

IMD 2015

Comparison With Previous IMD Measures

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Produced by

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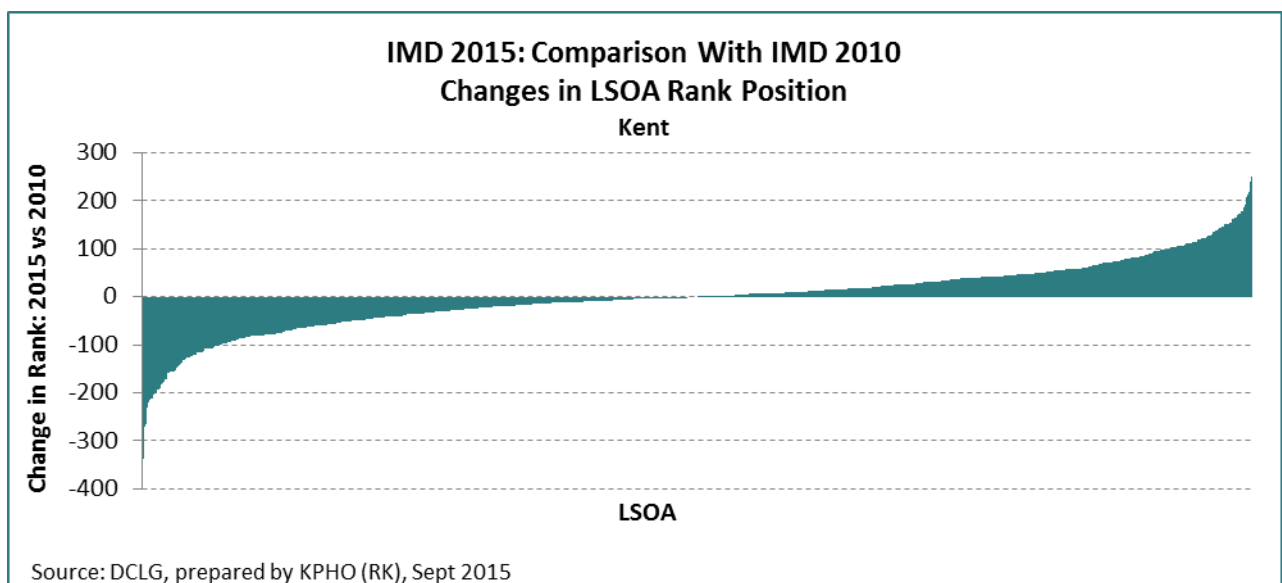
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1. Introduction & Objectives

This document provides a comparison between the new 2015 Index of Multiple Deprivation, released 30th September 2015, and previous measures¹. The main focus of the report is Lower Super Output Area (LSOA) IMD rank changes across the Kent County Council area, and not on national rankings. Medway Unitary Authority data are also not included in these analyses.

2. Changes in LSOA Rank Position

The chart below shows, for each of the 902 LSOA's in Kent, the change in rank position between the new 2015 IMD measure, and the 2010 measure. The LSOA with the highest IMD score (i.e the most deprived) is given a rank of 1, and the LSOA with the lowest IMD score a rank of 902. LSOAs are plotted in order of the size and direction of any change in their rank position within Kent.



Interpretation: LSOAs on the left show negative changes in their rank order within Kent. This means that they have moved towards the more deprived end of the spectrum of relative deprivation within Kent.

Conversely, LSOAs on the right show positive changes in their rank order within Kent. This means that they have moved towards the less deprived end of the spectrum of relative deprivation within Kent.

¹ Comparisons focus on changes between the 2010 and 2015 measures, the 2007 and 2010 measures, and the 2004 and 2007 measures.

This chart suggests that there have been some significant changes in the rankings for some individual LSOAs between 2010 and 2015. For example, Dover 012B (E01024238, in St Margaret's-at-Cliffe ward) has moved from a rank of 697 in 2010 to 466 in 2015, whilst Shepway 006H (E01024521, in Folkestone Sandgate ward) has moved from a rank of 310 in 2010 to 559 in 2015^{2 3}.

However, the majority of the 902 LSOAs (62%) have moved a maximum of 50 places in the rank order. The figure below shows the result of a Wilcoxon Signed Rank Test performed to compare the 2015 and 2010 rank orders, and suggests no significant difference in the median ranks.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between 2010 (adjusted) Rank and 2015 Rank equals 0.	Related-Samples Wilcoxon Signed Rank Test	.660	Retain the null hypothesis.

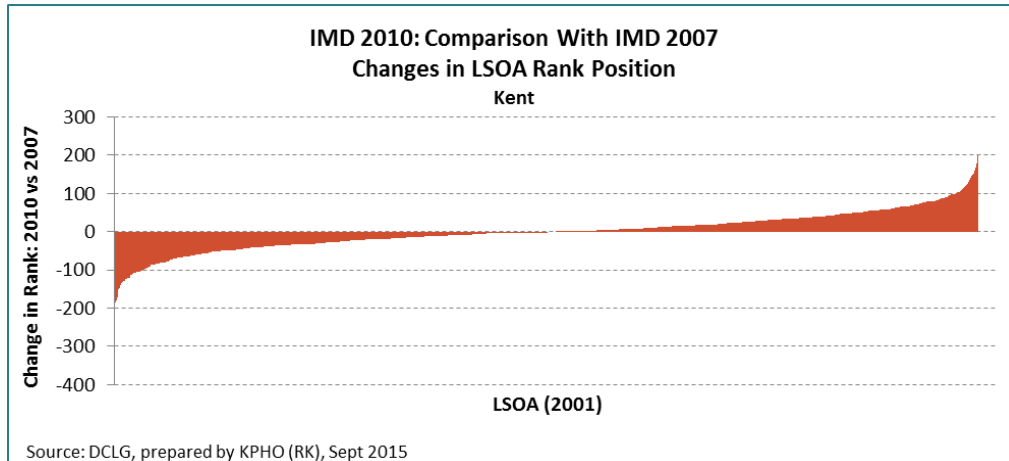
Asymptotic significances are displayed. The significance level is .05.

The charts and Wilcoxon Signed Rank Test outputs below provide similar comparisons between 2007 and 2010, and between 2004 and 2007. They suggest a similar pattern for each of these updates, although there is perhaps some evidence to suggest that there has been slightly more movement in the ranks between 2010 and 2015 than between previous updates. Whilst 62% of Kent LSOAs moved a maximum of 50 places in the rank order between 2010 and 2015, this was the case for 74% of LSOAs between 2007 and 2010, and 70% of LSOAs between 2004 and 2007⁴.

² It is not possible to draw any firm conclusions as to the reasons behind these larger movements in rank order. Whilst they may reflect actual changes in relative deprivation in these areas, there has also been some revisions to the approach taken by DCLG to the calculation of the IMD which could also have contributed.

³ It should be noted that some of the large movements in rank are in LSOAs undergoing changes between the 2001 and 2011 classifications.

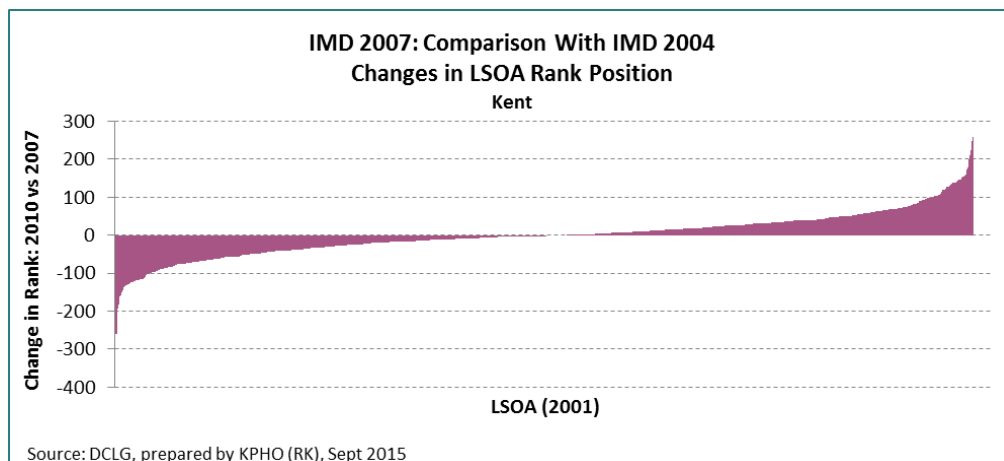
⁴ Please note that changes in rank order are based on 2001 LSOAs for the movement between 2007 and 2010, and between 2004 and 2007, but on 2011 LSOAs for the movement between 2015 and 2010.



Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between IMD 2007 (Rank) and IMD 2010 (Rank) equals 0.	Related-Samples Wilcoxon Signed Rank Test	.962	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

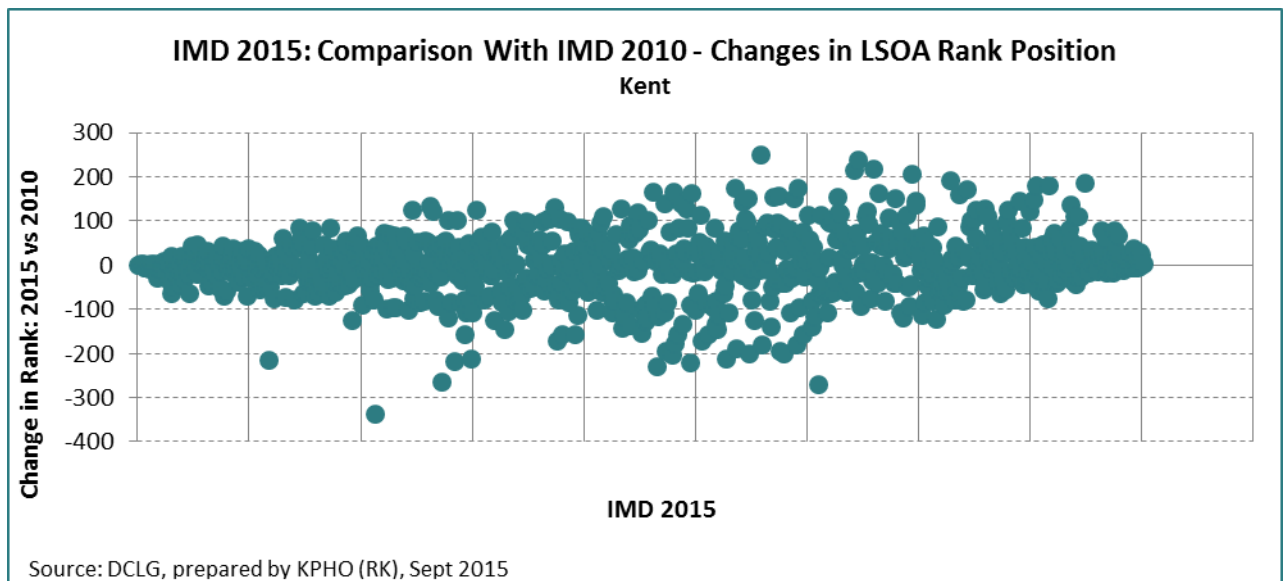


Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between IMD 2007 (Rank) and IMD 2004 (Rank) equals 0.	Related-Samples Wilcoxon Signed Rank Test	.697	Retain the null hypothesis.

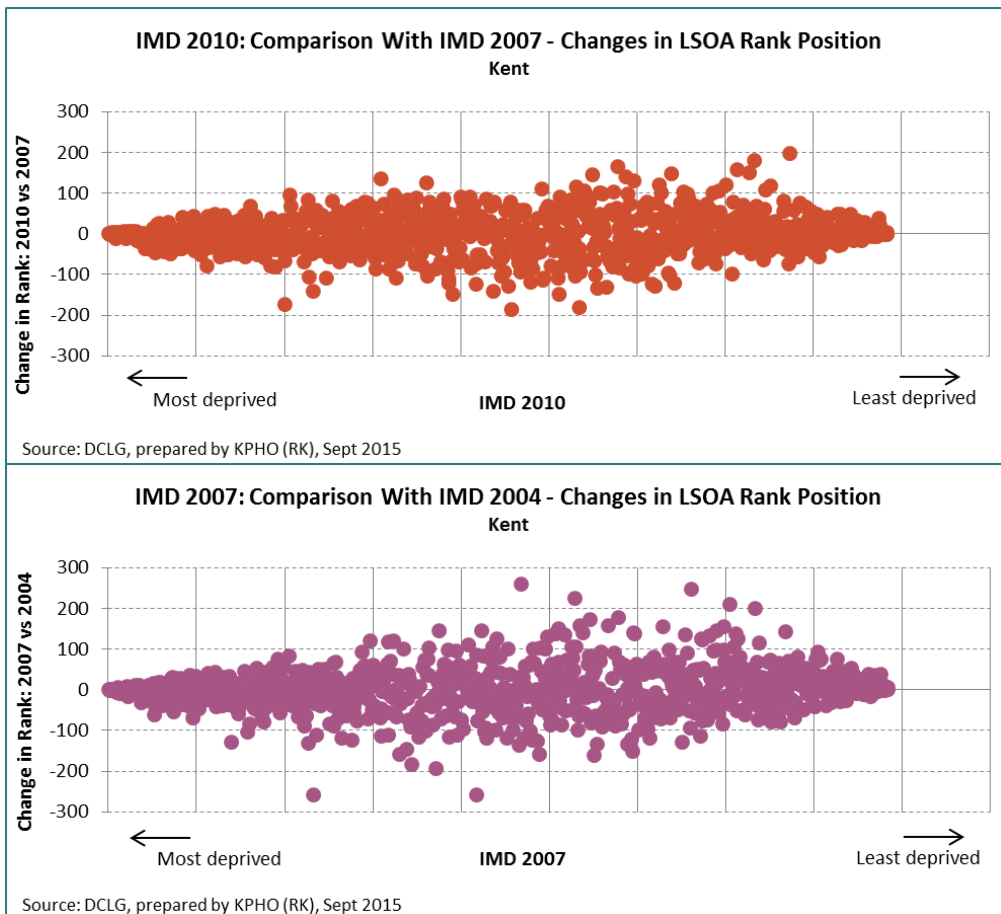
Asymptotic significances are displayed. The significance level is .05.

The chart below provides an alternative view of the changes in rank order for Kent LSOAs. In this analysis LSOAs are plotted in rank order (as per the new 2015 IMD), i.e. in order of deprivation.



Interestingly, this analysis suggests that the largest movements in rank order are away from the bottom end of the distribution, i.e. not in the most deprived areas.

The charts below provide similar comparisons between 2007 and 2010, and between 2004 and 2007. This analysis again shows less movement at the bottom end of the distribution (i.e. in the most deprived areas) but also at the top end (i.e. in the least deprived areas).



3. Changes in the Most Deprived Decile

The 2015 IMD identifies 88 LSOAs within Kent as being in the most deprived decile in the County. Please see Appendix A for a full listing. A population weighted approach has been taken, so that the 88 LSOAs falling within this bottom decile represent 10% of the Kent population.

In terms of changes to the actual LSOAs identified in comparison with 2010, these have been fairly modest and on a similar scale to previously, with 78 of the 91 LSOAs identified as being in the most deprived decile in 2010 remaining so using the 2015 measure.

The 2015 measure identified 10 LSOAs as falling into the most deprived decile that did not fall into this group in 2010⁵.

In the most deprived decile in IMD 2015 (but not IMD 2010)		Rank	
		IMD 2010	IMD 2015
E01024295	Gravesham 002E	97	31
E01024177	Dartford 004C	113	47
E01024476	Sevenoaks 002A	110	64
E01024664	Thanet 004B	108	66
E01024249	Dover 013E	126	74
E01032799	Gravesham 002F	147	78
E01024078	Canterbury 001A	138	80
E01024091	Canterbury 011A	96	82
E01024028	Ashford 007F	92	85
E01024192	Dover 006C	94	88

Conversely, 13 of the 91 LSOAs identified as being in the most deprived decile in 2010⁶ are not in 2015⁷.

Not in the most deprived decile in IMD 2015 (but were in IMD 2010)		Rank	
		IMD 2010	IMD 2015
E01024627	Swale 014F	79	89
E01024049	Canterbury 014B	71	92
E01024517	Shepway 015D	63	94
E01033090	Maidstone 004F	87	96
E01024502	Shepway 004D	85	97
E01024277	Gravesham 001B	62	100
E01024066	Canterbury 003B	73	105
E01024294	Gravesham 003D	86	109
E01024715	Thanet 007D	72	131
E01024508	Shepway 015A	60	145
E01024509	Shepway 015B	90	147
E01033209	Dover 012E	80	157
E01033092	Maidstone 004G	88	173


⁵ In all 10 cases, the movement is from the 2nd most deprived decile to the most deprived.

⁶ Please note that the identification of these 91 LSOAs did not use population weighting.

⁷ In all 10 cases, the movement is from the most deprived decile to the 2nd most deprived.


The tables below provide similar comparisons between 2007 and 2010, and between 2004 and 2007.

**In the most deprived decile in IMD 2010
(but not IMD 2007)**




E01024246	Dover 013D
E01024081	Canterbury 001C
E01024049	Canterbury 014B
E01024677	Thanet 003B
E01024108	Canterbury 009D
E01024627	Swale 014F
E01024199	Dover 012A
E01024248	Dover 011H
E01024611	Swale 001C
E01024214	Dover 013A

**Not in the most deprived decile in IMD 2010
(but were in IMD 2007)**




E01024713	Thanet 007B
E01024295	Gravesham 002E
E01024280	Gravesham 006A
E01024028	Ashford 007F
E01024741	Tonbridge and Malling 003A
E01024579	Swale 007E
E01024192	Dover 006C
E01024126	Canterbury 015F
E01024177	Dartford 004C
E01024309	Gravesham 008D

**In the most deprived decile in IMD 2007
(but not IMD 2004)**



E01023973	Ashford 005A
E01024390	Maidstone 013B
E01024398	Maidstone 013E
E01024477	Sevenoaks 002B
E01024505	Shepway 004E
E01024612	Swale 001D
E01024618	Swale 006D
E01024713	Thanet 007B
E01024280	Gravesham 006A
E01024741	Tonbridge and Malling 003A
E01024309	Gravesham 008D

**Not in the most deprived decile in IMD 2007
(but were in IMD 2004)**



E01024108	Canterbury 009D
E01024246	Dover 013D
E01024391	Maidstone 013C
E01024091	Canterbury 011A
E01024627	Swale 014F
E01024049	Canterbury 014B
E01024315	Gravesham 007E
E01024249	Dover 013E
E01023976	Ashford 008A
E01024476	Sevenoaks 002A
E01024633	Thanet 006A

This suggests a similar level of movement between updates (of 10 and 11 LSOAs respectively). This also identifies a small number of LSOAs that appear to fall into and out of the most deprived decile from update to update. It is also possible to identify a core of 64 LSOAs that have fallen into Kent's most deprived decile in 2004, 2007, 2010 and 2015. These LSOAs are flagged in Appendix A.

| 4. Conclusions

While there have been some changes to the rank order of Kent LSOAs in the 2015 IMD, the nature and scale of the change is very similar to that seen for previous IMD updates.

In summary:

- While there are individual LSOAs for which the rank has changed considerably, 62% have moved less than 50 places.
 - The comparable figures for the previous two updates are 74% and 70%, suggesting that there has been slightly more movement in the ranks between 2010 and 2015 than between previous updates.
- A Wilcoxon Signed Rank Test suggests no change to the median ranking
- Movements appear to be more modest at the bottom end of the deprivation distribution, i.e. in the most deprived decile.
- Of the 91 LSOAs identified as being in the most deprived decile in 2010, 78 remain so using the 2015 measure.
 - In fact, 64 of the 88 LSOAs in the most deprived decile in 2015 were also in the most deprived decile in 2004, 2007 and 2010.

Appendix A – Most Deprived Decile

LSOA 2011 – Code	LSOA 2011 - Name	Rank – IMD 2015	Most Deprived Decile in 2004, 2007 & 2010
E01024657	Thanet 001A	1	Yes
E01024678	Thanet 001E	2	Yes
E01024676	Thanet 003A	3	Yes
E01024609	Swale 001A	4	Yes
E01024660	Thanet 001D	5	Yes
E01024658	Thanet 001B	6	Yes
E01024590	Swale 010C	7	Yes
E01024580	Swale 006A	8	Yes
E01024667	Thanet 016D	9	Yes
E01024663	Thanet 006D	10	Yes
E01024683	Thanet 013B	11	Yes
E01024504	Shepway 014A	12	Yes
E01024615	Swale 002C	13	Yes
E01024613	Swale 002A	14	Yes
E01024710	Thanet 003E	15	Yes
E01024614	Swale 002B	16	Yes
E01024687	Thanet 013E	17	Yes
E01024618	Swale 006D	18	
E01024621	Swale 004E	19	Yes
E01024597	Swale 005C	20	Yes
E01024666	Thanet 006E	21	Yes
E01024661	Thanet 004A	22	Yes
E01024507	Shepway 014B	23	Yes
E01024240	Dover 011F	24	Yes
E01024563	Swale 015D	25	Yes
E01024498	Shepway 003C	26	Yes
E01024306	Gravesham 011D	27	Yes
E01024278	Gravesham 001C	28	Yes
E01024148	Dartford 001A	29	Yes

E01024389	Maidstone 013A	30	Yes
E01024295	Gravesham 002E	31	
E01033211	Dover 012F	32	
E01024581	Swale 006B	33	Yes
E01024697	Thanet 003D	34	Yes
E01024610	Swale 001B	35	Yes
E01024671	Thanet 016E	36	Yes
E01024215	Dover 013B	37	Yes
E01024305	Gravesham 011C	38	Yes
E01024611	Swale 001C	39	
E01024682	Thanet 013A	40	Yes
E01024308	Gravesham 007A	41	Yes
E01024659	Thanet 001C	42	Yes
E01024649	Thanet 016C	43	Yes
E01024670	Thanet 015D	44	Yes
E01024390	Maidstone 013B	45	
E01024612	Swale 001D	46	
E01024177	Dartford 004C	47	
E01024196	Dover 011D	48	Yes
E01033215	Shepway 014D	49	Yes
E01024155	Dartford 001D	50	Yes
E01024257	Gravesham 002A	51	Yes
E01024020	Ashford 008C	52	Yes
E01033212	Shepway 014C	53	Yes
E01024019	Ashford 008B	54	Yes
E01024672	Thanet 005A	55	Yes
E01024616	Swale 002D	56	Yes
E01024584	Swale 010B	57	Yes
E01024247	Dover 012D	58	Yes
E01024662	Thanet 006C	59	Yes
E01024128	Canterbury 019A	60	Yes
E01024397	Maidstone 013D	61	Yes

E01024699	Thanet 012C	62	Yes
E01024061	Canterbury 007B	63	Yes
E01024476	Sevenoaks 002A	64	
E01024677	Thanet 003B	65	
E01024664	Thanet 004B	66	
E01024398	Maidstone 013E	67	
E01024505	Shepway 004E	68	
E01024080	Canterbury 001B	69	Yes
E01024214	Dover 013A	70	
E01024246	Dover 013D	71	
E01024193	Dover 011A	72	Yes
E01024477	Sevenoaks 002B	73	
E01024249	Dover 013E	74	
E01024165	Dartford 009A	75	Yes
E01024081	Canterbury 001C	76	
E01024374	Maidstone 009C	77	Yes
E01032799	Gravesham 002F	78	
E01024108	Canterbury 009D	79	
E01024078	Canterbury 001A	80	
E01024248	Dover 011H	81	
E01024091	Canterbury 011A	82	
E01024496	Shepway 003A	83	Yes
E01024646	Thanet 016A	84	Yes
E01024028	Ashford 007F	85	Yes
E01024500	Shepway 004B	86	Yes
E01023973	Ashford 005A	87	
E01024192	Dover 006C	88	