For the March 2019 version

Duncan Index

**Interpretation**

The Duncan Index produces a value between -1 and 1, with 0 indicating perfect equality and in our model values between 0 and 1 indicate that income deprived people experience poorer outcomes, and values between -1 and 0 indicator that non-income deprived people experience poorer outcomes.

How the data is allocated to SIMD and geography:

|  |  |  |
| --- | --- | --- |
| **Year** | **SIMD year** | **Geography** |
| 2004 | 2006 | 2001 (converted) |
| 2005 | 2006 | 2001 (converted) |
| 2006 | 2006 | 2001 (converted) |
| 2007 | 2009 | 2001 (converted) |
| 2008 | 2009 | 2001 (converted) |
| 2009 | 2009 | 2001 (converted) |
| 2010 | 2012 | 2001 (converted) |
| 2011 | 2012 | 2001 (converted) |
| 2012 | 2012 | 2001 (converted) |
| 2013 | 2016 | 2011 |
| 2014 | 2016 | 2011 |
| 2015 | 2016 | 2011 |
| 2016 | 2016 | 2011 |

Indicator:

For the Duncan Index we had to decide whether low is bad or high is. In our model low is bad, meaning that some of the indicators for example Child Poverty (as low is good) need to be flipped i.e. positive to negative/negative to positive

|  |  |  |
| --- | --- | --- |
| **Indicator** | **Low or high** | **Duncan Index** |
| Child poverty | High is bad | Flipped |
| Early Mortality | High is bad | Flipped |
| Emergency admissions | High is bad | Flipped |
| Crime | Low is bad | Flipped |
| Depopulation | Low is bad | Original |
| Out of work benefits | High is bad | Flipped |
| Positive destinations | Low is bad | Original |
| S4 Tariff | Low is bad | Original |

Notes

* SIMD income domain is used to calculate number of income deprived people.
* Nick converted the income domain from SIMD06/09/12 for this analysis using a weighted average, which means there will be more income deprived people in the total for the converted files than the unconverted values (because there are more data zones now).
* For child poverty, many of the areas with very low child poverty are suppressed at data zone level. Where these have been suppressed I’ve replaced with zeros, but this does skew the data. HMRC do not disclose areas with less than 5 children living in poverty, so the DZ data always underestimates child poverty in affluent areas.
* Data Zone S01010277 in Glasgow had a population of 0 but apparently 5 people who were income deprived, so amended this all to zero. It is an area that is being completely rebuilt.

To consider:

* Out of work benefits is nearly identical to the SIMD income domain – I think we should take it out, as it doesn’t make any sense if we are using the Duncan Index. I’ve left the figures in, but they are a bit odd anyhow (as look like areas with less income deprived people have higher levels of OWB ever so slightly).
* SIMD income domain counts changed between 2009 and 2012 - <https://www2.gov.scot/Resource/0050/00504773.pdf>, so imperfect measure

How Scotland figure is calculated?

* For the inequality tool, I’ve calculated as the average of all the LAs, as that’s what University of Sheffield had done.

Key contact

Meng Le Zhang [meng\_le.zhang@sheffield.ac.uk](mailto:meng_le.zhang@sheffield.ac.uk), who knows a lot about the Duncan Index