

Price Index of Private Rents QMI

Quality and Methodology Information for the Price Index of Private Rents, detailing the strengths and limitations of the data, methods used, and data uses and users.

Contact:
Housing Market Indices
hpi@ons.gov.uk
+44 1633 456400

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1 . Output information

- National Statistic: no
- Data collection: administrative data from the Valuation Office Agency, Welsh Government, Scottish Government and Northern Ireland Housing Executive
- Frequency: monthly
- How compiled: hedonic double imputation index
- Geographic coverage: UK, countries, regions and local authorities or broad rental market areas
- Related publications: [Private rent and house prices, UK: March 2024 bulletin](#)

2 . About this Quality and Methodology Information report

This Quality and Methodology Information report contains information on the quality characteristics of the data (including the European Statistical System's five dimensions of quality) as well as the methods used to create it.

The information in this report will help you to:

- understand the strengths and limitations of the data
- learn about existing uses and users of the data
- understand the methods used to create the data
- help you to decide suitable uses for the data
- reduce the risk of misusing data

3 . Important points

- The Price Index of Private Rents (PIPR) uses a hedonic double imputation approach to measure the change in price of renting residential property from private landlords; this is an internationally-recognised method, which is described in Chapter 5: Hedonic Regression Methods of the Eurostat [Handbook on Residential Property Prices Indices](#).
- The PIPR reflects price changes for all privately rented properties, not only newly-advertised rental properties.
- The PIPR is calculated using rental data for Great Britain, collected by Rent Officers operating for the Valuation Office Agency, Scottish Government and Welsh Government.
- The Northern Ireland statistics are calculated using rental data from the Northern Ireland Housing Executive (which includes data provided by propertynews.com) and continues to use the [Index of Private Housing Rental Prices \(IPHRP\) methodology](#); they will be redeveloped to use the PIPR methodology in March 2025.

4 . Quality summary

Overview of the PIPR

The Price Index of Private Rents (PIPR) measures the change in price of renting residential property from private landlords. The PIPR is published as a series of price indices and levels covering Great Britain, its constituent countries, English regions, local authorities in England and Wales, and broad rental market areas in Scotland. All data presented are non-seasonally adjusted. The PIPR aims to reflect price changes for all private rental properties (not only newly advertised properties). However, Scotland and Northern Ireland's source data are mainly for advertised new lets.

The PIPR (Great Britain) and Index of Private Housing Rental Prices (IPHRP) (Northern Ireland) use administrative data. This means rental price statistics are produced using data that are already collected for other purposes. Private rental price data sources are [Valuation Office Agency](#) (VOA), [Scottish Government](#) (SG), [Welsh Government](#) (WG) and [Northern Ireland Housing Executive](#) (NIHE). These organisations deploy Rent Officers to collect the price paid for privately rented properties. Data for Northern Ireland also include data provided by [propertynews.com](#).

The sources of annual expenditure weights include the VOA, SG, WG, NIHE, Office for National Statistics, and the Department for Levelling Up, Housing and Communities (DLUHC).

Uses and users

The production of private housing rental statistics is relevant for many purposes. This includes decisions relating to the provision of housing, mortgage lending, and the state of the rental market:

- the statistics contribute to the calculation of Consumer Prices Index (CPI), Retail Prices Index (RPI) and Consumer Prices Index including owner-occupier housing costs (CPIH)
- central government uses housing statistics to monitor economic performance and develop housing policies
- local government and devolved administrations use rental market statistics to monitor and develop housing policies in their local areas; these statistics are also used to understand how changes and policies at national level affect housing at the local authority or devolved level
- financial institutions use rental market statistics to inform decisions on setting interest rates
- landlords are interested in whether and where demand for new rental properties exist and the current state of the rental market, including average rental prices paid in their local area
- letting agencies are interested in the average rental price levels in their area, as well as the types of properties and their locations; they need to be able to advise potential landlords on the achievable letting price for their property but also require statistics in running their businesses

Strengths and limitations

Rich data sources

A strength of the PIPR is that it is constructed using large administrative data sources. Annually the Valuation Office Agency and the devolved administrations collect over 450,000 private rents prices in England, 30,000 in Wales, 40,000 in Scotland, and over 10,000 in Northern Ireland.

Data collection differences

Data collection differs across the UK. Data for England and Wales are achieved rents for both new and existing tenancies, while Scotland and Northern Ireland rents data are mainly for advertised new lets.

The [Cost of Living \(Tenant Protection\) Scotland Act](#) capped in-tenancy rent price increases at 0% (and up to 3% in certain circumstances) until 31 March 2023. On 1 April 2023, this rent price increase cap was increased to 3% (and up to 6% in certain circumstances), as shown in the Scottish Government's [news article, Scottish Parliament approves 3% rent cap](#). On 20 September 2023, Scottish Government confirmed that this rent price cap would remain in place for up to six months from October 2023, as explained in their [news article, Scottish Parliament approves final extension of tenant protections](#).

In Scotland, rents data are predominantly for advertised new lets (which are not subject to the price cap), with only a small proportion based on existing lets data. Data collection procedures do not involve actively seeking to re-collect data for previously collected properties. Therefore, price changes for existing tenancies are largely estimated for Scotland.

In PIPR, assumptions on average periods between rent price increases are used to measure price inflation for the stock of rents. We assume that rent price remains constant for up to 14 months if updated rents data for that property are not available. Records more than 14 months old are dropped in PIPR.

Caution is advised when comparing Scotland's estimates with other areas in England and Wales and within Scotland. This is because of differences in data collection and housing policy (in-tenancy rent price increases are currently capped in Scotland) across the UK.

Estimates at local geographies

The newly developed methodology allows comparisons of rental price changes to be made at more detailed levels. However, while our average prices and growth rates at higher geographies are robust, low collection rates in some local authorities and broad rental market areas can lead to volatility at these levels. While efforts are made to account for this volatility, the change in price in these local levels can be influenced by the type and number of properties collected in any given period. Lower-level geographic breakdowns should be considered in the context of their longer-term trends rather than focusing on monthly movements.

Estimates for the City of London and the Isles of Scilly are not published because of low collection volumes.

Recent improvements

Our [Private Rent and House Prices, UK release](#) launched on 20 March 2024, using the Price Index of Private Rents methodology for Great Britain and the Index of Private Housing Rental Prices methodology for Northern Ireland. This follows work to improve and transform our private rental price statistics, as explained in our [Redevelopment of private rental prices statistics, impact analysis, UK article](#), which included making better use of existing data sources, improving methods, and developing systems. Prior to this, the [Index of Private Housing Rental Prices \(IPHRP\) release](#) was our lead measure of rental price changes.

Any future methodological changes made to the Price Index of Private Rents will be described in the [Private Rent and House Prices, UK bulletin](#), and in this quality and methodology information report.

5 . Quality characteristics of the PIPR data

This section describes the quality characteristics of the data and identifies issues that should be considered when using the statistics.

Relevance

(The degree to which the statistical product meets users' needs for both coverage and content.)

The Price Index of Private Rents (PIPR) was developed in response to user feedback. In the Office for Statistics Regulation's (OSR's) [Systemic review of Public Value: Statistics on Housing and Planning in the UK \(PDF, 534KB\)](#), two main areas for development were identified:

- the publication of private rental price levels that are comparable over time, including a historical data time series
- the publication of increased geographic detail

The Price Index of Private Rents methodology replaces the Index of Private Housing Rental Prices methodology.

The same rental data used in the PIPR are also used to construct the owner-occupiers' housing costs component of the [Consumer Prices Index including owner-occupiers' housing costs \(CPIH\)](#) under the rental equivalence approach.

Accuracy and reliability

(The degree of closeness between an estimate and the true value.)

Estimates are based on a sample of private rents, rather than a census. Data underlying the Price Index of Private Rents (PIPR) are collected by Rent Officers from letting agents and landlords who are willing to provide data on their rental properties, as explained in our [Price Index of Private Rents Quality assurance of administrative data methodology](#). The sample is purposive. To ensure a representative sample, Rent Officers in the Valuation Office Agency (VOA), and the devolved Scottish and Welsh Governments, and Northern Ireland Housing Executive, are given targets to collect rental data in each area based on Census data.

Coherence and comparability

(Coherence is the degree to which data that are derived from different sources or methods, but refer to the same topic, are similar. Comparability is the degree to which data can be compared over time and domain, for example, geographic level.)

Coherence

There are several approaches to measuring rental price changes over time, each measuring something different.

The Price Index of Private Rents aims to measure the "stock" of rents. This captures average rental price changes experienced by the entire private rental sector, using data for both new and existing tenancies in the reference period.

Alternatively, the "flow" of rents could be measured, capturing the price of new tenancies starting in the reference period. The flow of "achieved" rents uses rents for new tenancies that have successfully started in the reference period. The flow of "advertised" rents is measured by private sector organisations (such as Homelet, Rightmove and Zoopla) using data for advertised new lets, which will include advertised lets that do not lead to a tenancy starting, and will not capture where the achieved rent price differs from the initially-advertised price.

Since measuring the "flow" of rents would only reflect the minority of tenancies (those that are just starting), measuring the "stock" of rents is necessary to understand average price changes experienced by all privately renting tenants.

Comparability

The Price Index of Private Rents statistics can be compared over time and across geographies. However, data collection practices differ across the devolved nations, which makes it difficult to compare trends between some UK countries. In England and Wales, data for achieved rents are collected for both new and existing tenancies, and Rent Officers attempt to collect updated data for properties within the following 12 months. In Scotland and Northern Ireland, rents data are predominantly for advertised new lets, and data collection procedures do not involve actively seeking to re-collect data for previously collected properties.

Because of the differences in Northern Ireland data, which have resulted in additional complexities during development, we made the difficult decision to delay the inclusion of Northern Ireland rental price data in PIPR until March 2025. We will continue to publish Northern Ireland statistics using the current IPHRP methodology for Northern Ireland until then, and will continue to use Northern Ireland Verian data for consumer price statistics.

Accessibility and clarity

(Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the release details, illustrations and accompanying advice.)

All the statistics published by the Office for National Statistics (ONS) are available under the [Open Government Licence](#).

The ONS website aims to meet accessibility standards, as set out in our [accessibility statement](#).

The *Private Rent and House Prices, UK* statistical bulletin (which includes the Price Index of Private Rents (PIPR) for Great Britain) can be accessed from 9.30am on the day of publication.

For general enquiries on the PIPR, please contact us via email at hpi@ons.gov.uk.

Timeliness and punctuality

(Timeliness refers to the lapse of time between publication and the period to which the data refer. Punctuality refers to the gap between planned and actual publication dates.)

The Private Rent and House Prices, UK release is a monthly publication, launched on 20 March 2024. The statistical bulletin is published on the second or third Wednesday following the reference period, subject to receipt of data.

Details on upcoming releases can be found on our [Release calendar web page](#), which provides six months' advance notice of release dates. Public attention will be drawn to any change to the pre-announced release schedule, and the reasons for the change will be explained fully, as set out in the [Code of Practice for Statistics](#).

Concepts and definitions (including list of changes to definitions)

(Concepts and definitions describe the legislation governing the output and a description of the classifications used in the output.)

The Department for Levelling Up, Housing and Communities's (DLUHC's) [Housing statistics and English Housing Survey glossary is available on GOV.UK](#).

Broad rental market area

Local housing allowance rates relate to an area in which a claim is made: these areas are called Broad Rental Market Areas (BRMA). A BRMA is where a person could reasonably be expected to live taking into account access to certain facilities and services.

Monthly dataset

We measure how the prices of the stock of rental properties are changing each month, including both new and existing rental properties. To do this, we assume that the price of a property remains valid for up to 14 months from the point of data collection. Each month, we create a dataset that represents the stock of rental properties, which is used to measure how average rental prices have changed. This dataset is referred to as the "monthly dataset". Further information on how the monthly dataset is created can be found in Section 6: Methods used to produce the PIPR data.

Elementary aggregate

An elementary aggregate is the lowest-level aggregate for which expenditure data are available and used for index construction purposes.

Geography

The Price Index of Private Rents (PIPR) is used to produce private rental price statistics for Great Britain, its countries, English regions, local authorities in England and Wales, and Broad Rental Market Areas in Scotland.

Property postcodes are mapped to higher-level geographies using the National Statistics Postcode Lookup and the Postcode Directory, which can be accessed through our [Open Geography portal](#).

Why you can trust our data

We commit to the pillars, principles and practices of the [Code of Practice for Statistics](#) in producing Price Index of Private Rents (PIPR). The PIPR is expected to be independently reviewed by the Office for Statistics Regulation (OSR) against the Code of Practice for Statistics in 2024 with the aim of achieving [Accredited Official Statistics status, as explained on the OSR website](#).

6 . Methods used to produce the PIPR data

The Price Index of Private Rents (PIPR) brings together several administrative data sources. More information on how we have assessed the quality of these can be found in our [PIPR Quality Assurance of Administrative data](#).

Main data sources

The data sources used to produce the PIPR fall into two distinct categories: price data, and property attributes data. The price data provide details on the price at which a residential property has been rented. This data source also includes limited information on property attributes. The price data are combined with other existing data sources to obtain further property attributes, such as the age of the property and floor area.

Private rents data are collected separately in England, Scotland, Northern Ireland and Wales by Rent Officers as part of their responsibilities to administer functions relating to Housing Benefit and Universal Credit. Rent Officers collect rental prices from letting agents and landlords who are willing to provide data. The sample is purposive, but Rent Officers use Census data to set collection aims that are representative of the private rental market.

How we process the data

The new measures of rental prices are produced using a hedonic double imputation approach, which allows for mix-adjustment of the monthly price data to account for changing composition of collected rental properties. This ensures that when we analyse rental prices, we are comparing like with like. This is similar to the approach used to calculate the [UK House Price Index](#), but tailored to suit the rental data. A fuller description of the hedonic double imputation approach and alternative methods for constructing house price and rental price indices can be found in the Eurostat [Handbook on Residential Property Prices Indices \(PDF, 8.1MB\)](#).

The most important stages in the PIPR data production process are:

- 1) Input rental price data are cleaned and linked to property attributes data.
- 2) On an annual basis, a "fixed basket" of properties is created (using the previous 12 months of collected data), and missing-property characteristics are imputed.
- 3) On a monthly basis, a monthly dataset is created, and missing-property characteristics are imputed.
- 4) Each month an ordinary least squares (OLS) regression model is fitted to the monthly dataset to derive imputed prices for properties within the fixed basket for the current month (hedonic regression model).
- 5) Elementary aggregates are produced at a stratum-level (local authority by property type by furnished status, or local authority by bedroom category) by taking an unweighted geometric average of price relative within a stratum.
- 6) Elementary aggregates are weighted together using expenditure weights into a Lowe index, and then chain-linked annually to produce a rental price index series to track prices over time.
- 7) The corresponding average rental price series is derived by applying the change in the index to a base set of rental prices from the reference period (currently January 2023).

Input data cleaning and linking

We link rental price data to property attributes data using properties' Unique Property Reference Number (UPRN). Separately, we also link to a geo-demographic segmentation (ACORN) using property postcode, which allows us to control for differences between smaller areas.

The input data are quality assured and cleaned by the data providers, who check for implausible values (for example, high or low rents) and duplicates. They are then entered into the Office for National Statistics' (ONS') Address Index Matching Service (AIMS) tool to obtain a UPRN for each property, and derived variables (such as property type, bedroom category and furnished status) are created.

Table 1: Average linking rate from January 2015 to December 2023

	VOA Council Tax Acorn	
England rental data	90.5%	99.8%
Wales rental data	91.1%	99.9%
Scotland rental data	N/A	99.9%

Source: Office for National Statistics

Notes

1. The linking rate to VOA Council Tax has increased over time reaching on average 96.1% for England and 94.2% for Wales in 2023.

Creation of annual fixed basket and imputation of property characteristics

The PIPR methodology is mix-adjusted to control for different types of rental properties being collected in different months. The process of mix-adjustment (which ensures we are comparing like with like throughout the year) requires that, in each January, a fixed basket of properties is created using all the collected rental properties in the previous year. Within this process, duplicate records for the same property are removed so that only the most recent record collected is used. Prices to rent a single room in a house of multiple occupancy (HMO) are also removed.

A decision tree regressor (for continuous variables) and a decision tree classifier (for categorical variables) is used to impute any missing data in price-determining characteristics of rental properties. This uses the open source [Decision Trees - scikit-learn python package](#).

Table 2: Average imputation rate from the fixed basket between January 2015 and December 2023

	England & Wales	Scotland
Property type	0.00%	0.17%
Number of bedrooms	0.00%	0.00%
Furnished status	0.00%	0.00%
Floor area	11.43%	N/A
Property age	10.90%	0.26%
Acorn category	0.06%	0.02%

Source: Office for National Statistics

After imputing for missing characteristics, the fixed basket is used (as described in the Hedonic regression model section below) to produce imputed rental prices throughout the current year (and the subsequent January), before a new fixed basket is constructed in the subsequent January.

Creation of monthly dataset

The monthly dataset of properties used in the calculation of the Price Index of Private Rents (PIPR) uses a stock measure of rental prices; that is, both new and existing rentals are accounted for. This is in line with current international best practice, although the Office for Statistics Regulation's (OSR's) [Systemic review of Public Value: Statistics on Housing and Planning in the UK \(PDF, 534KB\)](#) points to recent research that suggests a flow measure may be worth considering; that is, only new lets. Currently it is not possible for us to distinguish between new lets and existing lets in our data collection.

Each month we receive new delivery of rents data collected by Rent Officers over the month. For the purposes of PIPR production, a month is defined as the 28th of the preceding month to the 27th of the named month. Data for the 27th itself is currently in historical (pre-2015) and 2024 monthly datasets, and will be included in PIPR (2015 to 2023) when we update the series next year to also include Northern Ireland data. The newly collected data will include updated data for previously collected properties that were already in the monthly dataset, as well as data for properties not previously collected within the preceding 14 months. Following each monthly data delivery, the monthly dataset is updated as follows:

1. If the property was not in last month's monthly dataset, that property record is added to the current month's monthly dataset and the time in dataset set to one.
2. If the property was in last month's monthly dataset, then the property's price and other characteristics are updated, and the time in dataset reset to one.
3. For remaining properties in last month's monthly dataset for which there has not been a price update in the latest data delivery, the existing price is retained and the time in dataset increased by one.
4. Any properties that have not received a price update for over 14 months (and therefore with a time in dataset greater than 14) are removed from the current month's monthly dataset. We refer to this as the 14-month validity period.

A 14-month validity period is applied to balance typical fixed-term contract lengths (during which rent prices remain fixed, and which tend to be either 6, 12, 18 or 24 months) against operational practices (the typical time between updates for properties collected by Rent Officers is between 12 and 14 months for England). There are methodological benefits (in terms of substantially improving the number of property updates) to using a 14-month validity period over using a shorter period, which would only capture a small proportion of record updates.

The price of an existing property in the monthly dataset is only updated when a match is identified in the newly collected data and the price change is within the acceptable tolerance level. The price update is deemed valid if it meets both of the following constraints:

- New price less than previous price multiplied by 1.49995
- New price more than previous price multiplied by 0.6667

Prices to rent a single room in a house of multiple occupancy (HMO) are also removed.

As with the annual fixed basket, some properties in the monthly dataset may be missing one or more of their price-determining characteristics. Prior to running the hedonic regression model, a decision tree regressor is used to impute for missing floor area. Other (categorical) missing variables are set to a "missing" category.

Hedonic regression model

In a hedonic regression, properties are defined in terms of a set of characteristics, each of which contributes to the rental price of a property. For example, the number of bedrooms or the location of the property will influence the rent price, but no features can be priced in isolation - they are jointly determined in the ordinary least squares (OLS) regression.

Therefore, once the monthly dataset is created and property characteristics imputed, the monthly dataset is fitted to a regression model to estimate the contribution of each characteristic to the natural logarithm of the rental price of a property. The model of the price (in pounds) is therefore non-linear. A separate regression model is run for each month, and for each country.

The price-determining characteristics that we use in the regression are:

- number of bedrooms
- natural log of floor area in square meters (used only for properties in England and Wales)
- property type (detached, semi-detached, terraced, and flat or maisonette)
- furnished status
- geo-demographic segmentation ([ACORN](#))
- local authority district in England and Wales, and broad rental market area in Scotland
- property age bracket

For Scotland, the floor area has been excluded from the regression model because the address information available in the rental data is not suitable for linking.

For our regression model, we use a semi-log ordinary least squares (OLS) model, with the mathematical formulation:

$$\ln(p_i) = k + \sum_j \beta_j x_{ij} + e_i$$

Where:

- p_i is the rental price of property i
- k is a constant
- β_j is the coefficient associated with characteristic j
- x_{ij} indicates whether property i has the characteristic j (such as detached property); if so, it takes the value 1, otherwise it takes the value 0 (except for floor area where it takes the value of the natural logarithm of floor area)
- e_i is the statistical error term for property i

The OLS regression is run once, internally studentised residuals are calculated, and any properties with an absolute value of the studentised residual greater than or equal to four, are considered an outlier and are dropped from the sample. The regression is run again on the reduced dataset, and the coefficients' estimates obtained from this second regression are applied to the fixed basket.

Creation of elementary aggregates

The ordinary least squares model produces coefficients, which are used to calculate an imputed rental price for each property within the annual fixed basket for each month of the year. This allows calculation of a price relative of imputed rents for each property between every month and the base month, January.

From there, a Jevons index can be calculated for imputed rental prices within each stratum (LA by property type by furnished status, or LA by bedroom category). This is the elementary aggregate. The Jevons is an unweighted geometric average of price relative within a stratum. The formula is:

$$A_{s,t} = \left(\prod_{i \in s} \frac{p_{i,t}}{p_{i,jan}} \right)^{\frac{1}{n_s}}$$

Where:

- $A_{s,t}$ is the elementary aggregate for stratum s at time t
- $p_{i,t}$ is the imputed rental price of property i at time t
- $p_{i,jan}$ is the imputed rental price of property i in base period for that year, the first January

$$\frac{p_{i,t}}{p_{i,jan}}$$

- is thus the price relative for property i
- the product is over all properties i within stratum s
- n_s is the number of properties in stratum s

Strata that have low property counts (less than five properties) in the fixed basket are imputed using the local-authority level aggregate as a donor, because we judge strata with low counts to have sample sizes too small to provide a reliable estimate for an index.

When calculating the statistics used for the Retail Prices Index (RPI), we use an arithmetic mean of the price relatives (Carli) between the current month and the base month instead of a geometric mean of the price relatives (Jevons).

Strata weight construction

To ensure representativeness of the UK rental market when aggregating data, expenditure weights are updated annually. To calculate expenditure weights, dwelling stock data are multiplied with average observed rental prices. Dwelling stock data come from the Office for National Statistics, the Scottish Government and the Welsh Government.

Dwelling stock estimates are split by the proportion of property types rented privately in Wales, Scotland and the nine regions of England using data from the English Housing Survey, Scottish Housing Conditions Survey and Census (Wales). Dwelling stock estimates are also split by property furnished status using the national-level split estimated by the Living Costs and Food Survey. The weights from the Index of Private Housing Rental Prices have been used for Northern Ireland.

To calculate estimates by bedroom category, the Family Resources Survey is used to split the dwelling stock volumes by bedroom category.

To calculate timely expenditure weights, the most recently available data are used.

Aggregation of elementary aggregates

The within-year index at national level is calculated from the elementary aggregates and expenditure weights as follows:

$$index_{y,t} = 100 \sum_{s \in GB} (A_{s,t} \times w_{s,y})$$

Where $index_{y,t}$ is the index for GB in year y , month t , $A_{s,t}$ is the elementary aggregate (post low count imputation for strata with low counts) for stratum s in month t and $w_{s,y}$ is the expenditure weight for stratum s in year y . The summation is over all strata s within the country (GB).

The within-year index for each country, region and local authority is calculated in the same manner, where the sum is over all strata associated with the given geographical area for that index.

This within-year index starts at 100 for January and runs for 13 months to January of the following year.

Within-year indices are combined into a single continuous index using standard chain-linking methods, with the overlap period being in January. For an overview of chain-linking, see [Section 6 of our Chain-linking in business prices article](#).

A three-month moving average has been applied to estimates below the regional level to reduce volatility caused by low data collection. For example, at the local authority and broad rental market area level, the published estimate for March is a simple average of the raw estimates for January, February and March.

Creating a UK index

To create an overall UK index of private rental prices, PIPR-derived indices for Great Britain are aggregated with indices for Northern Ireland, which use the [Index of Private Housing Rental Prices methodology](#). As data for Northern Ireland are not available for the latest two months, we assume that the Northern Ireland index has followed the Great Britain index for the same period. Each month, the latest rental price data delivery from Northern Ireland is used to revise imputed index values for Northern Ireland.

Publication of estimated average prices

To produce a time series of estimated average rental prices, a base set of imputed prices is updated with the price index growth rate. The current base prices are weighted averages of the January 2023 imputed prices. By updating reference-period prices using the index, we are able to create a series of rent price levels that are comparable over time.

To ensure the base set of rental properties remains representative, the base period for the price series will be updated every five years. When the series are re-based, the entire price level series will be recalculated using the new base period.

For example, the initial base period for the Price Index of Private Rents (PIPR) is January 2023, and in five years we expect to change the base period to January 2028. This is illustrated, with mock data, in Table 3. For example, the 2028 base year price for 2018 of £967 is calculated by dividing the 2028 actual average imputed price (£1,405), by the price growth from 2018 to 2028 (which is £1,394 divided by £959).

Table 3: Example of re-referencing in the Price Index of Private Rents

Year	Price index (2023 = 100)	2023 base year price series (£)	Actual average imputed price (£)	2028 base year price series (£)
2018	86	959		967
2019	85	948		955
2020	85	948		955
2021	87	970		978
2022	94	1,048		1,057
2023	100	1,115	1,115	1,124
2024	107	1,193		1,203
2025	112	1,249		1,259
2026	115	1,282		1,293
2027	120	1,338		1,349
2028	125	1,394	1,405	1,405
2029	130	1,450		1,461

Source: Office for National Statistics

Notes

1. These are not real data; they have been constructed for illustrative purposes only.

Note that changing the reference period does not affect the previously published growth rate. This is shown in the example (which is based on mock annual data, rather than monthly, for ease of presentation). This approach ensures that a set of comparable average rental prices are published, and that these prices remain representative of the current market.

How we analyse and interpret the data

Once the data have been aggregated, the resulting series are analysed by various breakdowns, over time, and against other published sources of rental price growth. Any unexpected movements within the series are explored through the record-level data. Monthly curiosity meetings are held to review the data and discuss any long-term trends and their drivers.

How we quality assure and validate the data

Quality assurance of each of our data sources can be found in our published guidance [PIPR Quality Assurance of Administrative Data](#).

Each month, test statistics are analysed to ensure the hedonic regression model has run correctly and fit successfully. This includes analysing the R-squared of the model (model fit) and significance of the explanatory variables. Between January 2015 and December 2023, an average R-squared of 0.87 for England, and 0.79 for Scotland and 0.67 for Wales, is achieved.

We do a number of internal checks throughout the process, including:

- checking the linking rate between the rental information and property attributes data to ensure the linking has not failed
- checking the number of properties being added and dropped from the monthly dataset
- checking missingness rates and distributions for property characteristics before their values are imputed

How we disseminate the data

We publish the monthly Private Rent and House Prices, UK release every second or third Wednesday of the month. Data are made available through:

- our [Private Rent and House Prices, UK statistical bulletin](#)
- our [XLSX downloadable data](#)
- our [Housing prices in your area tool](#) to explore local statistics

A table of weights analysis providing information on the aggregate weights used for the index is published annually.

Most queries can be answered from the website datasets or supporting methods documents. Any additional queries regarding the PIPR can be emailed to hpi@ons.gov.uk.

How we review and maintain the data processes

We continually review our methods to ensure they remain appropriate. Any changes to methodology will be announced.

7. Other information

In March 2024 we, at the Office for National Statistics, improved and transformed our private rental price statistics, which included making better use of existing data sources, improving our methods and developing our systems. Prior to the launch of the Private Rent and House Prices, UK publication (including the Price Index of Private Rents (PIPR) for Great Britain), we produced our [Index of Private Housing Rental Prices \(IPHRP\) bulletins](#) and our [Private rental market statistics \(PRMS\) bulletins](#).

When the IPHRP was developed, the matched-pairs methodology used was the most suitable method available because of the unavailability of microdata to apply more sophisticated methods.

8 . Related links

[Price Index of Private Rents Quality Assurance of Administrative Data](#)

Methodology article | Released 20 March 2024

Quality assurance of the administrative data used in the monthly production of the Price Index of Private Rents.

[Private rent and house prices, UK](#)

Bulletin | Released 20 March 2024

The Price Index of Private Rents (PIPR) produces rent price and inflation statistics for the UK, tracking prices paid for new and existing tenancies in the private rental sector. Includes headline UK House Price Index statistics.

9 . Cite this article

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