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Northern Ireland
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Agency

Northern Ireland Residential Property Price Index

Explanatory Notes

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1 Methodology

The Northern Ireland Residential Property Price Index (NI RPPI) is designed to measure the trend in the residential property market.

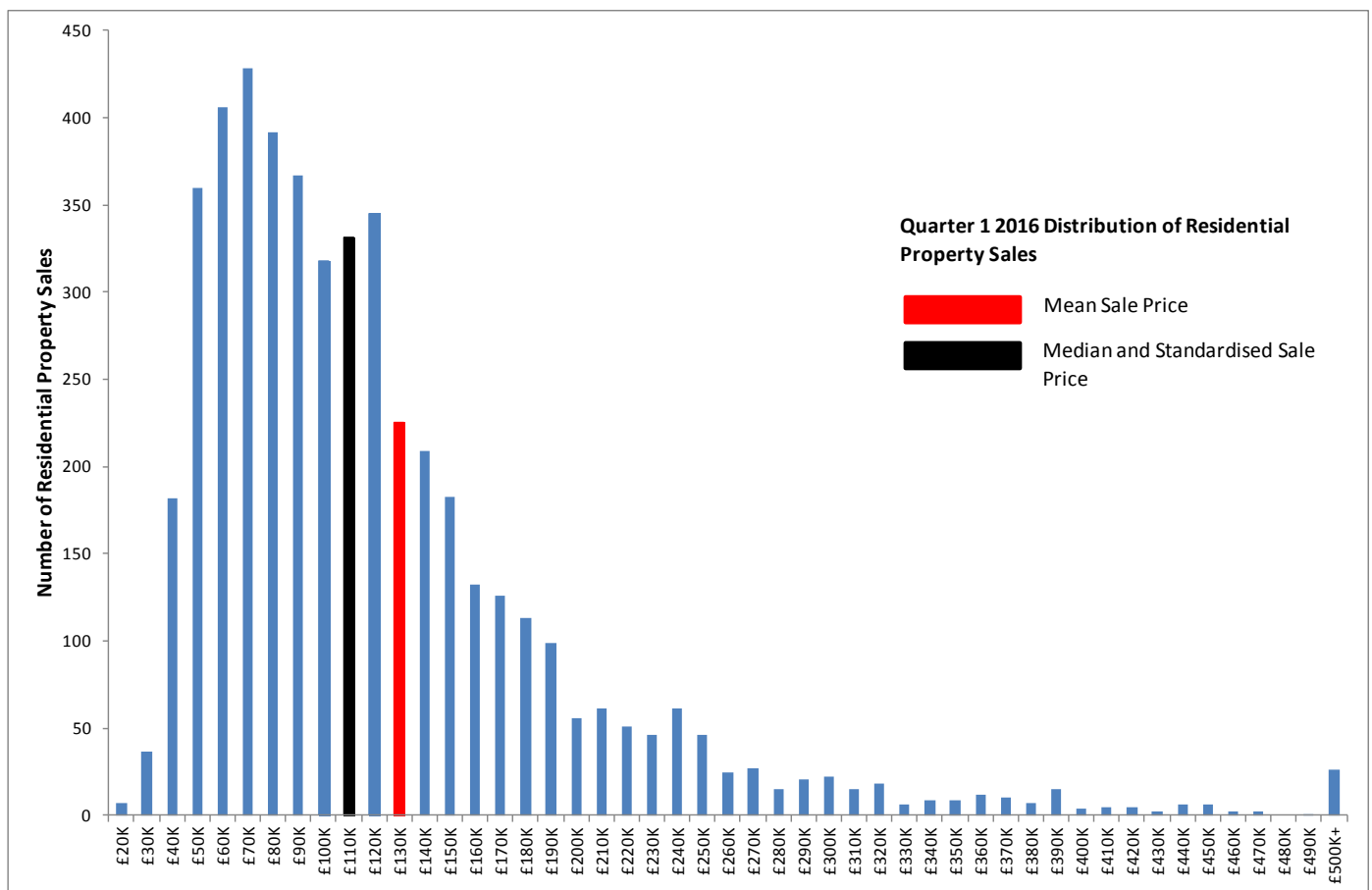
Calculating a Residential Property Price Index (RPPI) for Northern Ireland is not straightforward.

1. not all properties are available for sale (e.g. some public sector properties are never sold). Therefore sales price data do not represent the overall housing stock.
2. there is significant difference in sales price data across property types.
3. the distribution of sales price data is asymmetric (see figure 6.1).

A standard summary measure of sales price data is the **simple average price** (shown in the red bar). However this is influenced by the small number of higher priced detached properties sold.

Another measure is the **simple median price** (i.e. the price below/above which half of properties are sold). This is shown by the black bar and is a better measure of the “price of a typical property”. However the simple median does not give a good measure of the overall market trend as it does not take account of the differences in types of properties sold each quarter.

Figure 1: Distribution of Residential Property Sale Prices (Q1 2016)



The preferred method to create a standardised house price and subsequent index is to use mathematical modelling. This is done using a technique called hedonic modelling. Such a method takes the price of a “good”, in this case a residential property, and describes it by some

characteristics. A residential property can be viewed as a collection of characteristics such as (size = 150 m², Class = Private Sector, Type = Detached, Housing Market = Greater Belfast, etc.). Hedonic modelling then estimates the relationship between these characteristics and price. The key characteristics are then defined as those that are shown to be statistically related to price.

The NI Residential Property Price Index uses this approach to create a standardised property across all the key characteristics that the model identifies. Change over time in the price of the standardised property therefore reflects pure price change as opposed to changes in the mix of properties sold.

A more detailed explanation of the methodology is documented and available on the Department of Finance website. A quality report and the revisions policy for the NI RPPI are also available on this webpage.

<https://www.finance-ni.gov.uk/articles/about-northern-ireland-house-price-index>

2 Data

The Commissioner of Valuation for Northern Ireland has access to returns, typically by solicitors, to HM Revenue & Customs (HMRC) of the details of land and property sales in Northern Ireland.

This includes all domestic property sales as well as non-domestic property sales, land sales and property rentals in Northern Ireland, regardless of how they are purchased e.g. this will include auction sales. However, there are a small number of property sales which do not require notification to HMRC, these include:

- transactions where no money changes hands;
- property that's left in a will; and
- transfers of property in a divorce or when a civil partnership is dissolved.

In the modelling of prices each sale is combined with the property characteristics held in the Valuation List database. These characteristics include:

- Size of property (living space)
- Class of Property (Private/Public Sector)
- Type of Property (Detached, Semi-Detached, Terrace, Apartment)
- New/Old property
- Location (LPS Housing Market Areas and Neighbourhood)
- Neighbourhood of property (Acorn Category geo-demographic segmentation of area)

Geo-demographic segmentation is based on two simple principles:

- People who live in the same neighbourhood are more likely to have similar characteristics than two people chosen at random.
- Neighbourhoods can be categorized in terms of the characteristics of the population which they contain. Any two neighbourhoods can be placed in the same category, i.e., they contain similar types of people, even though they are widely separated.

A new property is defined as the first sale of a property after it has been entered into the NI Valuation List. An old property is defined as the sale of a property which already exists in the NI Valuation List.

3 Omitted Sales Data

There are a number of property transactions recorded by HMRC which are counted as verified sales but omitted from the analysis as they do not constitute a fully consistent body of data. Namely, property transactions which are sold at prices which may not represent “free” or “arms-length” market prices, and sales where the price/property type is atypical due to one of the following reasons:

- Sales of NIHE properties to sitting tenants or partial sales by co-ownership
- Sales with a Sale Price less than £20,000
- Sales where Floor size outside identified limits ($< 30\text{m}^2$, $> 1,000\text{m}^2$)

4 Calculating percentage changes in the index

The movement of the NI RPPI is expressed as a percentage change. Index point changes are not used as this is affected by the level of the index in relation to the base period.

5 Reference Period

The reference base period is a point in time used as a reference point for comparison with other periods. The NI RPPI is referenced to Q1 2015 and the index is set to equal 100 in this period.

6 Seasonal Adjustment

Many time series can be difficult to analyse because short-term movements are often affected by seasonal fluctuations and other calendar/trading-day effects. The property transaction data have been tested for seasonal adjustment using the US Census Bureau X12-Arima software.

<http://www.census.gov/ts/x12a/v03/x12adocV03.pdf>

Although the series of house sales passed the 'combined test for identifiable seasonality', the final seasonal factors estimated are close to unity — thus noting little difference between the unadjusted and adjusted series.

In the case of apartment sales, the software found the series *not* to be seasonal. Therefore the NI RPPI as currently published is unadjusted for seasonality.

The NI RPPI series will be tested for seasonality in Q2 2016 and if seasonality is present, a seasonally adjusted index will be presented.

7 New and Old Dwellings

A new property is defined as the first sale of a property after it has been entered into the NI Valuation List. An old property is defined as the sale of a property which already exists in the NI Valuation List.

Due to the nature of the building and purchasing process for new dwellings, the majority of new dwellings are sold prior to entry into the NI Valuation List. As the number of sales presented in the report for the current quarter only includes sales which could be matched to a residential property in the Valuation List, the figure for new dwellings in the current quarter is a small percentage of the final number. The remaining sales of new dwellings will be identified during the following quarter as the properties are entered into the Valuation List and the figure for the current quarter will be revised in the next publication.

8 Geographical Areas

Local Government Districts

From 1 April 2015, 11 new councils took over from the previous 26 under a program of reform. It should be noted that the current Belfast City Council area is not comparable with the previous Belfast Local Government District which is used in the regional (NUTS3) area calculation.

Regional Areas (NUTS3)

There are three levels of Nomenclature of Territorial Units for Statistics (NUTS) defined. This category refers to regions belonging to the third level (NUTS 3, also known as NUTS III), which is largely used by Eurostat and other European Union bodies.

The five NUTS3 areas in this release correspond to the 26 Local Government Districts (LGD), created in 1973, as follows:

Belfast:	Belfast LGD
Outer Belfast:	Carrickfergus, Castlereagh, Lisburn, Newtownabbey and North Down LGDs
East of NI:	Antrim, Ards, Ballymena, Banbridge, Craigavon, Down and Larne LGDs.
North of NI:	Ballymoney, Coleraine, Derry, Limavady, Moyle and Strabane LGDs.
West & South of NI:	Armagh, Cookstown, Dungannon & South Tyrone, Fermanagh, Magherafelt Newry & Mourne and Omagh LGDs.

Urban - Rural Classification

Urban - Rural classification boundaries are available for Northern Ireland as defined by the Planning Service. These areas are defined from Settlement Development Limits (SDLs).

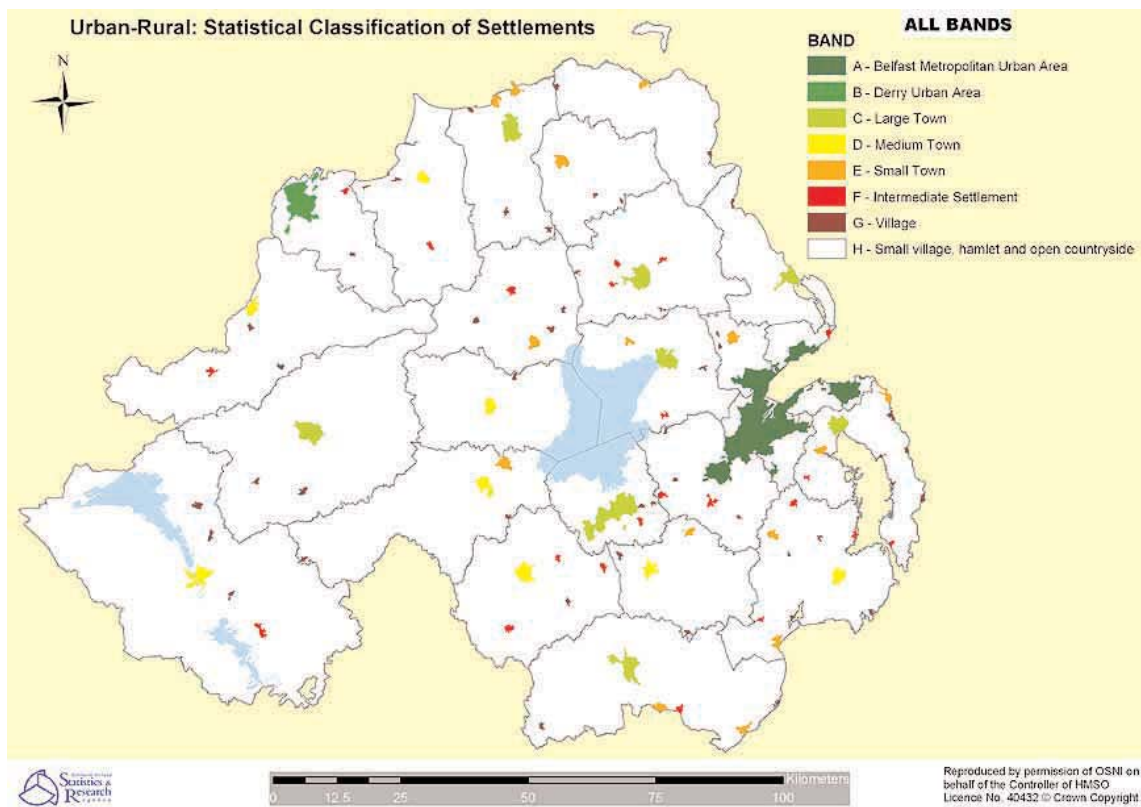
SDL Statistical Classification Bands

Settlement Development Limits (SDLs) are a statistical classification and delineation of settlements in Northern Ireland defined by the Planning Service. More information is available at:

http://www.nisra.gov.uk/archive/geography/digital_products/urban_rural_classifications/ur_report.pdf

SDL boundaries are available for the statistical classification bands (A-H).

Figure 2: Urban-Rural: Statistical Classification of Settlements



Source: NISRA Geography

Table 1: Urban-Rural: Statistical Classification of Settlements

Label	Name	Settlement Population Size (2001 Census)
Band A	Belfast Metropolitan Urban Area (BMUA)	c580,000
Band B	Derry Urban Area (DUA)	c90,000
Band C	Large town (outside BMUA and DUA)	18,000 or more and under 75,000
Band D	Medium town (outside BMUA and DUA)	10,000 or more and under 18,000
Band E	Small town (outside BMUA and DUA)	4,500 or more and under 10,000
Band F	Intermediate settlement (outside BMUA and DUA)	2,250 or more and under 4,500
Band G	Village (outside BMUA and DUA)	1,000 or more and under 2,250
Band H	Small village, hamlet and open countryside (outside BMUA and DUA)	Settlements of less than 1,000 people and open countryside

Source: NISRA Geography

Bands A-E can be defined as urban and Bands F-H as rural.

It should be noted that settlement development limits are designated by Planning Service in order to protect the character of settlements and prevent urban sprawl into the surrounding countryside whilst providing for future development needs. Their purpose is not solely to define settlements geographically. Details are available on the Planning Service website (www.planningni.gov.uk).

Settlement Development Limit Boundaries were updated in 2015. The new boundaries have been applied to sales from January 2016 onwards.

Users of residential property prices are interested in prices at a lower level of disaggregation than the Urban – Rural classification. To create a more detailed classification, the 26 district councils, created in 1973, were grouped by East and West as shown below:

Table 2: Urban-Rural: Statistical Classification of East-West Groups

East	West
Antrim	Armagh
Ballymena	Ballymoney
Banbridge	Coleraine
Carrickfergus	Cookstown
Castlereagh	Dungannon
Craigavon	Fermanagh
Down	Limavady
Larne	Londonderry
Lisburn	Magherafelt
Newtownabbey	Moyle
Newtownards	Newry & Mourne
North Down	Omagh
	Strabane

The settlement bands and 1973 District Council groups were combined to segment Urban – Rural classification into five more detailed areas:

Table 3: Urban-Rural, East-West Classification

Name	Settlement Band & District Council Group
Belfast Metropolitan Urban Area (BMUA)	Band A
Urban East	Band B - E in East
Urban West	Band B - E in West
Rural East	Band F - H in East
Rural West	Band F - H in West

9 Other Northern Ireland House Price Statistics

Currently there are a number of different sources of house price statistics published in addition to the NI RPPI. There will be differences in the data published by each source as there are differences in both the source data and methodology used. Therefore the NI RPPI is not directly comparable with these other indicators. For completeness the references to the other main house price indices are included below.

The current producers of official house price statistics collaborated in the production of a report which describes the different methodological approaches to producing house price statistics.

<http://www.ons.gov.uk/ons/guide-method/user-guidance/prices/hpi/official-house-price-statistics-explained.pdf>

Following the publication of the National Statisticians review of house price statistics in 2010, the current producers of official house price statistics have developed a consistent methodology which will be used to produce a single official UK House Price Index from 14th June 2016. After this time the document above will no longer be valid as official house price data across the four regions will be comparable.

A. The Halifax House Price Index

The Halifax produce a UK wide House Price index based on their own mortgage approvals. A regional index for Northern Ireland is also produced on a quarterly basis. The Halifax House Price Index can be accessed via

www.lloydsbankinggroup.com/media1/economic_insight/halifax_house_price_index_page.asp

B. The Nationwide House Price Index

The Nationwide also produce a UK wide House Price index based on their own mortgage approvals. A regional index for Northern Ireland is produced on a quarterly basis. Indices and average prices for the UK and the regions are produced using Nationwide's updated mix-adjusted House Price Methodology. Like the Halifax and NI RPPI this allows a "typical" property to be tracked over time on a like-for-like basis. The Nationwide House Price Index can be accessed via

www.nationwide.co.uk/hpi

C. Ulster University/NIHE Northern Ireland Quarterly House Price Index

The Northern Ireland Quarterly House Price Index is produced by the Ulster University in partnership with the Northern Ireland Housing Executive. The market evidence is sourced from a sample of estate agents across Northern Ireland. The price statistics are based on simple arithmetic averages. The index produced is weighted to reflect the market share of each property type. The index can be accessed via

<http://www.rpp.ulster.ac.uk/housing-index.php>

D. Office for National Statistics UK House Price Index

The ONS House Price Index (HPI), previously published by the Department for Communities and Local Government (DCLG), is a monthly release that publishes figures for mix-adjusted average house prices and house price indices for the UK, its component countries and regions. The index is calculated using mortgage financed transactions that are collected via the Regulated Mortgage Survey by the Council of Mortgage Lenders. These cover the majority of mortgage lenders in the UK. The Office for National Statistics UK House Price Index can be accessed via

<http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=House+Price+Indices>

10 Terms & Conditions

Land & Property Services in conjunction with the Northern Ireland Statistics & Research Agency (LPS/NISRA) produce the NI Residential Property Price Index to high professional standards and free from political interference.

LPS/NISRA or any third party shall not be liable for any loss or damage, direct, indirect or consequential, arising from any inaccuracy or incompleteness of the data in the NI RPPI or any decision made or action taken in reliance upon the data.

Persons seeking to place reliance on the NI RPPI for their own or third party commercial purposes do so entirely at their own risk.

11 Future Changes

There are no planned future changes. The changes adopted in the Q1 2016 report are in preparation for the launch of the single official UK House Price Index on 14th June 2016. The NI RPPI will be used as the NI component of the single official UK HPI.

12 Future Publication Date

Publication dates for the NI Residential Property Price Index bulletin are pre-announced on the Department of Finance website:

<https://www.finance-ni.gov.uk/articles/northern-ireland-residential-property-price-index>

13 User Consultation

Details of user consultations held in relation to the NI Residential Property Price Index are available on the Department of Finance website:

<https://www.finance-ni.gov.uk/articles/ni-residential-property-price-index-user-engagement>

Users' comments or any issues relating to the statistics are particularly welcomed and encouraged. Responses should be addressed to the contact below:

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