

7.0 Choice of Multiple Deprivation Measures 2001, 2005, and 2010

Those monitoring inequality gaps over time as discussed in the previous section, or researching factors related to the incidence of certain phenomena over a number of years, may be faced with the question of which deprivation measure is most appropriate for the analysis. When assessing information over a ten year period from 2000-2010, three measures of deprivation are available in Northern Ireland, based on similar methodologies;¹ NIMD 2001, NIMDM 2005 and NIMDM 2010.

A number of points should be considered when choosing the appropriate NIMDM; the time period that is the focus of the analysis, the geographical level at which the analysis takes place and the availability of data sources, and whether the study is a longitudinal or cross sectional. The headings below detail the issue while the flow chart summarises the decision process. Examples are provided to illustrate the use of the flow chart.

Time period

The NIMD 2001 data relate mostly to 1999, the NIMDM 2005 relates mostly to 2003 and the NIMDM 2010 relates mostly to 2007-2009. The year to which the data relate will influence the deprivation measure included in the analysis.

Geography

The main output geography for the NIMD 2001 was the '1984 Electoral Ward', while the Super Output Areas formed in 2005 were the main output geographies for the NIMDM 2005 and the NIMDM 2010. Summary measures were produced at the Electoral Ward level alongside the NIMDM 2005 and NIMDM 2010 at the '1992 Electoral ward' level. The 1984 and 1992 ward boundaries were determined by the 1984 and 1992 boundary reviews and are not equivalent.

The availability of data at the required geographical level will impact on the choice of NIMDM. In particular if secondary data sources are being used in the research it may not be possible to obtain data aggregated to the 1984 ward boundaries for the analysis. This would prohibit the use of the NIMD 2001 in the analysis. Spatially referenced data, i.e. data containing individual records with a post code or grid reference attached may be assigned to 1984 wards using the Central Postcode Directory² enabling the use of the NIMD 2001.

¹ NIMD 2001 is available from the NISRA website via http://www.nisra.gov.uk/deprivation/nimdm_2001.htm
NIMDM 2005 is available from the NISRA website via http://www.nisra.gov.uk/deprivation/nimdm_2005.htm
NIMDM 2010 is available from the NISRA website via http://www.nisra.gov.uk/deprivation/nimdm_2010.htm

² For more information on the Central Postcode Directory please see <http://www.nisra.gov.uk/geography/default.asp.htm>

The availability of data at only the Super Output Area level geography or the 1992 wards would suggest the use of the NIMDM 2005 or NIMDM 2010 results.

Cross sectional or Longitudinal Analysis

The type of analysis, whether it is longitudinal or cross sectional in nature, will influence the choice of NIMDM included in the analysis.

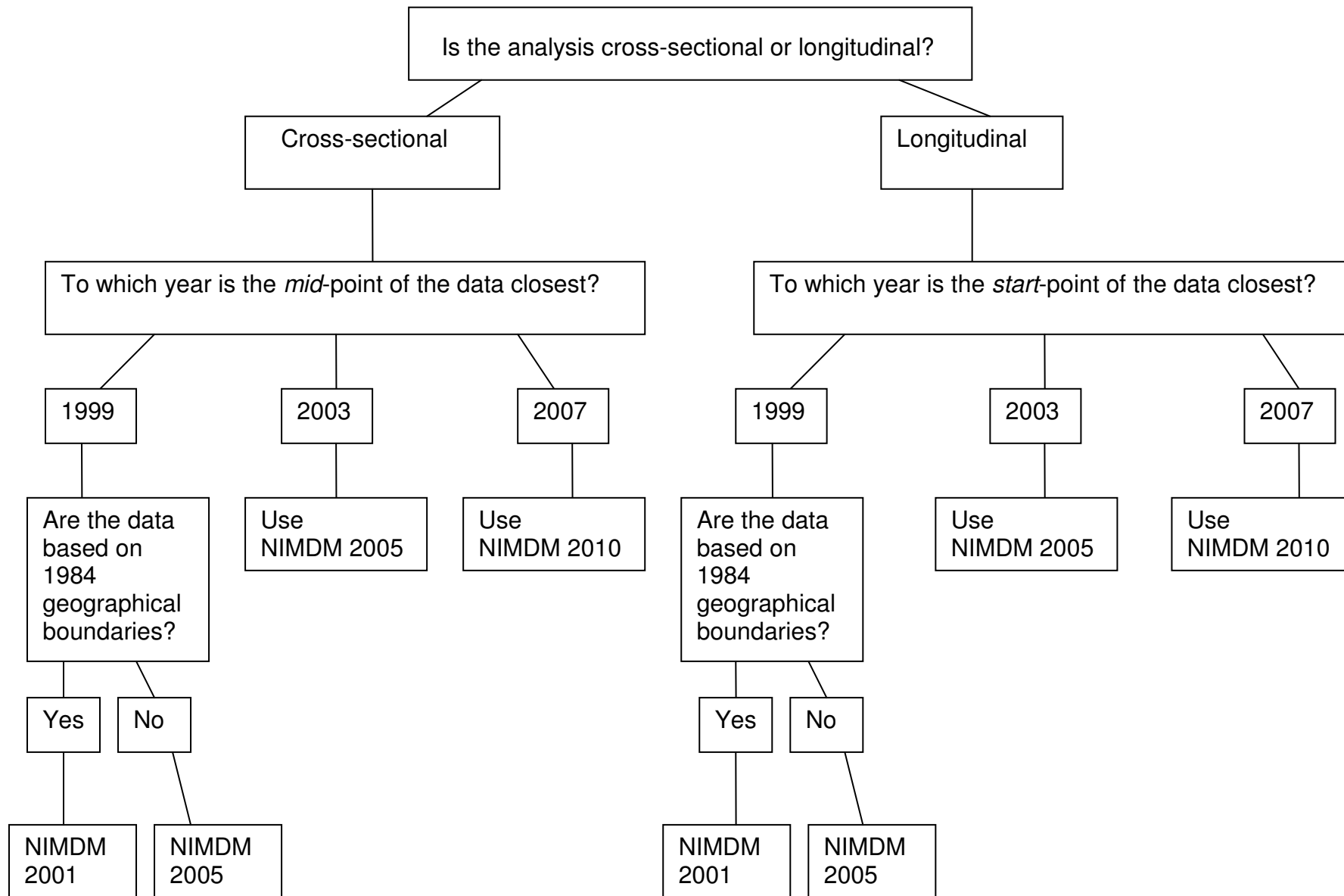
Longitudinal analyses focus on the change over time, for example the change in the value of a given indicator over a number of years in the most deprived areas compared to the least deprived areas or the Northern Ireland average.

Neither the indicator nor the reference group should be changed when assessing change of an indicator for a specific group over a number of years. This is to ensure that measurement effects are minimised across the time period of analysis. It is recommended that the earliest appropriate NIMDM within the time period is used when analysing change over time in the indicator. However, it is good practice to carry out a sensitivity analysis using an alternative deprivation measure to assess the impact on the results.

Cross sectional analyses focus on differences in values of a given indicator for a given time period, for example, an examination of differing rates of teenage pregnancy in the most deprived third, middle third and least deprived third of areas.

Often it is necessary to group a number of years of data when analysing the incidence of a particular phenomenon due to the small number of instances of the event in a single year. It may be the case that the time period to which the data relate spans more than one NIMDM or falls between NIMDMs, raising the question of which NIMDM should be used.

The year to which the NIMDM relate, as opposed to the publication year, should be considered. Assuming that the geographical level at which the data are available is not restrictive, it is recommended that the NIMDM closest to the mid point of the reference period is used in the analysis. As with the longitudinal analysis, it is also advised that a sensitivity analysis is carried out with an alternative deprivation measure to assess the impact on the results.



Case Study 1

DEL monitor the rates of participation in Higher Education across Northern Ireland. Of particular policy interest are the participation rates in the most deprived areas in Northern Ireland and whether the difference in rates of participation between these areas and the Northern Ireland average is changing.

Three years of enrolment data were available for the analysis, relating to 2006/07, 2007/08 and 2008/09. As the analysis was longitudinal in nature, and the start point was closest to 2007, the NIMDM 2010 was chosen to determine the most deprived areas for the comparison of Higher Education enrolment rates.

Case Study 2

NISRA carried out a study on behalf of the cancer registry on the incidence of leukaemia between 1989 and 2005. Included in the study was an analysis of whether deprivation levels were linked to the incidence of leukaemia in a given area.

The data is cross sectional in nature and the mid point, at 1997 is closest to the NIMDM 2001 data. The leukaemia information was available from 1989 to 2005 and spatially referenced, allowing the grouping of the data for a range of geographies. Population data for this period, however, were available on the 1992 boundaries only. This precluded the analysis of the data at the 1984 ward level and the use of the NIMDM 2001.

Taking the availability of data at the 1992 boundaries into account, the NIMDM 2005 was used to determine the 'deprived areas' included in the analysis.

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