

**Lloyds House Price
Index (LHPI)
*Methodology***

July 2026

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Introduction

Index Objective and Highlights

Lloyds House Price Index (LHPI) provides a robust measure of changes in residential property prices in the UK.

Index Family

The index family covers the following indices at both the UK national and regional level:

Index Series	Frequency	Total Number of Indices
UK AHAB, SA + NSA UK New Homes, NSA UK Existing Homes, NSA UK First Time Buyers, NSA UK Former Owner Occupiers, NSA	Monthly	6
UK+12 Regions AHAB, SA + NSA UK New Homes, NSA UK+12 Regions Existing Homes, NSA UK+12 Regions First Time Buyers, NSA UK+12 Regions Former Owner Occupiers, NSA	Quarterly	66
UK+12 UK Regions AHAB, NSA UK New Homes, NSA UK+12 Regions Existing Homes, NSA UK+12 Regions First Time Buyers, NSA UK+12 Regions Former Owner Occupiers, NSA	Annual	53

Data Source

The sole source of data for LHPI (2019) remains Lloyds Banking Group (LBG). Using mortgage approval data provided by LBG, it is possible to determine not only the price information related to property transactions, but also several attributes related to the type (detached, semi-detached, terraced etc.), size (bedrooms, floor space in square metres), age (new/old), and location. The dataset is then combined with hedonic regression techniques to generate house price indices.

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Index Construction

The following sections present an overview of the LHPI (2019) methodology.

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With the core aim of LHPI (2019) to provide a robust measure of changes in residential property prices, as in the case of LHPI (1983), several types of transaction are excluded from index generation. These include:

- Re-mortgages
- Business use, capital raising, or building mortgages
- Discounted mortgages relative to market value (as determined by observed data that shows the property valuation < 75% of purchase price e.g. the “Right-to-Buy” scheme).

An exception to the discounted mortgage rule is shared ownership mortgages which are, for the first time, included in the new version of the LHPI . We also now include buy-to-let properties and those bought directly from less-conventional vendors e.g. builders.

The effects of including shared ownership mortgages enable the LHPI (2019) to:

- better reflect the current structure of the UK housing market, especially in relation to the trend towards increasing levels of shared ownership among first-time buyers
- enjoy a higher sample size and help to reduce the period-to-period volatility of LHPI both at national and regional levels.

Eligibility Criteria

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Index Calculation

The LHPI is calculated by estimating the price of a fixed 'basket' of attributes of houses sold in different time periods (an analogy is with the standard basket of goods in the retail price index). By taking a ratio of two valuations we subsequently estimate the change in property prices across a time period.

To reflect the idea that the mix of properties is not necessarily constant and can change between periods, the LHPI (2019) basket of attributes is fixed to a 12-month period and subsequently updated once a year using three years of LBG transactional data (although an exception is the regional weights for the UK level indices, which are calculated using external data from the Land Registry, HMRC and Council of Mortgage Lenders. This is to help guard against any regional bias that may be present in the LBG transactional dataset).

Given that successive years of data are not directly comparable, each basket runs for a 13-month period from January to January (or in the case of a quarterly index, Q1 to Q1). Individual 'in-year' price indices for each basket of goods are created with the first January (or Q1) index value set to 100. The 'in-year' indices are subsequently 'chained' together to provide a continuous time series by taking the month 13 January figure (or quarter 5 figure) as the first reading of the next year's basket.

This should be viewed as a considerable improvement on the original methodology, which used a standardized house determined in 1983. Throughout recent years there have been a number of changes in property development (such as a rise in the number of bathrooms, the increased use of central heating etc.) that has made the standardized house in 2019 look different to that of 1983. Chain-linking methods subsequently help to address these changes in the housing market and, going forward, provide a natural protection against future changes.

A further update to the methodology is to use a parsimonious and more targeted set of property characteristics. LHPI (1983) utilised a vast array of attributes. Whilst these were relevant in 1983, a number have unfortunately become obsolete or hard to measure e.g. central heating statistics, garage spaces etc. In line with empirical evidence and indices produced around the globe, our new set of characteristics has been chosen to focus primarily on size, type, and location.

Valuing the standardized property with the use of these price-determining characteristics is achieved using the same semi-logarithmic hedonic regression specification employed by the original 1983 LHPI model. In the case of housing, prices reflect the valuation placed by purchasers on a particular set of locational and physical attributes (or characteristics) possessed by each house. The subsequent need for 'standardisation' arises out of the observation that two houses are not alike: they can differ according to a variety of quantitative and qualitative characteristics relating to the physical attributes of the houses themselves or to their locations.

The difficulty is the implicit value placed by a purchaser on each characteristic cannot be observed because transactions take place in terms of a single total price. Therefore, in order to remove that part of price variation due to changes in the mix of house characteristics over time, and so to measure the variation caused by inflationary factors, it is necessary to disaggregate prices into their constituents statistically. This is achieved by using a multivariate regression equation of the form:

$$\ln(P_i) = \beta_0 + \beta_1 X_1^i + \beta_2 X_2^i + \dots + \beta_j X_k^i + e_i$$

Here, P_i reflects the price of an individual property i which is determined by a set of $k = \{1, 2, \dots, n\}$ characteristics X_k^i . If the property has a particular characteristic then it takes the value of 1 or 0, with the exceptions of the number of bedrooms (between 1 and 8) and floor area (m^2 bounded between 30 and 500).

The set of $\beta_1, \beta_2, \dots, \beta_j$ regression coefficients correspond to the qualitative and quantitative characteristics, whilst the group of unmeasured factors (assumed to be randomly distributed) which are specific to each house but for which data are not available is captured by the statistical error e_j .

The regression is subsequently calculated using the widely-used technique of Ordinary Least Squares (OLS).

Property Characteristics

Property Type

LBG attributes a property type to each mortgage offer, these being:

- Detached, Semi-Detached, Terraced, Flat, Bungalow

As would be expected, detached properties tend to command higher selling prices than semi-detached, which in turn tend to be higher than terraced properties etc.

Size

The LBG mortgage data includes information on the size of each property in square metres. Not surprisingly we find that this is a key, statistically significant, determinant of the price of a property i.e. *Ceteris Paribus* the larger the property the greater the value.

The price of the property is also partly explained by the number of bedrooms that it possesses. The higher the number of bedrooms the higher the price tends to be. LBG mortgage offers contain information on bedroom numbers and, as such, this variable is included in the regression specification.

Age

New houses tend to attract a price premium relative to older properties with similar attributes. Including a categorical characteristic that encapsulates this (i.e. new or not new) is found to be statistically significant in our hedonic regression specification and is subsequently included as an explanatory variable.

Location

In line with LHPI (1983), a set of dummy variables that encapsulates a particular UK region that the property resides within continues to be used. A slight variation on the original methodology is the use of Government Office Region classifications (GOR) for England, rather than the original Economic Planning Region (EPR) classification. This provides us with nine English regions: Eastern England, East Midlands, Greater London, North East, North West, South East, South West, West Midlands and Yorkshire & Humberside. These are combined with Northern Ireland, Scotland and Wales to provide 12 UK regions.

A notable difference between the 1983 and 2019 LHPI indices has been greater focus on the treatment of locational property characteristics. The existing methodology used the EPR as the only price-determining locational factor. However, within any given region there will be variance in terms of desirability between postcode areas and this will be reflected in respective house prices. Greater granularity within the location variables can be expected to notably improve the ability to accurately estimate house prices.

Whilst a commercially available location variable (ACORN) is used by the Nationwide and the Office for National Statistics (ONS) in the generation of their own, similar, house price indices, S&P Dow Jones Indices Ltd has created its own proprietary classification system to help determine an area's house-price level in the context of its GOR region and housing-mix.

Note UK and regional LHPI (2019) models may contain differences in explanatory variables employed in respective hedonic regression specifications. These differences are seen in the HPI Regression Specifications table below.

LHPI Regression Specifications					
Explanatory Variables (Dependent Variable: In Purchase Price)	✓ denotes variables included			× denotes variable excluded	
	All Houses	Existing Houses / New Houses	First-Time Buyers / Former Owner Occupiers	GOR	
				All, FTB, FOO	EXI / NEW
Property Type					
Detached	Omitted Dummy Variable				
Semi-Detached	✓	✓	✓	✓	✓
Terraced	✓	✓	✓	✓	✓
Bungalow	✓	✓	✓	✓	✓
Flat	✓	✓	✓	✓	✓
Size					
Square Meters	✓	✓	✓	✓	✓
Number of Bedrooms	✓	✓	✓	✓	✓
Age					
New House	✓	×	✓	✓	×
Property Location - Region					
Eastern England	✓	✓	✓	×	×
East Midlands	✓	✓	✓	×	×
North East	✓	✓	✓	×	×
North West	✓	✓	✓	×	×
Northern Ireland	✓	✓	✓	×	×
Scotland	✓	✓	✓	×	×
South East	Omitted Dummy Variable				
South West	✓	✓	✓	×	×
Wales	✓	✓	✓	×	×
West Midlands	✓	✓	✓	×	×
Yorkshire & Humberside	✓	✓	✓	×	×
Property Location - Regional Postcode					
PROP1	✓	✓	✓	✓	✓
PROP2	✓	✓	✓	✓	✓
PROP3	✓	✓	✓	✓	✓
PROP4	✓	✓	✓	✓	✓
PROP5	Omitted Dummy Variable				
PROP6	✓	✓	✓	✓	✓
PROP7	✓	✓	✓	✓	✓
PROP8	✓	✓	✓	✓	✓
PROP9	✓	✓	✓	✓	✓

Index Governance

Index Committee

An Index Committee maintains the indices. All committee members are full-time professionals at S&P Dow Jones Indices. Meetings are held regularly. The Index Committee oversees the management of the indices, including determinations of intra-rebalancing changes, maintenance and inclusion policies, and other matters affecting the maintenance and calculation of the indices.

In fulfilling its responsibilities, the Index Committee has full and complete discretion to (i) amend, apply, or exempt the application of index rules and policies as circumstances may require and (ii) add, remove, or by-pass any bond in determining the composition of an index.

The Index Committee may rely on any information or documentation submitted to it or gathered by it that the Index Committee believes to be accurate. The Index Committee reserves the right to reinterpret publicly available information and to make changes to the indices based on a new interpretation of that information at its sole discretion. All Index Committee discussions are confidential.

The Index Committee is separate from and independent of other analytical groups at S&P Global. In particular, the Index Committee has no access to or influence on decisions by S&P Global Ratings analysts.

S&P Dow Jones Indices' Index Committees reserve the right to make exceptions when applying the methodology if the need arises. In any scenario where the treatment differs from the general rules stated in this document or supplemental documents, clients will receive sufficient notice, whenever possible.

In addition to the daily governance of indices and maintenance of index methodologies, at least once within any 12-month period, the Index Committee reviews the methodology to ensure the indices continue to achieve the stated objectives, and that the data and methodology remain effective. In certain instances, S&P Dow Jones Indices may publish a consultation inviting comments from external parties.

For more information on index governance policies, please refer [here](#).

Construction of this Index Manual

The Index Manual is published by the Index Administrator. In the event of any inconsistency between the English language version of this Index Manual and that translated into any other language, this English version shall prevail.

Further Information

Client Support

For client support please contact index_services@spglobal.com.

Formal Complaints

Formal complaints should be emailed to spdji_compliance@spglobal.com.

Please note: spdji_compliance@spglobal.com should only be used to log formal complaints.

General Index Inquiries

For general index inquiries, please contact index_services@spglobal.com.

Appendix A: Glossary

Term	Definition
LHPI	means Lloyds House Price Index (LHPI) 2019 family
S&P Dow Jones Indices Ltd	means the Administrator of the LHPI 2019 index family
Index Base Date	is the date of the initial level of the index. See the Index Administration Events table
Index Commencement Date	is the date the index level was first published. See the Index Administration Events table
Index Manual	means this document, as amended, replaced or substituted, from time to time
Index Owner	means S&P DJI
S&P DJI Website	means the following website: https://www.spglobal.com/spdji/en/

Appendix B: Methodology Changes

Methodology changes since index launch are as follows:

Date	Index Administration Event
July 1, 2026	Index name changed from Halifax House Price Index to Lloyds House Price Index
January 2021	Governance and Regulatory Compliance sections are consolidated under the <i>Governance and Regulatory Compliance</i> section
April 2019	S&P DJI officially commences Index Administration
January 2018	Annual attestation of IOSCO compliance
January 1983	Index Commencement Date
January 1992	Index Base Date (base level = 100)

Appendix C: Historical Context of Revisions

Prior Index Methodology and 2019 Enhancements

When first introduced in 1984, the Lloyds House Price Index (LHPI) represented a major advance in the measurement of house price changes in the United Kingdom.

Unlike earlier series, and house price statistics produced by other institutions, the new figures issued by the then Halifax Building Society were standardized rather than based on simple price averages. By allowing for the influence of the different characteristics of houses on their prices, using a database especially established by the Halifax, and maintained by Lloyds Banking Group (LBG), for this purpose, the new series placed the measures on a truly comparable footing, thereby providing a more accurate indication of like-for-like house price movements than was previously possible.

Broadly speaking, the LHPI methodology was left unchanged since its inception in 1983. Whilst the hedonic regression on which the original model is based remains a pre-eminent method of house price index generation in 2019, during the years that have passed since 1983 there have been several developments that encouraged methodological upgrading. For instance, changes in the mix of UK housing stock – both geographical and physical housing attributes – plus the reduced influence of certain property characteristics in price determination led, especially in recent years, to an undesirable effect of increasing LHPI index volatility.

Borne out of both a deep knowledge of the original LHPI model, which we define in this document as LHPI (1983) and a careful assessment of the current literature on house price determination provided by statistics agencies based in the UK and the euro area, S&P Dow Jones Indices Ltd has subsequently undertaken a number of methodological enhancements to tackle the aforementioned issues with LHPI (1983). These include:

- refreshing the data exclusion criteria, with particular focus on the inclusion of shared ownership transactions
- replacing existing model characteristics with a more parsimonious set. This selection includes improving the granularity of location characteristics
- creating an enhanced weighting system based on the chain-linking methods used by statistical agencies around the world
- remapping the LHPI sample to current Government Office Region (GOR) specifications to create UK regions consistent with UK official statistics

Post-Change Index Performance

The model changes have resulted in a number of improvements to LHPI performance, which we define from the perspective of three key metrics:

- statistical output from the regression calculations e.g. explanatory power (RSQ statistics), parameter significance as measured by t-statistics
- sample size
- index volatility

The *LHPI (2019) Key Metrics (July 2007 to June 2018)* table provides some summary statistics related to these metrics at the UK level, not only for the All House All Buyers (AHAB) indices, but also the subindices of First-Time Buyers (FTB), Former Owner Occupiers (FOO) and Existing (EXI).

LHPI (2019) Key Metrics (July 2007 to June 2018)

Index Series (United Kingdom)	Sample Gain	RSQ	Volatility Improvement (y/y inflation rates)	Standardized Price (at Jun-18)	Price Difference to LHPI1 (% 5- Year Average)
AHAB	35%	82.4%	43.1%	£231,903	2.2%
First-Time Buyers	36%	82.3%	49.0%	£183,536	5.2%
Former Owner Occupiers	33%	83.7%	48.3%	£278,868	4.2%
Existing Houses	20%	84.2%	63.5%	£220,398	-4.7%
New Houses	n/a	84.1%	n/a	£244,815	n/a

Notes: Gain columns reflect the difference between equivalent LHPI1 (1983) and LHPI (2019) data. In this instance, a positive number equates to a higher reading for LHPI (2019) models. Note all comparisons cover the period July 2007 to June 2018 and, reflective of their market sensitivity, we do not include raw sample size numbers. We measure volatility by taking the square root of the average squared monthly movement in annual rates of change for both the LHPI (1983) and LHPI (2019) indices. Using a ratio of these two numbers provides an estimate of the relative difference between the monthly movements of the two data series. A positive number in the tables reflect favourable performance for LHPI (2019) models.

The *LHPI (2019) Key Metrics (July 2007 to June 2018)* table highlights the positive impacts that the model refinements have made on all of our key performance metrics.

Firstly, amendments of the data cleansing rules to include shared-ownership, buy-to-let and non-typical vendors such as builders has led to a noticeable gain in sample size over the test period. At the UK level the increase is 35%. There is a slightly stronger increase in the number of first-time buyers (FTB) and we also have a greater representation of new properties in our sample (as implied by the number of existing houses rising by 20% on average). Note this is broadly expected given the inclusion of shared ownership and direct purchases from builders. With this in mind, we have taken the opportunity to supply a New Houses Index which had been previously discontinued.

Secondly, the addition of our new property location characteristics, allied with a parsimonious regression specification focusing on size, age, location and property type leads to noticeable and considerable gains in the explanatory power of the indices compared to LHPI (1983).

The AHAB UK model, with a RSQ average of 82.4%, is a considerable improvement on LHPI (1983) – an increase of 14.2 pts. The three other currently available models – FTB, FOO and EXI – also enjoy noticeable gains in explanatory power, whilst the RSQ reading for new houses is over 80%.

Thirdly, the implied volatility of all indices is reduced, reflective of the new parsimonious regression specification which has removed variables that have proven difficult in recent years to identify coefficient values for i.e. central heating, garage spaces etc. At 43.1%, the improvement in volatility seen at the UK level is considerable, with even larger improvements seen for FTB (49.0%), FOO (48.3%) and EXI (63.5%).

Lloyds House Price Index Disclaimer

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Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Information presented prior to an index’s launch date is hypothetical back-tested performance, not actual performance, and is based on the index methodology in effect on the launch date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. In addition, forks have not been factored into the back-test data with respect to the S&P Cryptocurrency Indices. For the S&P Cryptocurrency Top 5 & 10 Equal Weight Indices, the custody element of the methodology was not considered; the back-test history is based on the index constituents that meet the custody element as of the Launch Date. Also, the treatment of corporate actions in back-tested performance may differ from treatment for live indices due to limitations in replicating index management decisions. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate certain ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using “Backward Data Assumption” (or pulling back) of ESG data for the calculation of back-tested historical performance. “Backward Data Assumption” is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as “product involvement”) were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on “Backward Data Assumption” please refer to the FAQ. The methodology and factsheets of any index that employs backward assumption in the back-tested history will explicitly state so. The methodology will include an Appendix with a table setting forth the specific data points and relevant time period for which backward projected data was used. Index returns shown do not

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