasted for a period of 12 weeks, closing on 7th September 2007. The document detailed then current thinking on which domains will be included for 2008 as well as the indicators for each domain. The most notable item for consultation was the inclusion of a new domain covering Community Safety (which was considered for 2005 but was not included due to data quality issues).

The document '*Welsh Index of Multiple Deprivation (WIMD) 2008 – Response to the consultation on the proposed indicators for updating WIMD*' was published in November 2007. The document responded to suggestions and concerns raised in the consultation responses and detailed changes made in light of these responses. It also highlighted outstanding issues and gave a summary of indicators for WIMD 2008 by domain.

Following the consultation and implementing the changes mentioned above, there have been further changes to proposed indicators and in the methodology used. Details of these changes can be found in the document '*Welsh Index of Multiple Deprivation 2008 - Summary Report*'.

applications of the WIMD 2008

The index can be used for giving an overall deprivation score for each of the 1,896 LSOAs in Wales and for giving scores for the eight separate kinds of deprivation. Deprivation scores for two or more of the areas can be compared, and the scores for all 1,896 LSOAs can be ranked so that the LSOAs can be ranked from the most deprived to the least (the same can be done for a group of LSOAs, like those in a local authority).

It is possible to compare two or more local authorities (or other groups of LSOAs) by looking at the proportion of the LSOAs in the local authority in the most deprived (usually) ten per cent in all of Wales.

For income and employment it is possible to derive the numbers of people classed as deprived living in an LSOA (as well as a deprivation score). For the other six kinds of deprivation only the scores are available (because they are worked out using a range of indicators rather than just numbers of people). The data on which the index is based can be used to check for changes over time.

Small differences in the deprivation scores are likely to be insignificant. It is not possible to estimate how much more deprived one area is than another. If area A has a score of 40 and area B one of 20, it does not follow that A is twice as deprived as B. Or if A were ranked as the 100th most deprived area and B the 300th, it does not follow that A is three times more deprived than B.

It is an index of deprivation not affluence. If one LSOA is much lower down the ranked list than another then it is possible to conclude that it is less deprived but not that it is more affluent. The index is not based on the factors which mean that a place is affluent. Every area has people who are deprived and people who are affluent, but the index counts only those classed as deprived. It makes no difference whether the rest are nearly deprived but not quite, fairly well-off, or really rich.

The deprivation scores from the 2008 index can't be compared with those from 2005. The parts that make up the index are different, and the indexes were worked out in different ways. But even if these changes had not been made, comparisons would still not be valid. An area's score is affected by the scores of every other area; so it is impossible to tell whether a change in score is a real change in the deprivation level of an area, or whether it is due to the scores of other areas going up or down.

The deprivation scores cannot be compared with those from the deprivation indexes of other UK countries. To be able to compare an area in Wales with one in (say) England would mean having to design a joint England and Wales index. The comparisons would not be valid if there were two separate indexes.

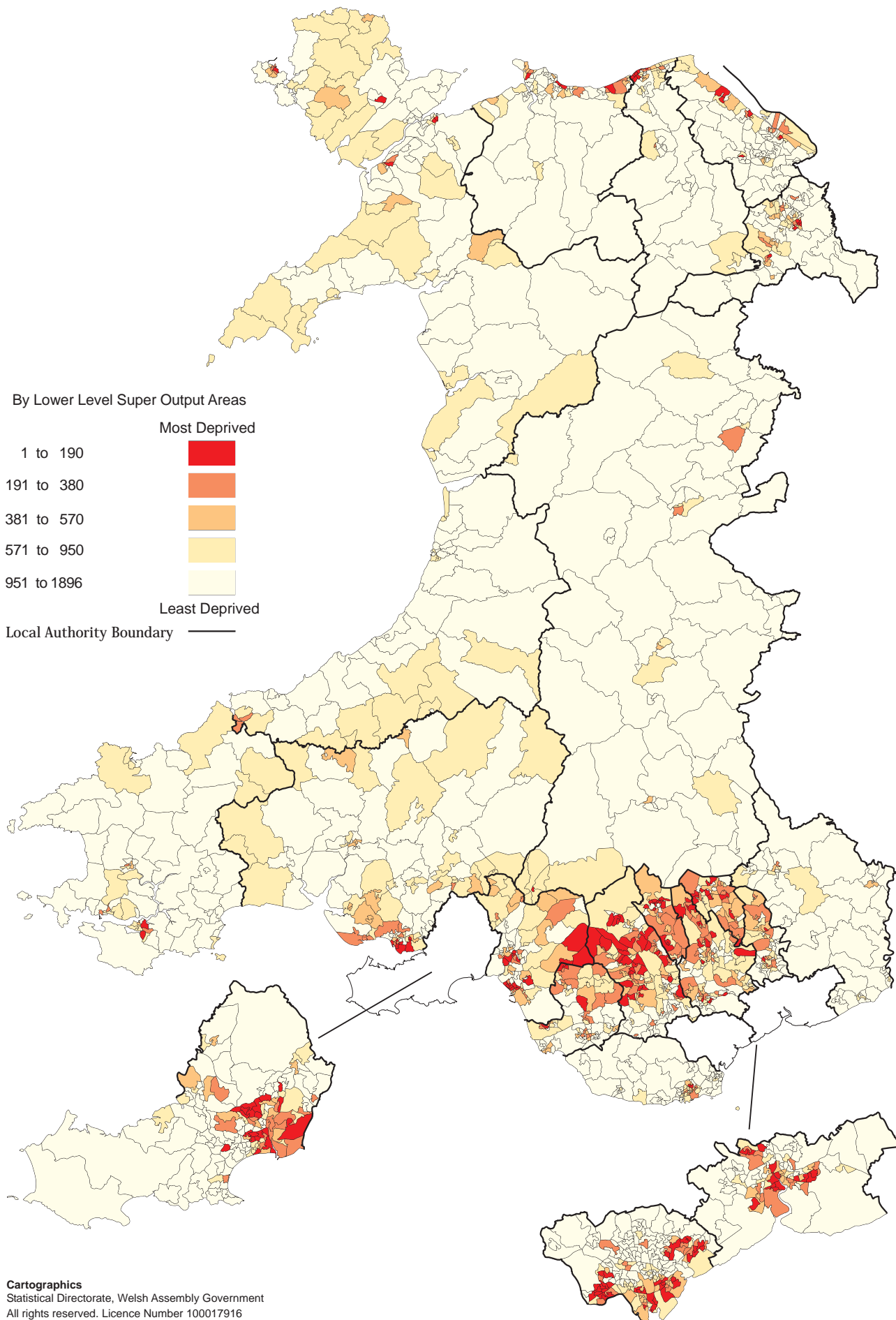
local authority deprivation scores

There are no official local authority deprivation scores. Local authority scores can be calculated, but there are several ways to do it each giving a different answer.



Overall Index of Multiple Deprivation

Map 1





local authority Variation

The map on the previous page shows the 190 Lower Layer Super Output Areas (LSOAs) which are in the 10% most deprived LSOAs in Wales. The 5 most deprived LSOAs in Wales were:

- Rhyl West 2 , Denbighshire (W01000240)
- Butetown 2, Cardiff (W01001700)
- Queensway 1, Wrexham (W01000413)
- Rhyl West 1, Denbighshire (W01000239)
- Rhyl South West 2, Denbighshire (W01000237)

The overall deprivation scores in Wales ranged from 81.0 to 2.3, with larger figures indicating higher levels of deprivation. Ranks in the WIMD 2008 range between 1 and 1896, with 1 indicating the most deprived LSOA in Wales. The following table shows the range of scores and ranks within each local authority.

Local Authority	Most Deprived		Least Deprived	
	highest index deprivation score	Highest Rank	lowest index deprivation score	Lowest Rank
Denbighshire	81.0	1	4.1	1858
Cardiff	78.1	2	2.3	1896
Wrexham	77.9	3	3.9	1863
Swansea	74.3	6	3.0	1887
Merthyr Tydfil	73.6	7	9.4	1565
Caerphilly	73.4	8	3.9	1865
Rhondda, Cynon, Taf	72.5	10	3.9	1864
Bridgend	70.7	13	4.5	1847
Blaenau Gwent	69.9	15	11.9	1356
Newport	68.2	22	4.4	1853
Carmarthenshire	66.8	26	7.9	1650
Neath Port Talbot	65.2	29	4.9	1835
Conwy	60.6	44	4.8	1838
Torfaen	59.9	49	5.4	1800
Pembrokeshire	56.0	71	9.7	1530
Gwynedd	53.4	82	5.6	1793
Flintshire	53.1	85	3.3	1880
The Vale of Glamorgan	49.8	100	2.9	1890
Isle of Anglesey	48.2	119	5.8	1781
Powys	44.7	153	3.5	1879
Ceredigion	37.2	272	5.0	1827
Monmouthshire	32.9	369	2.3	1895



results for 10% most deprived LSOAs

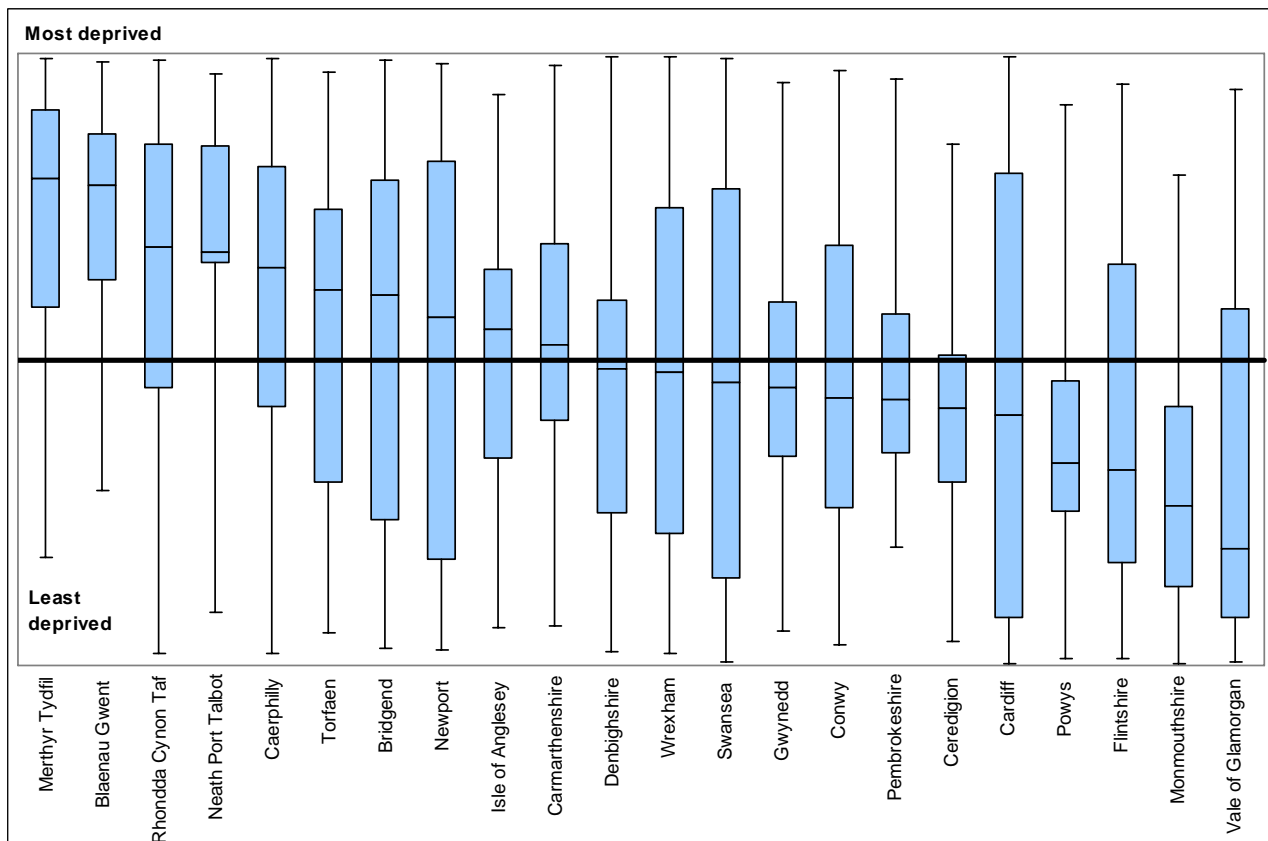
The following table shows the different ways of examining the 10% most deprived areas in Wales at a local authority level.

- (a) The first column shows the number of LSOAs in each local authority.
- (b) The second column shows the number of LSOAs in each local authority that are in the 10% most deprived in Wales.
- (c) The third column shows the number of LSOAs in each local authority as a percentage of the 10% most deprived. (= (b)/190)
- (d) The fourth column shows the number of LSOAs within each local authority as a percentage of the total LSOAs in Wales. (= (a)/1896)
- (e) The fifth column shows the number of LSOAs in the 10% most deprived for each local authority, as a percentage of the number of LSOAs in the local authority. (= (b)/(a))

Local Authority	LSOAs in LA (a)	LSOAs in the 10% most deprived (b)	% of the 10% most deprived in LA (c) = (b)/190	% of all LSOAs in LA (d) = (a)/1896	% of LSOAs within LA in 10% most deprived (e) = (b)/(a)
Isle of Anglesey	44	2	1%	2%	5%
Gwynedd	75	3	2%	4%	4%
Conwy	71	4	2%	4%	6%
Denbighshire	58	6	3%	3%	10%
Flintshire	92	5	3%	5%	5%
Wrexham	85	6	3%	4%	7%
Powys	80	1	1%	4%	1%
Ceredigion	47	0	0%	2%	0%
Pembrokeshire	71	2	1%	4%	3%
Carmarthenshire	112	6	3%	6%	5%
Swansea	147	19	10%	8%	13%
Neath Port Talbot	91	17	9%	5%	19%
Bridgend	85	4	2%	4%	5%
The Vale of Glamorgan	78	2	1%	4%	3%
Cardiff	203	35	18%	11%	17%
Rhondda Cynon Taf	152	28	15%	8%	18%
Merthyr Tydfil	36	11	6%	2%	31%
Caerphilly	110	13	7%	6%	12%
Blaenau Gwent	47	10	5%	2%	21%
Torfaen	60	2	1%	3%	3%
Monmouthshire	58	0	0%	3%	0%
Newport	94	14	7%	5%	15%
Wales	1896	190	100%	100%	10%

The following chart shows the spread of the ranks of overall deprivation for each local authority. The length of the lines indicates the spread of the ranks in each authority and the blue box indicates the spread of the middle 50 per cent of ranks in the authority.

Overall Level of Deprivation for each local authority compared with the median (middle) rank for Wales.



Notes:

- The line across the middle of the chart represents the median rank for Wales (rank 948.5).

For many authorities the spread of ranks is distributed over almost the whole range of ranks (from highest to lowest, 1 to 1896). The chart shows that the local authority of Blaenau Gwent does not have any LSOAs that are ranked within the least deprived 25% of LSOAs (ranks 1422 to 1896).

The 5 local authorities with the largest ranges of scores are:

- Cardiff which has a range of 1894 ranks
- Swansea, which has a range of 1881 ranks
- Wrexham which has a range of 1860 ranks
- Denbighshire which has a range of 1857 ranks
- Caerphilly which has a range of 1857 ranks

The median (middle rank) within each local authority ranged from 381.5 to 1535.5. The 3 local authorities with the lowest medians were:

- Merthyr Tydfil (median rank of 381.5)
- Blaenau Gwent (median rank of 404)
- Rhondda, Cynon, Taf (median rank of 592).

The 3 local authorities with the highest medians were:

- The Vale of Glamorgan (median rank of 1535.5).
- Monmouthshire (median rank of 1402.5)
- Flintshire (median rank of 1292).

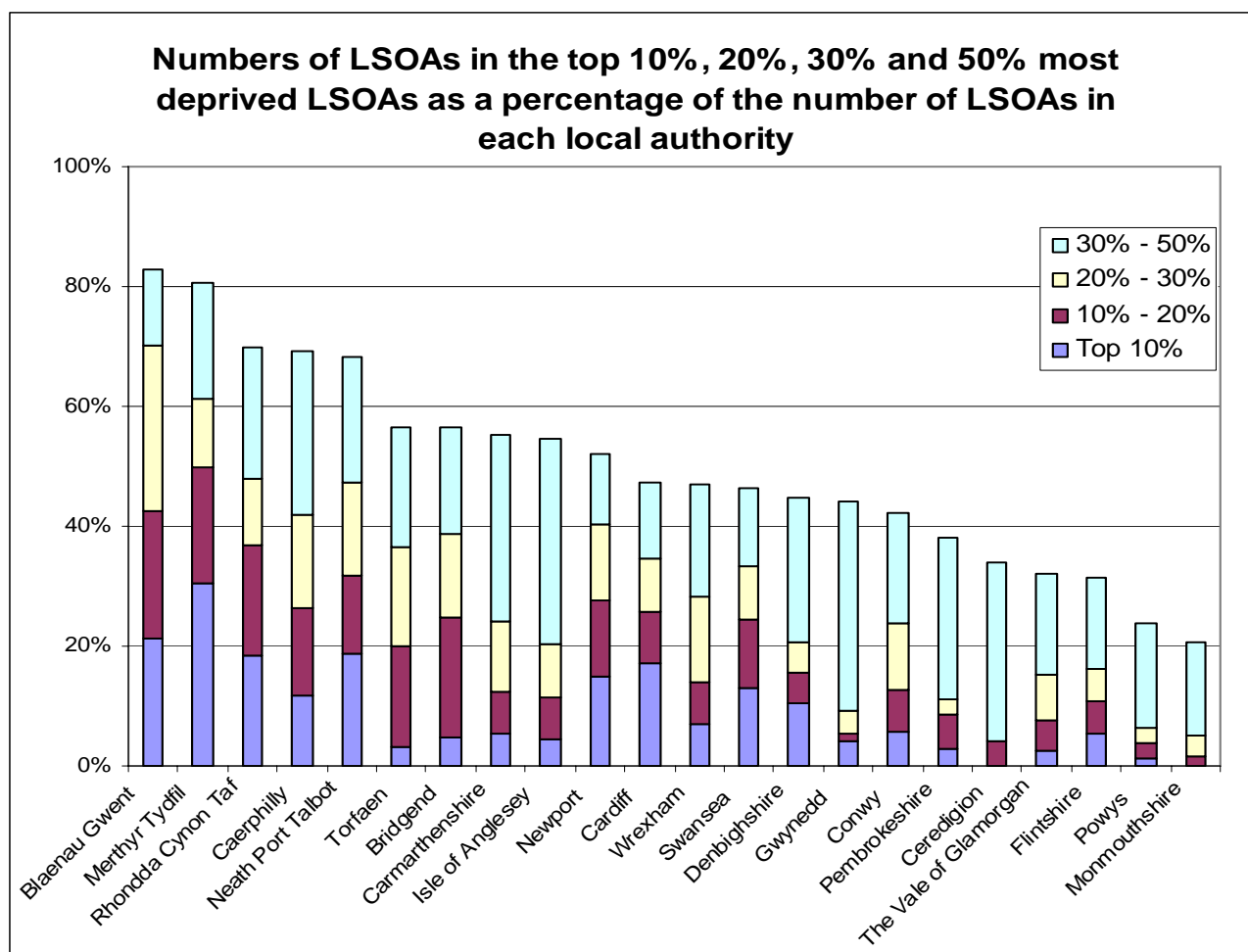
The local authorities with the smallest range over which the middle 50% of ranks were spread (the inter quartile range) were:

- Neath Port Talbot (364 ranks)
- Ceredigion (397 ranks)
- Powys (406.75 ranks)

The local authorities with the largest range over which the middle 50% of ranks were spread (the inter quartile range) were:

- Cardiff (1383 ranks)
- Newport (1241.25 ranks)
- Swansea (1212 ranks).

The following chart shows the number of LSOAs in each local authority which are ranked in the 50% most deprived LSOAs in Wales as a percentage of the number of LSOAs in each local authority.



If a local authority has more than 50% of its LSOAs in the most deprived 50% of LSOAs in Wales, it implies that the local authority has a higher than average number of deprived areas.

As the chart shows, Blaenau Gwent has the highest proportion of its LSOAs in the 50% most deprived (83%), closely followed by Merthyr Tydfil with 81%. Monmouthshire has the lowest proportion of its LSOAs in the 50% most deprived (21%).

As the chart shows the areas with high percentages of LSOAs in the most deprived 50% do not always have the highest percentages of LSOAs in the most deprived 10%. The most notable case of this is illustrated in Anglesey, which has 55% of its LSOAs in the 50% LSOAs most deprived in Wales, but only has 5% of its LSOAs in the most deprived 10% in Wales. The reverse of this is shown in Cardiff, which has only 47% of its LSOAs in the most deprived 50% LSOAs in Wales (below average levels), but has 17% of its LSOAs in the 10% most deprived LSOAs in Wales (above average levels).

The local authority with the closest distribution of deprivation scores compared with Wales as a whole is Swansea, with percentages of 13%, 24%, 33% and 46% in the most deprived 10%, 20%, 30% and 50% LSOAs in Wales.

Numbers of LSOAs in each LA that are ranked in the top most deprived 10%, 20%, 30% and 50% LSOAs in Wales

Local Authority	10%		20%		30%		50%	
	Number	% of LA	Number	% of LA	Number	% of LA	Number	% of LA
Isle of Anglesey	2	5%	5	11%	9	20%	24	55%
Gwynedd	3	4%	4	5%	7	9%	33	44%
Conwy	4	6%	9	13%	17	24%	30	42%
Denbighshire	6	10%	9	16%	12	21%	26	45%
Flintshire	5	5%	10	11%	15	16%	29	32%
Wrexham	6	7%	12	14%	24	28%	40	47%
Powys	1	1%	3	4%	5	6%	19	24%
Ceredigion	0	0%	2	4%	2	4%	16	34%
Pembrokeshire	2	3%	6	8%	8	11%	27	38%
Carmarthenshire	6	5%	14	13%	27	24%	62	55%
Swansea	19	13%	36	24%	49	33%	68	46%
Neath Port Talbot	17	19%	29	32%	43	47%	62	68%
Bridgend	4	5%	21	25%	33	39%	48	56%
The Vale of Glamorgan	2	3%	6	8%	12	15%	25	32%
Cardiff	35	17%	52	26%	70	34%	96	47%
Rhondda Cynon Taf	28	18%	56	37%	73	48%	106	70%
Merthyr Tydfil	11	31%	18	50%	22	61%	29	81%
Caerphilly	13	12%	29	26%	46	42%	76	69%
Blaenau Gwent	10	21%	20	43%	33	70%	39	83%
Torfaen	2	3%	12	20%	22	37%	34	57%
Monmouthshire	0	0%	1	2%	3	5%	12	21%
Newport	14	15%	26	28%	38	40%	49	52%
WALES	190	10%	380	20%	570	30%	950	50%

For example, in Blaenau Gwent:

- **10 LSOAs** are in the most deprived 10% LSOAs in Wales.
This represents 21% of all LSOAs in Blaenau Gwent, therefore **21%** of all LSOAs in Blaenau Gwent are in the most deprived 10% LSOAs in Wales.
- **20 LSOAs** are in the most deprived 20% LSOAs in Wales.
This represents 43% of all LSOAs in Blaenau Gwent, therefore **43%** of all LSOAs in Blaenau Gwent are in the most deprived 20% LSOAs in Wales.
- **33 LSOAs** are in the most deprived 30% LSOAs in Wales.
This represents 70% of all LSOAs in Blaenau Gwent, therefore **70%** of all LSOAs in Blaenau Gwent are in the most deprived 30% LSOAs in Wales.
- **39 LSOAs** are in the most deprived 50% LSOAs in Wales.
This represents 83% of all LSOAs in Blaenau Gwent; therefore **83%** of all LSOAs in Blaenau Gwent are in the most deprived 50% LSOAs in Wales.



Individual Local Authority profiles

	<i>Page</i>
Isle of Anglesey	15-18
Gwynedd	19-22
Conwy	23-26
Denbighshire	27-30
Flintshire	31-34
Wrexham	35-38
Powys	39-42
Ceredigion	43-46
Pembrokeshire	47-50
Carmarthenshire	51-54
Swansea	55-58
Neath Port Talbot	59-62
Bridgend	63-66
The Vale of Glamorgan	67-70
Cardiff	71-74
Rhondda Cynon Taf	75-78
Merthyr Tydfil	79-82
Caerphilly	83-86
Blaenau Gwent	87-90
Torfaen	91-94
Monmouthshire	95-98
Newport	99-102

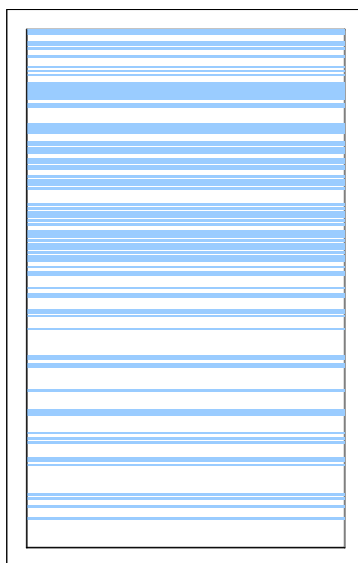


explanation of LA profiles

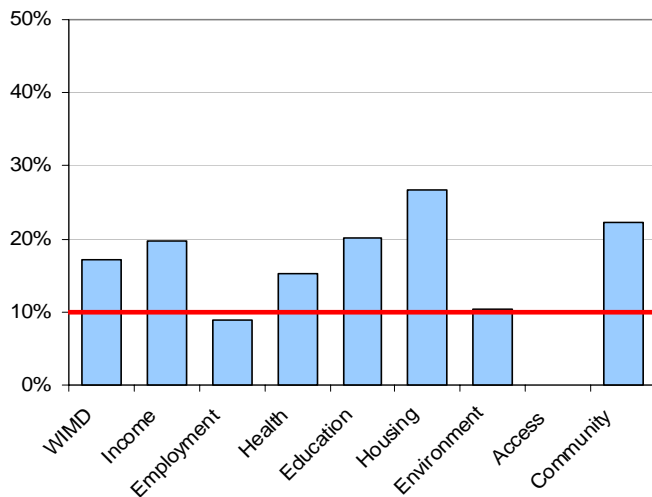
For each local authority the following layout will apply:

- A map of the local authority showing the current Electoral Division boundaries with the LSOAs shaded showing whether the LSOA is in the:
 - 10% most deprived LSOAs in Wales
 - 10% to 20% most deprived LSOAs in Wales
 - 20% to 30% most deprived LSOAs in Wales
 - 30% to 50% most deprived LSOAs in Wales
 - 50% least deprived LSOAs in Wales.
- A list of names of the Electoral Divisions shown, with numeric references to the map.
- A chart detailing the position of the LSOAs in each local authority from the ranked list of all LSOAs for Wales.
- A chart detailing the proportion of LSOAs in the local authority which are in the top 10% most deprived LSOAs for Wales, for each domain.
- A chart detailing the overall multiple deprivation scores for each LSOA in the local authority, compared to the score of the LSOA ranked as the middle LSOA in Wales (the median overall score).
- A chart detailing the spread of ranks within each domain in each local authority.

Chart Explanations:

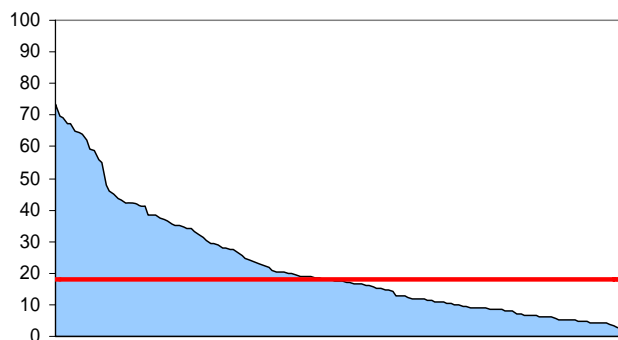


- This chart shows how the deprivation scores within the local authority compare with those of the rest of Wales.
- The rectangle represents all the scores in Wales ranked in order from the highest (most deprived) at the top to the lowest (least deprived) at the bottom.
- The shaded bars represent the overall deprivation scores of the local authority's LSOAs.
- A concentration of shaded bars near the top of the rectangle implies that the local authority has higher levels of deprivation than the rest of Wales, and a concentration near the bottom implies lower than average levels of deprivation.



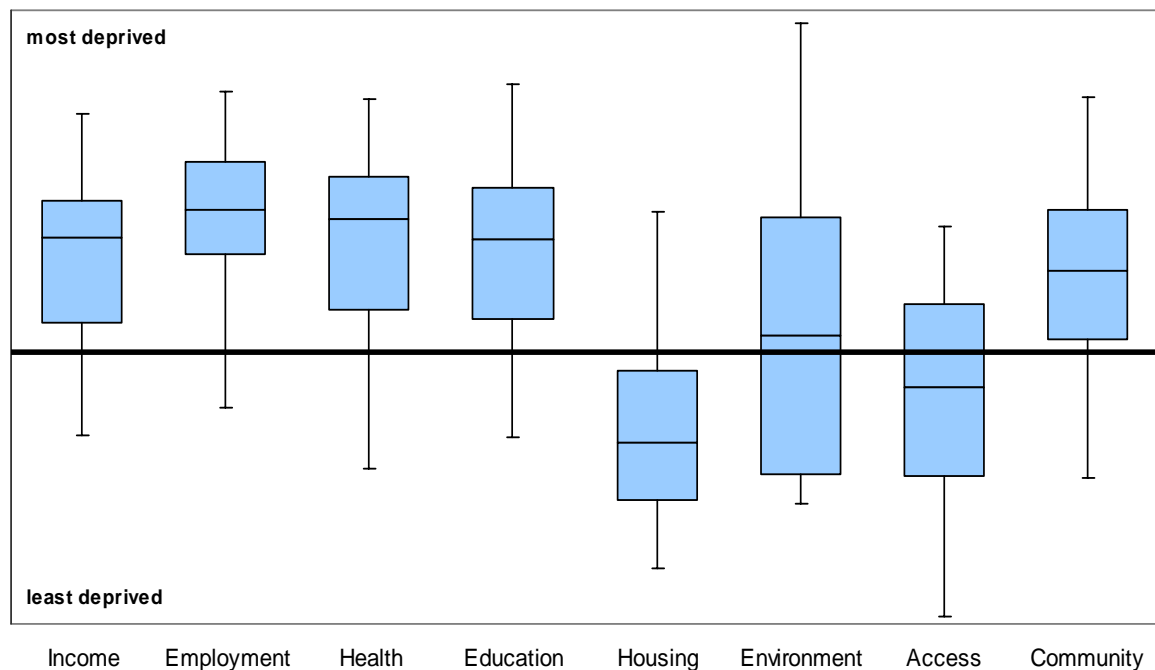
- This chart shows the proportion of LSOAs in each local authority, which are in the most deprived 10% LSOAs in Wales for overall deprivation and for each domain.
- If the bars extend above the red line, it indicates that the local authority has above average levels of LSOAs in its area in the most deprived 10% LSOAs in Wales. (i.e. it has more than 10% of its LSOAs in the most deprived 10% LSOAs in Wales).
- If the bars are equal with the red line it means the local authority has 10% of its LSOAs in the most deprived 10% LSOAs in Wales, which indicates average levels.

- If the bars do not reach the red line it means the local authority has below average levels of its LSOAs in the most deprived 10% LSOAs in Wales.
- If no bar is shown, then it indicates that there are no LSOAs in that local authority, that are in the most deprived 10% LSOAs in Wales.
- The further above the red line a bar extends the more deprived a local authority is for that domain.



- This chart shows the distribution of deprivation scores in the local authority.
- Higher scores represent more deprived LSOAs. Scores across Wales range from 81.0 (most deprived) to 2.3 (least deprived).
- The red line shows the median (middle) score for overall deprivation in Wales.

- The further towards the right hand side of the chart the point that the blue shaded area drops beneath the red line, the greater the proportion of LSOAs in that local authority which are more deprived than the median score for Wales.
- If the blue shaded area was always above the red line it would mean all the local authority's LSOAs are more deprived than the median LSOA for Wales (i.e. all the LSOAs are in the top 50% of LSOAs in Wales).
- If the blue shaded area was not at any point higher than the red line it would mean the local authority's LSOAs are all less deprived than the median LSOA for Wales (i.e. all the LSOAs are in the bottom 50% of LSOAs in Wales).



- This chart shows the median (middle) rank, spread of ranks and the spread of the middle 50% of ranks (inter-quartile range) for each domain within each local authority, compared with the median rank for Wales.
- The line within each of the blue boxes represents the median for the authority. This shows how the middle rank for that domain in that local authority compares with the middle rank for Wales, and therefore whether that local authority is more or less deprived for that domain than the average.
- The blue box represents the interquartile range. This shows whether the ranks 25% either side of the median are clustered around it or are spread over a large range.
- The lines extending from the blue box represent the full range of ranks within that local authority, by extending as far as the most and least deprived rank within that local authority for that domain.
- If the blue box is longer on one side of the median than the other, then this shows that the spread of ranks is uneven (noticeably skewed). If, for example, the box is longer towards the more deprived end of the scale then this means that the most deprived LSOA in the middle 50% (inter-quartile range) is much more deprived than the median LSOA in the authority. If, on the other hand, the box is very short at the less deprived end of the scale that means all the authority's LSOAs in that half of the inter-quartile range have very similar ranks. Hence, it is showing if LSOAs at different ends of the scale are more or less similar to each other in terms of their rank.
- If both the blue box and the lines extending from the blue box are above the thick black lines this shows that all the LSOAs in the local authority are more deprived than the middle rank for Wales. If all are under the line it means all the LSOAs are less deprived than the middle rank for Wales.
- Blue boxes found completely above the thick black line, indicate high levels of deprivation as over 75% of the LSOAs are more deprived than the middle rank for Wales, and if they are completely under the line that they are less deprived than the middle rank for Wales.