

Article

# Developing a Northern Ireland Consumer Prices Index: October 2024

Update on the Office for National Statistics's work to produce consumer price inflation estimates for Northern Ireland.

Contact:  
Northern Ireland Consumer  
Prices Index team  
cpi@ons.gov.uk  
+44 1633 456900

Release date:  
29 October 2024

Next release:  
To be announced

## Table of contents

1. [Overview](#)
2. [Areas improved since previous publication](#)
3. [Results](#)
4. [Future developments](#)
5. [Related links](#)
6. [Cite this article](#)

# 1 . Overview

The Consumer Prices Index (CPI) measures the change in price of a "fixed basket" of goods and services that is representative of spending within the UK. This article is an update to work previously covered in our Boosting the Northern Ireland price sample for the Consumer Prices Index publication. The aim is to improve the accuracy of consumer price inflation estimates for Northern Ireland using a boosted Northern Ireland price collection, and adjusting basket weights to be more reflective of Northern Ireland spending patterns.

The CPI is based on the methodology for [Eurostat's Harmonised Indices of Consumer Prices \(HICP\)](#), which is a harmonised methodology that allows international comparisons to be made.

In our [first publication](#) of Boosting the Northern Ireland price sample, we highlighted the small sample size for price quotes as a challenge for constructing a Northern Ireland Consumer Prices Index. To try and overcome the issue of a small sample size we have collaborated with the Consumer Council for Northern Ireland (CCNI) to boost the sample size of the price collection in Northern Ireland, mainly the local collection (prices that are collected from local shopping outlets). This boost was implemented in January 2022 so we now have over two and a half years of boosted price data for Northern Ireland.

In our [second publication](#) of Boosting the Northern Ireland price sample, we implemented an approach to producing experimental region-specific expenditure weights. For expenditure weights, [Living Costs and Food Survey \(LCF\) data](#) can be reconciled to CPI spending totals to provide a regional breakdown. However, disaggregating the LCF sample into country and regions means that the sample sizes are much smaller than the national sample size. As it was not feasible to increase the sample size of each regional breakdown in previous years of LCF data, we created a five-year average weight, centred around 2015 data, which was then adjusted by annual changes in UK weights to create a set of more stable Northern Ireland-specific weights.

## 2 . Areas improved since previous publication

Since the previous publication there has been further development in a number of areas, particularly using more Northern Ireland-specific price indices.

The boosting of Northern Ireland price collection was done on locally collected prices, that is, price collectors visiting outlets and recording prices. However, this only makes up roughly half of the Consumer Prices Index (CPI) basket by weight.

The other half is from central collection where we can collect prices with no field work. Some centrally collected items are collected on the basis that a national pricing policy applies. While other central collections have a regional aspect to them such as rail and bus fares, where possible we have updated these price indices to only use the Northern Ireland data.

We have also incorporated Northern Ireland data from the [Home Heating Oil Price Checker Archive produced by the Consumer Council](#) for Northern Ireland to measure price change for the heating oil class. Heating oil is an important component of the Northern Ireland CPI basket because [68% of Northern Ireland households](#) are reliant on kerosene oil as a source of home heating, compared with 4% of the UK as a whole.

Consumer Council price trackers were also used for [the cost of petrol and diesel fuel in Northern Ireland](#). These estimates should be treated with caution as they were not originally intended to capture price change. The "basket" of items in the tracker is not fixed from month to month, so changes in characteristics could affect the measured price change. For example, different petrol stations could be selected for inclusion, or different domestic energy contracts could be included.

The Index of Private Housing Rental Prices (IPHRP) was used as a better indication of rents in Northern Ireland. Northern Ireland rents data previously were from the local collection with a small number of quotes per location. The IPHRP is a much bigger and more robust administrative data source.

The coverage and classification of item indices within the CPI are based on the international classification system for household consumption expenditures known as the [Classification of Individual Consumption According to Purpose \(COICOP\)](#). COICOP is a hierarchical classification system.

Subclasses are the lowest COICOP level, although item-level indices underlie the COICOP hierarchy. Previous work for the Northern Ireland CPI had focused on weights at subclass level and above. Some subclasses have individual items at regional level and the Northern Ireland item had a much lower weight than the weight given to the items for the other regions of the UK. Where this was the case the Northern Ireland weight was used and scaled up to match the class weight. For example, local authority rents are specified as separate items: England and Wales, Scotland, and Northern Ireland. Therefore, only the Northern Ireland index was used and its item weight was scaled up.

As a result of these changes, we increased the proportion of regional Northern Ireland specific prices within the Northern Ireland CPI to around 75% by weight, an increase from approximately 65% in the previously published index. Some items of the basket will always be collected at a national level, either as they have national pricing policies like Vehicle Excise Duty, or because of challenges of collecting some specific items such as low item availability.

Item-level volatility analysis was also carried out to investigate potential outliers in Northern Ireland price data. There is a tradeoff between excessively volatile data because of sample sizes and making the best use of Northern Ireland-specific data collection. If the resulting volatility would lead to spurious interpretations of the data, it may be preferable to revert to using data for the whole of the UK, under the assumption that it is likely to give a truer picture of the underlying trends.

For example, hotel prices collected for Northern Ireland had a low sample size and were excessively volatile with large price swings month to month. As a result, it was decided to replace the Northern Ireland hotel item index with the UK hotel index. Further investigation is needed to better identify and replace outliers within the Northern Ireland data, as well as determining optimal sample sizes for specific items to reduce volatility.

### 3 . Results

In this section, we present the experimental Northern Ireland Consumer Prices Index (CPI) and how it compares with the UK CPI. We show 31 months of data, including 19 months of annual rates and their contributions.

These estimates reflect the current outcome of this pilot and our research on sample sizes and weights. We are still investigating methodologies and so results are likely to change in future iterations. We have not identified an optimal sample size and as a result there may be volatile or unusual effects that are not genuine movements for Northern Ireland, but instead are a result of sampling issues. We do not recommend the use of these metrics for policy or decision-making purposes.

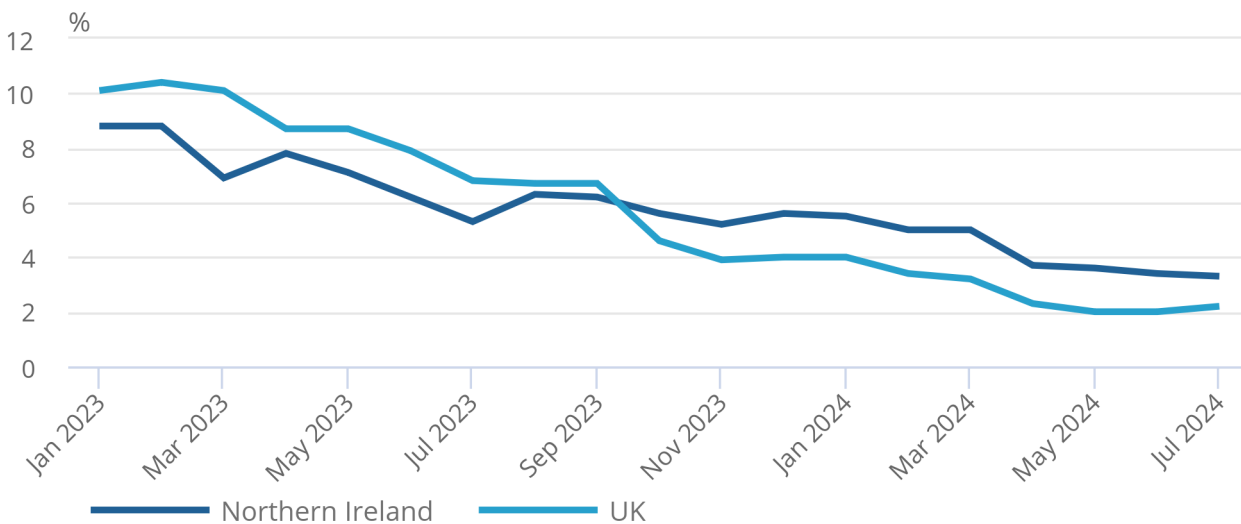
The weighting of the CPI basket for a household in Northern Ireland will be different to one in the UK because of different spending patterns. Therefore, the results presented here show a combination of differing inflation rates in Northern Ireland and the UK as well as differing basket weights. For example, prices for individual items in Northern Ireland might be going up at the same rate as those in the UK. However, if spending patterns differ between Northern Ireland and the UK, this will cause a difference between the Northern Ireland and the UK index. Note this does not indicate how the absolute level of prices in Northern Ireland compares with the UK as a whole - it only reflects changes in the level of prices since the start of 2022.

**Figure 1: Experimental Northern Ireland annual CPI inflation has been higher than the UK since October 2023**

UK and Northern Ireland, annual inflation rate, January 2023 to July 2024

Figure 1: Experimental Northern Ireland annual CPI inflation has been higher than the UK since October 2023

UK and Northern Ireland, annual inflation rate, January 2023 to July 2024



Source: Consumer Prices Index data from the Office for National Statistics

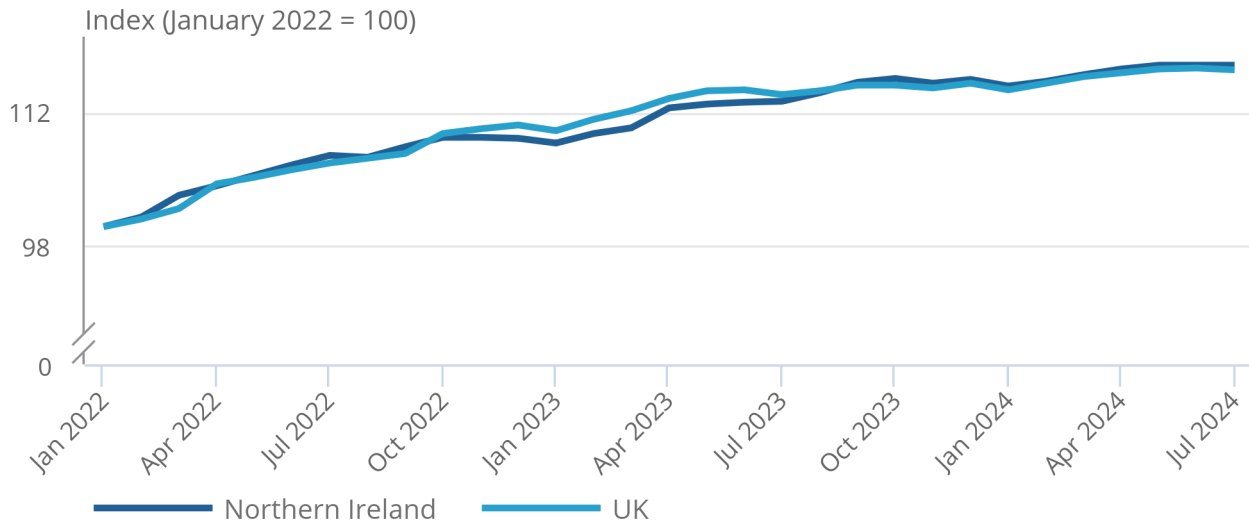
The rate of [UK annual inflation](#) peaked at 11.1% in October 2022 and has been broadly easing ever since. Figure 1 shows that the annual rate for the experimental Northern Ireland Consumer Prices Index was lower than the UK from January 2023 to September 2023. However, the UK annual inflation rate decreased more rapidly than Northern Ireland, with UK annual inflation dropping below that of Northern Ireland from October 2023. The latest figure in July 2024 is 3.3% for Northern Ireland compared with the UK's 2.2%.

**Figure 2: Experimental Northern Ireland CPI is higher than the UK since September 2023 while previously was below the UK since October 2022**

Consumer Prices Index (CPI), UK and Northern Ireland, January 2022 to July 2024

Figure 2: Experimental Northern Ireland CPI is higher than the UK since September 2023 while previously was below the UK since October 2022

Consumer Prices Index (CPI), UK and Northern Ireland, January 2022 to July 2024



Source: Consumer Prices Index data from the Office for National Statistics

Notes:

1. The UK index is indexed to January 2022. This is different from the headline UK CPI which is indexed to January 2015.

Figure 2 shows that cumulatively, between January 2022 and July 2024, Northern Ireland inflation was slightly higher at 17% compared with 16.5% for the UK.

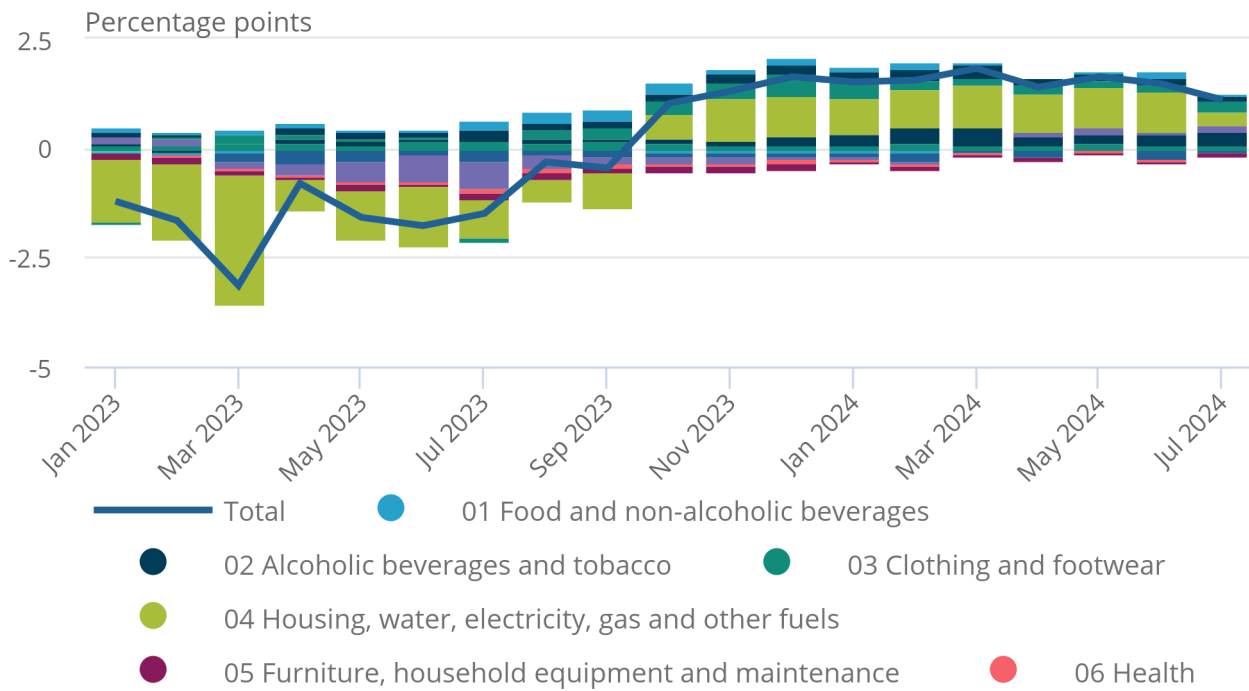
Figure 3 compares the differences in contributions to the annual rates of inflation between the experimental Northern Ireland CPI and the published UK CPI. Each chart shows how each of the 12 spending categories contributes to the difference in the annual inflation rate. The sum of the contributions in any given month is equal to the overall difference in the annual inflation rate.

**Figure 3: Housing, water, electricity, gas and other fuels caused the largest difference in the annual rate between the UK and Northern Ireland CPI between January 2023 and July 2024**

Differences in contributions between Northern Ireland and the UK in the annual Consumer Prices Index (CPI) inflation rate, January 2023 to July 2024

Figure 3: Housing, water, electricity, gas and other fuels caused the largest difference in the annual rate between the UK and Northern Ireland CPI between January 2023 and July 2024

Differences in contributions between Northern Ireland and the UK in the annual Consumer Prices Index (CPI) inflation rate, January 2023 to July 2024



Source: Consumer Prices Index data from the Office for National Statistics

There are differences in energy sources between Northern Ireland and the rest of the UK. The electricity industry in Northern Ireland operates as a single wholesale market across the island of Ireland, which is known as the Single Electricity Market (SEM).

Northern Ireland is also much more reliant on heating oil as a source of home heating compared with Great Britain. Therefore, liquid fuels have a higher weight in the Northern Ireland CPI and gas a lower weight. Gas experienced very high inflation throughout the first six months of 2023 while inflation rates in heating oil were not as high, and heating oil experienced negative inflation earlier in 2023 compared with gas.

The opposite effect has then been taking place since October 2023 with both gas and heating oil experiencing negative inflation but gas again being of larger magnitude. Therefore, gas and other fuels had a stronger downward effect on UK annual inflation since October 2023 than Northern Ireland is experiencing.

## 4 . Future developments

It is important to note that this is still early work for producing regional inflation and the estimates produced thus far are not yet considered robust enough for regular experimental production. In this section, we discuss possible next steps to improve estimates of consumer price inflation for Northern Ireland.

Since our previous publications, we have presented our methodology and suggestions for future work to the [Technical Advisory Panel](#) on Consumer Prices who provided feedback and advice for areas of future development.

As a result of this we plan to further review our weighting methodology. The methodology detailed in our previous publication was seen as the best option because of the low sample size of Northern Ireland expenditure weights, which can lead to volatility in weights between years. A five-year average around 2015 was taken, which was then uplifted in line with UK changes to create a stable data time series. However, there is an implicit assumption that changes in weights between Northern Ireland and the UK are similar. Future work will investigate this assumption.

Instead of using a 2015-based five-year average, a five-year rolling average may be a better solution over the long term. However, it is unlikely to respond dynamically to the kinds of expenditure shifts seen over the coronavirus (COVID-19) pandemic. Therefore 2022 to 2024 do not provide a good test case.

Another area to investigate is looking at lower Classification of Individual Consumption According to Purpose (COICOP)-level breakdowns in the Living Costs and Food Survey (LCF) data. LCF relies on participants filling in a diary over a two-week time period. As a result of this, the data are more reliable for regular expenditure such as groceries. For some of these areas a single year of Northern Ireland survey data may be a good estimate of spending. While for areas with more infrequent spending volatility in the results may be higher. Therefore, for these we may need to continue with taking a multi-year average.

The Office for National Statistics (ONS) is undertaking a [programme of transformation](#) across our consumer price statistics, including identifying new data sources, improving methods and developing systems to improve the Consumer Prices Index (CPI) and CPI including owner occupiers' housing costs (CPIH). Where possible, we will look to bring these improvements to the Northern Ireland CPI.

Another area planned is building on the work on item-level volatility analysis, by improving identification and treatment of excessively volatile Northern Ireland prices within the data. Creating logic for determining when it is worth using a Northern Ireland-specific price or when it is bringing in excessive volatility and replacing an outlier price point or the whole item index with a proxy such as the UK index would give a clearer picture of Northern Ireland trends.

Finally, we have not yet investigated how much the boosted sample size is benefitting the results. The boost improves the quality of the Northern Ireland CPI, however, work that we have been doing with Southampton University on using standard errors will help us to define the true impact of the boost and what sample sizes are needed per region or country.

## 5 . Related links

[Boosting the Northern Ireland price sample for the Consumer Prices Index](#)

Methodology article | Released 20 September 2022

Details of work that the Office for National Statistics is undertaking to produce consumer price inflation estimates for Northern Ireland through a sample boost to the price collection.

[Boosting the Northern Ireland price sample for the Consumer Prices Index, including experimental regional weighting](#)

Methodology article | Released 19 May 2023

Update on the Office for National Statistics' work to produce consumer price inflation estimates for Northern Ireland through a sample boost to the price collection.

[Consumer price inflation, UK](#)

Bulletin | Monthly

Price indices, percentage changes, and weights for the different measures of consumer price inflation.

## 6 . Cite this article

Office for National Statistics (ONS), released 29 October 2024, ONS website, article, [Developing a Northern Ireland Consumer Prices Index: October 2024](#).