Affinity Water

AFW25 - Real price effects retail - KPMG

Affinity Water
Taking care of your water

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21 September 2023

Ofwat
Centre City Tower
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Dear Ofwat

Retail Inflation: assessment of input price inflation for retail services at PR24

We attach a copy of a confidential report dated September 2023 (the "Report") prepared by KPMG LLP ("KPMG") for us. The Report was solely prepared for Affinity Water Limited.

KPMG has agreed that we may disclose the attached Report to you, on the basis set out in this letter, to enable you to verify that a report has been commissioned by us and issued by KPMG in connection with PR24 Price Control review, and to facilitate the discharge by you of your regulatory functions in respect of Affinity Water Limited subject to the remaining paragraphs of this letter, to which your attention is drawn. KPMG has also agreed that you may publish the Report (in full only) on your website pages.

KPMG's work was designed to meet our agreed requirements and the engagement activities were determined by our needs at the time. The Report should not be regarded as suitable to be used or relied on by any party other than us for any purpose or in any context.

In consenting to the disclosure of the Report to you KPMG does not assume any responsibility to you in respect of its work for us or the Report. To the fullest extent permitted by law, KPMG accepts no liability in respect of any such matters to you. If you rely on the Report, you do so at your own risk.

Yours faithfully

[redacted]

Liv Walton

Director of Regulation and Strategy

Input Price Inflation for Residential Retail at PR24

Prepared for Affinity Water

Strictly private and confidential

September 2023

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Affinity Water has commissioned KPMG to write a report on input price inflation in residential retail for PR24. In this instance, we consent that Affinity discloses the report to the Water Services Regulation Authority ("Ofwat") in the context of the next price control ("PR24") subject to entering into a suitable transmittal letter.

KPMG did not assist Affinity Water in preparation of any aspect of its PR24 business plans regarding input price inflation, which remains the sole responsibility of the company. KPMG has not made any decisions for the company and has not assumed any responsibility in respect of any aspect of the Business Plan including what the company decides, or has decided to, include in its business plan.

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Although we endeavour to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future.

The opinions and conclusions expressed in this report are (subject to the foregoing) those of KPMG and do not necessarily align with those of Affinity.

Contents

1 Executive summary

As part of its PR24 business plan submission to Ofwat, Affinity Water is required to provide forecasts of input price inflation for its retail services for the five-year period 2025-30 ("AMP8").

To help inform its forecasts, Affinity Water commissioned KPMG to develop potential scenarios of retail input price inflation for AMP8.

The context

The retail price controls were introduced at PR14. Unlike the wholesale controls, which are automatically indexed to the CPIH,[1] the retail controls are not automatically indexed to a measure of inflation.

In its PR24 final methodology, Ofwat confirmed that it would continue with the policy of not indexing retail controls to inflation, but that an ex-ante inflation allowance may be provided:

> "Expected input price pressure could, to the extent appropriate, be reflected in the revenue limit we set for companies at the outset of the price control. For example, if there is convincing evidence of significant projected increases in labour costs, we will consider making an adjustment for this. We will use this approach instead of automatic indexation of allowed revenue each year. This means that companies' allowed revenue will not change in line with the general level of inflation within the price control period. This approach provides appropriate incentives for retailers to manage input costs, given they are best placed to do so."[2]

In this context, companies' evidence on expected inflation at PR24 can feed into Ofwat's consideration of whether inflation should be reflected in allowed retail revenue.

Our approach

To develop input price inflation scenarios for retail services, Affinity Water provided their 2022-23 retail costs for each cost centre as well as their retail cost forecasts for AMP8 split by retail cost categories. Based on these details, five input categories for which inflation should be considered were identified: (i) labour (ii) bad debt (iii) IT (iv) postage, and (v) other inputs.

To develop inflation scenarios for each input, the Office for Budget Responsibility's (OBR) medium-term forecasts for relevant metrics was used as a starting point. Forecasts of average UK earnings growth was used for labour and the CPI inflation forecasts were used for all other inputs.[3]

The historical wedge between the input inflation and the CPI inflation or UK average earning growth, as appropriate, was analysed for each input. Based on this analysis, a central case wedge scenario is obtained for each input. The assessment of a central wedge scenario is based on an analysis of the average and median wedges and their sensitivity to different time

[1] The CPIH is the Consumer Price Index including owner occupiers' housing costs.
[2] Our final methodology for PR24, Ofwat, December 2022, page 40.
[3] UK average growth forecasts are constructed by dividing the National Accounts measure of wages and salaries by the number of employees. Source: Labour market - Office for Budget Responsibility (obr.uk). OBR forecasts are provided in appendix 1.

periods and/or exclusion of atypical years. The wedge is then used in conjunction with the corresponding OBR forecast to arrive at a central case inflation scenario for each input.

This approach is transparent and proportionate given the inherent uncertainties around inflation forecasting and the materiality of costs associated with each input.

Summary of results

Figure 1 provides the input building blocks of residential retail services at Affinity Water, their weight (i.e., their expected share in Affinity's total retail costs at PR24) and the expected annual inflation rate under the central scenario. All inflations in this report are nominal.

Figure 1: Annual inflation forecasts for each input in the residential retail service

Input	Weight	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Labour	47.2%	3.52%	1.07%	1.07%	1.47%	1.88%	2.90%	3.00%
Bad debt	25.0%	3.70%	0.43%	-0.15%	0.65%	1.48%	1.72%	1.72%
IT	9.0%	1.26%	-0.86%	-1.24%	-0.72%	-0.18%	-0.02%	-0.02%
Postage	4.3%	6.02%	2.50%	1.87%	2.73%	3.62%	3.89%	3.89%
Other	14.5%	4.00%	0.47%	-0.16%	0.70%	1.60%	1.86%	1.86%
Weighted avg. inflation	**100.0%**	**3.53%**	**0.71%**	**0.41%**	**1.01%**	**1.63%**	**2.23%**	**2.28%**

Source: KPMG analysis of Affinity Water's retail costs and ONS and OBR inflation data.

Affinity's expenditure on residential retail services is expected at circa £32m per year during AMP8. Based on the central case retail inflation is expected at an average of £0.48m per year or £2.4m for AMP8.

Funding retail inflation at PR24

At PR19 Ofwat, in conjunction with Europe Economics, established a framework to assess the case for real price effects (RPEs).[4] The framework consists of three criteria:

- Is there a significant likelihood that the wedge between the input price inflation and the CPIH will materially differ from zero over the period of the price control?[5]
- Are there sufficient and convincing reasons to think that CPIH does not adequately capture the input price?[6]
- Is the input price and exposure to that input price outside management control during the duration of the price control?

The analysis carried out and presented in this report shows that expected inflation for all retail inputs, except for IT, passes these criteria. The evidence shows that inflation for all retail inputs but IT, and for overall retail costs, is robustly positive and above 1%.

[4] Real price effects is the inflation faced by a water company over and above the measure of inflation that its revenues are automatically indexed to. In the case of wholesale, the CPIH. In the case of retail, because there is no automatic indexation, RPEs are the same as the input price inflation.
[5] For retail, CPIH should replace with zero, as there is no indexation to the CPIH or any other measure of inflation.
[6] This criterion is irrelevant for retail as there is no underlying indexation to the CPIH.

2 Inputs to the provision of retail services

Expenditure on residential retail services is reported annually in companies' Annual Performance Reports (APRs) for the following categories:

- Customer service
- Debt management
- Doubtful debt
- Meter reading
- Other operating expenditure
- Local authority and Cumulo rates

For PR24, Ofwat requests companies to provide their cost forecasts for the retail categories above for the period 2025-30. In addition, companies provide their input price inflation (IPI) assumptions over the same period.

Affinity Water commissioned KPMG to develop potential scenarios of retail IPI for AMP8.

As a first step, the relevant 'inputs' for which to forecast input inflation were identified.

Consultations were held with Affinity to determine the relevant cost inputs feeding into the APR categories above, and their respective weights at AMP8. The analysis relied mainly on two sources:

- Affinity Water's detailed 2022-23 retail cost allocation file; and
- Affinity Water's retail cost forecasts for AMP8.

Based on this information, Affinity Water's retail costs were classified into five cost categories with respective weights as shown in figure 2.

Figure 2: Input categories and weights for calculating residential retail IPI in AMP8

Input	Expected weight in AMP8
Labour	47.2%
Bad debt	25.0%
IT	9.0%
Postage	4.3%
Other	14.5%

Source: KPMG analysis in consultation with Affinity.

3 Input price inflation forecasts

The data and assessment used to derive an inflation forecast for each of the five input categories in figure 2 are described below.

3.1 Labour

Labour is a dominant input in the provision of retail services. Activities such as customer service, debt management, meter reading and other operating expenditure are all labour intensive. The labour share for Affinity is estimated at 47.2% of total retail costs.

3.1.1 Measures of labour price inflation

The OBR provides short and medium-term forecasts of UK average earnings growth.[7] Using these forecasts as estimates of water companies' labour inflation may be a pragmatic approach given inherent uncertainties involved in inflation forecasting. Indeed, both Ofwat and Ofgem have assumed that labour inflation would evolve in line with OBR forecast of earnings growth in recent price controls (e.g., PR19 and RIIO-ED2).

However, the OBR forecasts of UK average earnings growth are for the whole economy. That is, it includes all sectors and occupations, some of which may be irrelevant for water companies' retail services, whose inflation may be driven by factors that do not impact the prices of retail inputs.

Therefore, a retail-specific wage index for water companies was constructed using the ONS Annual Survey of Hours and Earnings (ASHE) data, which provides survey data on earnings in the UK for different Standard Occupational Classifications (SOCs). In discussions with Affinity Water, the SOCs that are likely to be relevant for water companies' retail services were selected. Weights for each SOC were assigned based on the occupation's share in total retail labour costs, and a weighted average (gross) hourly wage for each year from 2011 to 2022 was calculated.[8]

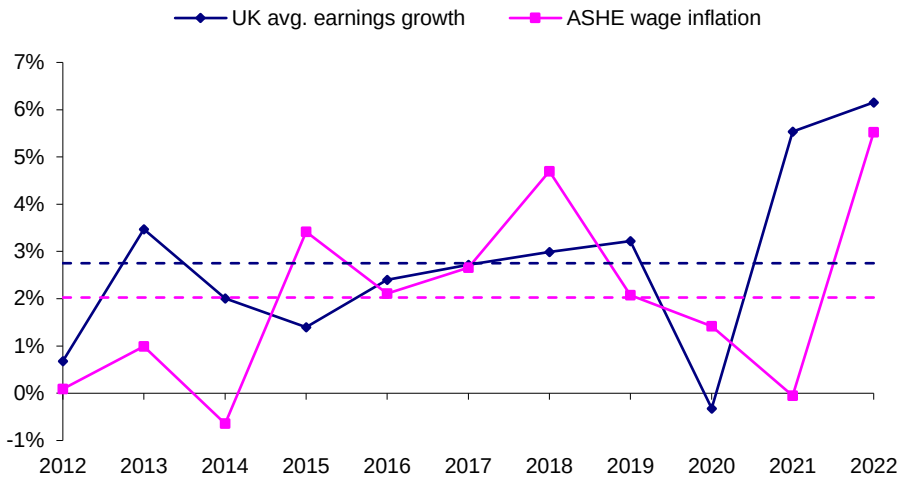
Based on this, an annual inflation for the retail-specific ASHE index was constructed and compared with the UK average earnings growth, which includes all occupations.

Figure 3 shows outturn annual UK earnings growth and ASHE-retail inflation from 2012 to 2022. Inflation rates were robustly positive, with respective averages of 2.75% and 2.03% denoted by the dotted lines.

[7] See Labour market - Office for Budget Responsibility (obr.uk).

[8] The ASHE provides earnings data at different levels of granularity, from the least granular – SOC level 1 – to the most granular – SOC level 4. The more granular the data, the more relevant it may be, but the less accurate and robust it is due to a smaller sample. The analysis in this report is based on SOC level 2. A sensitivity check carried out at SOC level 3 resulted in minimal and non-material differences.

Figure 3: UK average earnings growth vs ASHE-retail inflation

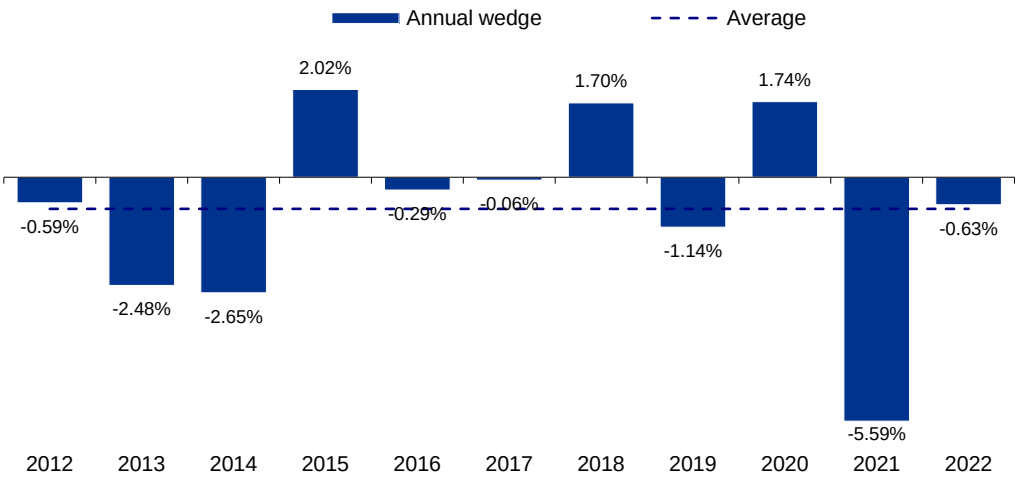


Source: KPMG analysis of ONS' ASHE data and OBR's UK average earnings forecast.

3.1.2 Wedge assessment

Figure 4 shows annual wedges from 2012 to 2022 and the average wedge over the period. The average wedge over the period is -0.73%. The median wedge is -0.59%.

Figure 4: Wedge between UK average earnings growth and ASHE-retail inflation



Source: KPMG analysis of ONS' ASHE data and OBR's UK average earnings forecast.

The ONS has advised caution when using ASHE data from 2020 and 2021: "Data collection disruption and lower response rates mean that, for 2020 and 2021, data were subject to more uncertainty and should be treated with caution".[9] Removing data of the years 2020 and 2021 from the sample reduces the average wedge to -0.46% (and a median of -0.59%).

On the evidence above, a range of -0.46% to -0.73% is used as a plausible basis for wedge scenarios relating to the difference between average UK earnings growth and retail labour inflation. The mid-point, -0.59% is used to generate a central case inflation scenario.

[9] ONS website: Employee earnings in the UK - Office for National Statistics (ons.gov.uk).

3.1.3 Forecasts of labour price inflation

Figure 5 provides low, central, and high inflation scenarios for labour costs. These were obtained by adding -0.73%, -0.59% and -0.46% respectively to the OBR's UK average earnings forecasts.

Figure 5: Annual inflation forecasts for labour costs

Input	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Low case	3.38%	0.94%	0.94%	1.33%	1.75%	2.77%	2.87%
Central case	3.52%	1.07%	1.07%	1.47%	1.88%	2.90%	3.00%
High case	3.65%	1.20%	1.21%	1.60%	2.02%	3.04%	3.14%

Source: KPMG analysis of ONS' ASHE data and OBR's UK average earnings forecast.

3.2 Bad debt

Bad debt (or, doubtful debt) is the total amount of unpaid bills. Put differently, it is the total amount of uncollected revenue.

Based on Affinity's forecasts for PR24, its bad debt costs are expected to account for 25% of total retail costs in AMP8.

3.2.1 What is the input price inflation on bad debt?

Bad debt is not a conventional input like labour, energy, or even IT and postage. The total amount of bad debt cost per company would be affected by factors such as: number of customers, average bill size (higher bills trigger more non-payments, and each non-payment adds a larger amount to the company's bad debt compared to where bills are lower), deprivation levels and others.

The main interaction of bad debt with inflation is through its interaction with bills. Since allowed revenue is indexed to the CPIH, so are customers' bills (on average). This means that bad debt, being the number of unpaid bills times average bill size, will, in turn, increase by the same rate as the CPIH.

Therefore, the CPIH is used as the input price inflation for bad debt.

Because only the wholesale controls are indexed to the CPIH, bad debt will increase in line with the CPIH to the extent that bills increase to recover wholesale revenue. Based on Affinity's forecasts, the share of wholesale costs at AMP8 is 92.5% hence the analysis assumes that 92.5% of bad debt (uncollected revenue) is exposed to the CPIH inflation.

3.2.2 Wedge assessment between the CPI and CPIH inflation

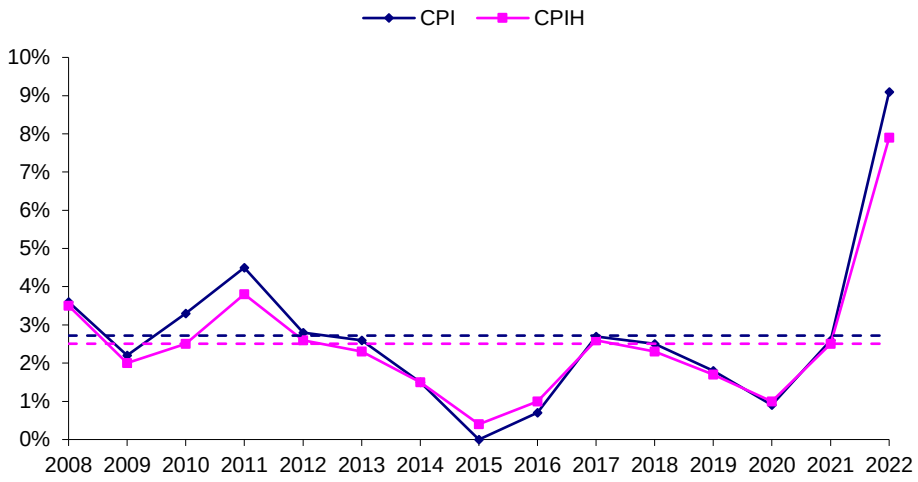
Consistent with the above, estimates of CPIH inflation for the period 2025-30 were developed to forecast bad debt inflation in AMP8.

To do that, the historical wedge between the CPI and CPIH were assessed. Plausible wedge scenarios were then appended to the OBR's CPI forecasts to obtain estimates of future CPIH inflation.[10]

Figure 6 shows outturn annual CPI and CPIH inflation from 2008 to 2022. The respective average inflation was 2.72% and 2.51% with a wedge of -0.21%.

[10] The OBR does not provide inflation forecasts for the CPIH. It provides inflation forecasts for the CPI.

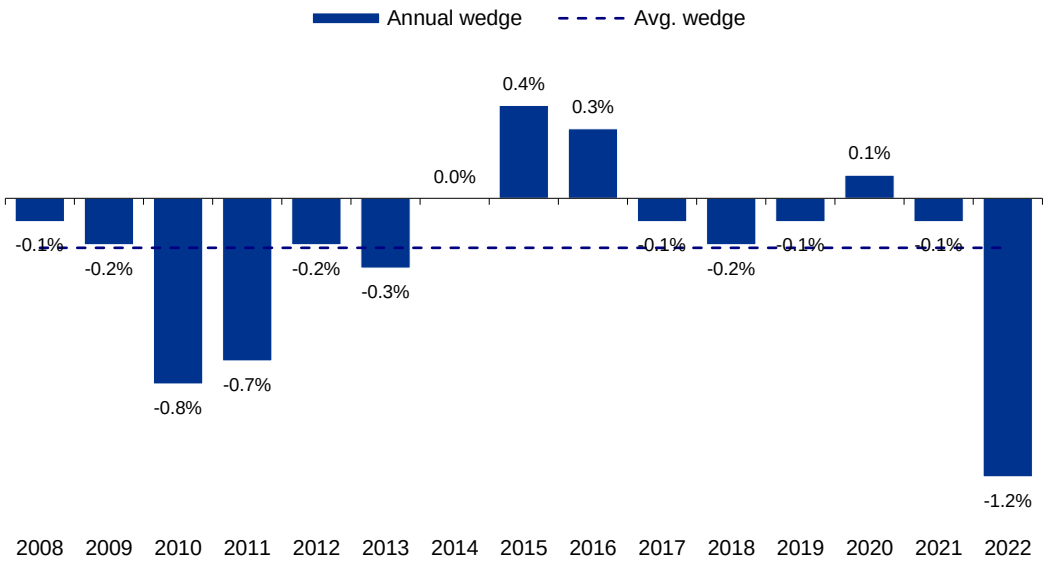
Figure 6: CPI and CPIH inflation



Source: KPMG analysis of ONS' CPI and CPIH data.

Figure 7 shows the wedge between the two inflation measures for each year in 2008-2022. The average wedge of -0.21%.

Figure 7: Annual and average wedge between the CPI and CPIH



Source: KPMG analysis of ONS' CPI and CPIH data.

The average wedge is sensitive to the time period considered. The year 2022 had an atypically high CPI and CPIH inflation for the period considered, with a corresponding high wedge and disproportionate influence on the average wedge. Removing the year 2022 from the sample reduces the wedge to -0.14%. If more weight is put on recent years, while still excluding the atypical year 2022, the negative wedge disappears completely.

On examination of average and median wedges at different time periods, the following wedges were used to generate plausible CPIH inflation scenarios:

- A wedge of -0.14% as a plausible estimate for a central case inflation scenario. This is the average wedge over the period 2008-2022 excluding the year 2022.
- A wedge of -0.21% as a plausible estimate for a low case inflation scenario. This is the average wedge across all years in the sample.
- A wedge of -0.07% as a plausible estimate for a high case inflation. This value provides symmetry around the central estimate and is more in line with the average wedge over the last 10 years.

3.2.3 Forecasts of bad debt inflation

Figure 8 provides low, central and high case scenarios for bad debt inflation. This is based on CPIH forecasts that is equal to the OBR's CPI forecast plus the wedges identified above.

The rates in figure 8 also incorporate the fact that only the wholesale share of uncollected revenues are indexed to the CPIH. Thus, the inflation scenarios are calculated using a weight of 92.5% on the CPIH and with 7.5% weight on zero inflation (reflecting no indexation of the retail share of the uncollected revenues).

Figure 8: Annual inflation forecasts for bad debt

Input	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Low case	3.63%	0.37%	-0.21%	0.58%	1.41%	1.66%	1.66%
Central case	3.70%	0.43%	-0.15%	0.65%	1.48%	1.72%	1.72%
High case	3.76%	0.50%	-0.09%	0.71%	1.54%	1.79%	1.79%

Source: KPMG analysis of ONS' CPI and CPIH data, and the OBR's CPI forecast.

3.3 Information technology (IT)

The IT category includes expenditure on fixed and mobile telephones, computers, software, and a significant share related to specialised business software and equipment. Overall, IT accounts for c.9% of Affinity Water's total retail cost.

3.3.1 Selecting price indices for IT

The ONS provides several IT-related price indices. Some price indices are sub-components of the CPI, such as price indices for personal computers, software, fixed and mobile telephones, internet access, etc.

Other indices are sub-components of the Producer Price Index (PPI). These include input indices, which aim to measure the prices of all materials and fuels used in the production of computers and electrical products, and output indices, which measure the factory gate price received by UK manufacturers for their goods. The PPI output series may be more relevant than an input series, given that water companies are not manufacturers of IT equipment.

Affinity's IT expenditure in 2022-23 was examined. 60% of the expenditure was related to overhead allocation of general business IT systems (e.g., finance and security systems) and a direct allocation of specialised IT systems (e.g., billing system, debt management system).

For this expenditure the GB83 series (see figure 9) is used. The GB83 is the main PPI output index for IT and is particularly useful for IT equipment that is not intended for personal use.

The remaining expenditure was related to telephones (fixed and mobile), computers, software and infrastructure. For each type of expenditure, a weight based on its share of expenditure in 2022-23, was determined, and a suitable CPI sub-index to track its inflation was obtained.

Figure 9 provides the price indices used for IT and their respective weights.

Figure 9: IT indices used and their respective weights

ONS' Series ID	Description	Weight
GB83	PPI: Outputs of Computer, Electronic & Electrical Products	60.0%
J3DJ	CPI: Fixed telephone equipment	5.0%
J3DK	CPI: Mobile telephone equipment	0.6%
J3DL	CPI: Wired telephone services	16.8%
D7J3	CPI: Data processing equipment	14.7%
L7S3	CPI: Personal computers	2.0%
L7S5	CPI: Software	0.9%

Source: ONS CPI and PPI data, KPMG analysis of Affinity's IT expenditure in 2022-23.

3.3.2 Forecasts of IT inflation

Two approaches are combined to forecast IT inflation.

The GB83 inflation index is highly correlated with CPI inflation (a correlation of 0.75 over the entire period). Therefore, the wedge approach is used. That is, a plausible wedge between the historical GB83 and the CPI was assessed and then appended to the OBR's CPI forecast to arrive at forecasts for the GB83.

The CPI sub-indices are poorly correlated with the CPIs so the wedge approach was not used. Rather, the average of each index over the period 2016 to 2022 (there is no data on these indices prior to 2016) was calculated and extrapolated to the period 2025-30.

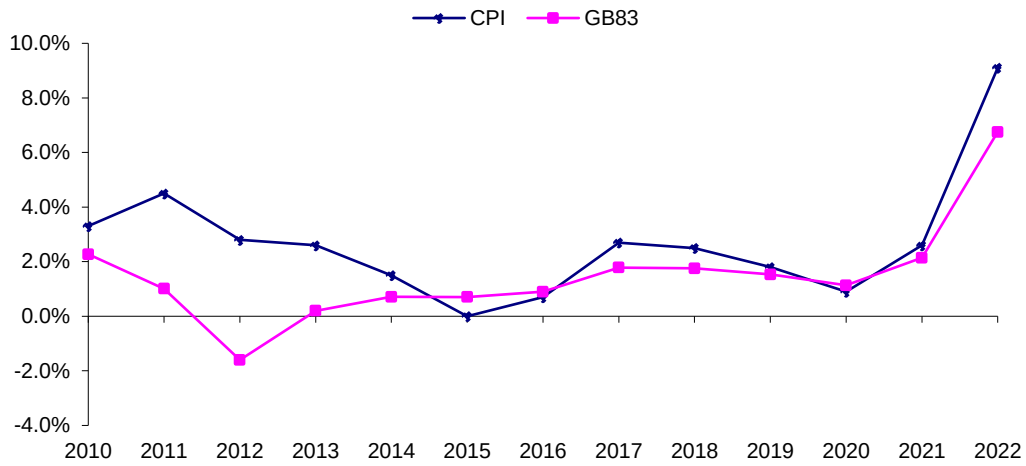
The analysis and results of the two approaches are described below.

3.3.3 Wedge assessment between the CPI and the GB83 index

Figure 10 shows the CPI and GB83 inflation indices over time and figure 11 shows the annual wedge between the indices. The GB83 inflation is mainly below the CPI inflation, with an average wedge of -1.21% across the entire period. Since 2014 the wedge between the indices was consistently low, negative or positive, except for the year 2022. The average wedge over the last 5-year period is -0.72%.

For forecasting plausible IT inflation scenarios in light of the evidence above, -1.21%, -1.0% and -0.72% are the wedges feeding to the low, central and high inflation scenario respectively.

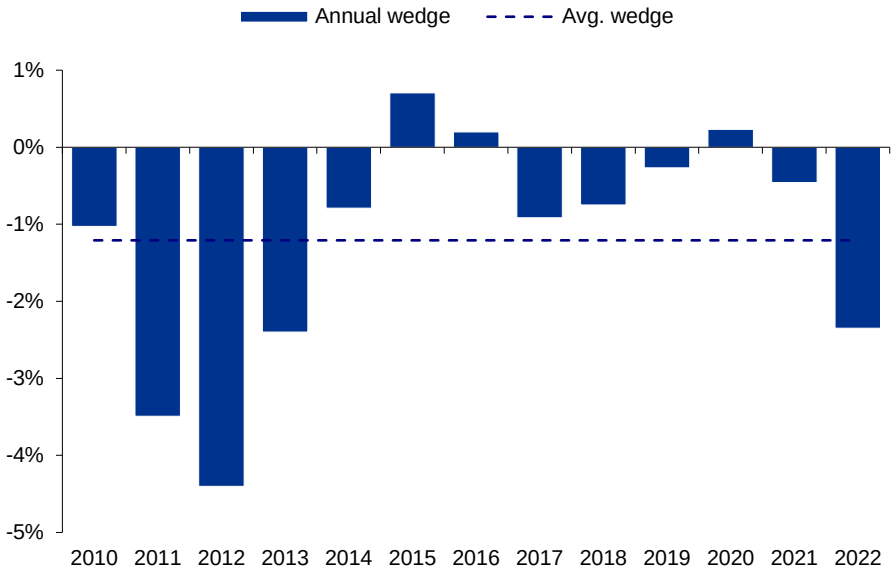
Figure 10: CPI and GB83 inflation*



* The GB83 is an output series of the PPI measuring inflation for 'Outputs of Computer, Electronic & Electrical Products'.

Source: KPMG analysis of ONS' CPI and PPI data.

Figure 11: Annual and average wedge between the CPI GB83 inflation

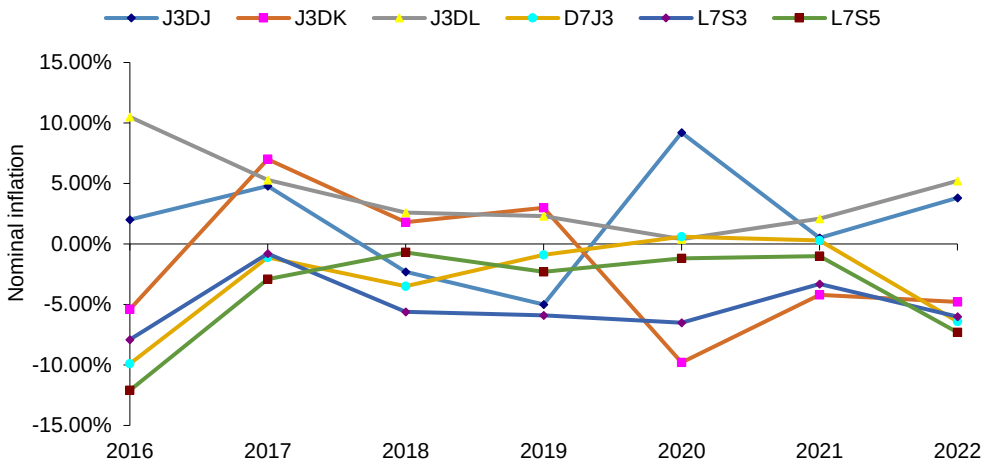


Source: KPMG analysis of ONS' CPI and PPI data.

3.3.4 Inflation of CPI IT indices

Figure 12 provides historical annual inflation rates for the various CPI-IT indices used (as provided in figure 9). Data is available only from the year 2016.

Figure 12: Annual inflation of IT-related indices of the CPI



Source: KPMG analysis of ONS' CPI data.

Figure 13 provides average inflation for each series over the period 2016-2022 and the weight of each series based on Affinity's spend in 2022-23. The bottom line provides the weighted average inflation obtained for these IT inputs, and their overall weight of total IT expenditure. This weighted average would be used as a central case inflation scenario for AMP8, associated with 40% of IT expenditure (the remaining 60% weight is assigned to the GB83 index).

Figure 13: Average inflation of IT-related indices of the CPI

ONS' Series ID	Description	Weight	Avg. annual inflation
J3DJ	CPI: Fixed telephone equipment	5.0%	1.86%
J3DK	CPI: Mobile telephone equipment	0.6%	-1.77%
J3DL	CPI: Wired telephone services	16.8%	4.06%
D7J3	CPI: Data processing equipment	14.7%	-5.75%
L7S3	CPI: Personal computers	2.0%	-5.14%
L7S5	CPI: Software	0.9%	-3.93%
Weighted avg. inflation		40.0%	-0.56%

Source: KPMG analysis of ONS' CPI data.

3.3.5 Forecasts of IT price inflation

To generate inflation scenarios for IT costs, the two components discussed above are added together:

- The inflation forecasts for business IT systems, with a weight of 60%. These forecasts are obtained by adding a wedge (low scenario: -1.21%; central scenario: -1.00%; high scenario: -0.72%) to the OBR's CPI forecasts.

- The inflation forecast on a range of IT equipment, including telephones, computers and infrastructure, with a weight of 40%. The inflation forecast is the same for each year at -0.56% per year.

Figure 14 provides the resulting IT inflation scenarios.

Figure 14: Annual inflation forecasts for IT

Input	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Low case	1.05%	-1.07%	-1.44%	-0.93%	-0.39%	-0.23%	-0.23%
Central case	1.26%	-0.86%	-1.24%	-0.72%	-0.18%	-0.02%	-0.02%
High case	1.54%	-0.58%	-0.95%	-0.44%	0.10%	0.26%	0.26%

Source: KPMG analysis of ONS' CPI and PPI data.

3.4 Postage

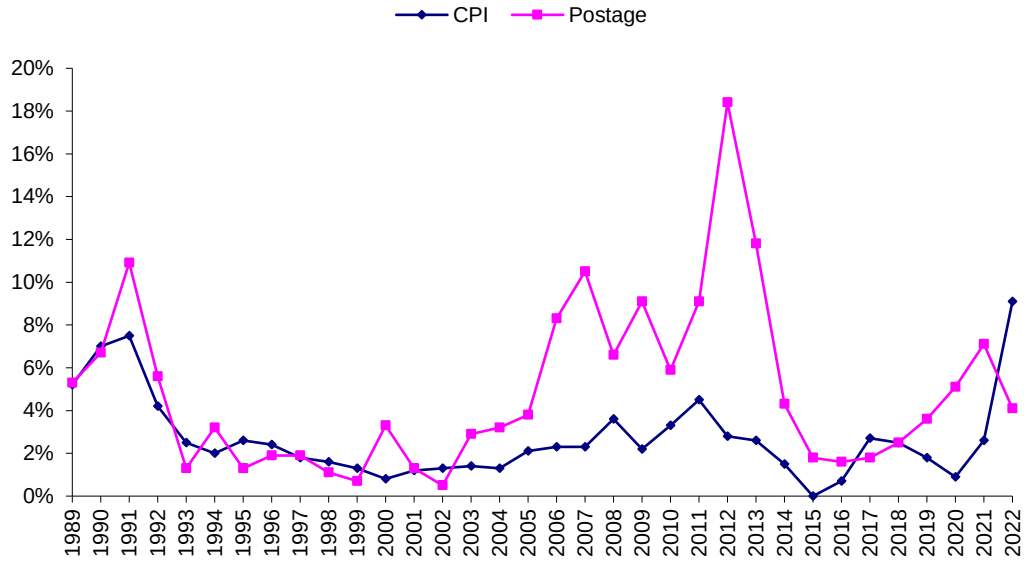
Postage costs account for c.4% of Affinity Water's total retail cost.

The ONS provides a price index for postal services. The postal services index is a sub-index of the CPI.[11]

3.4.1 Wedge assessment between the CPI and postage inflation

Figure 15 shows annual postal and CPI inflation from 1989 to 2022. Across the entire period for which data is available, the average wedge is 2.20% (i.e., postage inflation has been higher than CPI inflation).

Figure 15: CPI and postage inflation

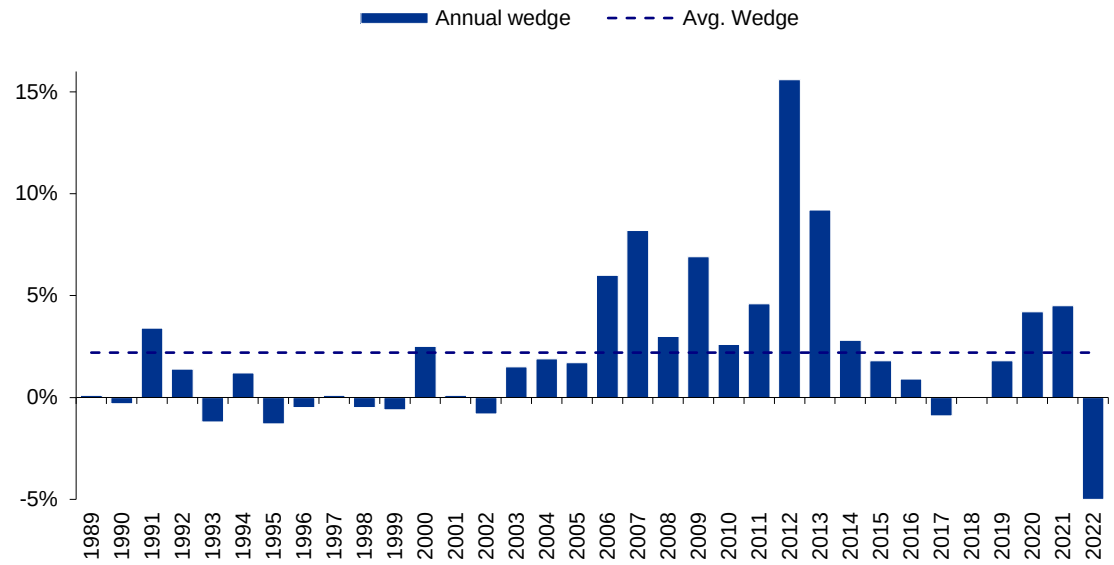


Source: KPMG analysis of ONS' CPI data.

The spike in postage inflation in 2012 reflects the removal of the price cap by Ofcom before Royal Mail's privatisation in 2013. Removing the year 2012 reduces the average wedge to 1.80%. Using the period 2014-2021, which excludes pre–Royal Mail privatisation years, as well as the atypical year 2022, an average wedge of 1.89% is obtained. This is used as the wedge for the central case inflation scenario.

[11] CPI index 0.8.1: Postal services, series ID D7CR (inflation series ID D7H5).

Figure 16: Annual wedge between the CPI and postage inflation



Source: KPMG analysis of ONS' CPI data.

3.4.2 Forecasts of postage price inflation

To generate a central case inflation scenario for postage costs, a wedge of +1.89% is applied to the OBR's CPI forecasts.

For the high inflation scenario, a wedge of 2.01%, obtained by removing the atypical years 2012 and 2022, is used. For a low inflation scenario, a wedge of 1.80%, obtained by removing the year 2012 only, is used.

Figure 17: Annual inflation forecasts for postal services

Input	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Low case	5.93%	2.41%	1.77%	2.64%	3.53%	3.80%	3.80%
Central case	6.02%	2.50%	1.87%	2.73%	3.62%	3.89%	3.89%
High case	6.15%	2.62%	1.99%	2.85%	3.75%	4.01%	4.01%

Source: KPMG analysis of ONS' CPI data and the OBR's CPI forecast.

3.5 Other

Other costs in the provisions of retail services, which are not included in the above sections, are estimated at 14.5% of total retail costs. They include

- Facilities and buildings costs
- Business rates
- Allocation of overheads
- Attribution of HR/legal/insurance costs
- Offices supplies attributed to retail services
- Petrol and energy costs for retail activities

Business rates represent c. 0.6% of total retail costs for Affinity Water. Alongside the revaluation, business rates are updated every year in line with inflation. From April 2020 business rates switched from being linked to the Retail Price Index (RPI) to being linked to the CPI.

Given the range of inputs underlying the expenditures in the Other category, including expenditure on housing, it is reasonable to use the CPIH as a measure of inflation.

3.5.1 Forecasts of Other price inflation

Figure 18 provides CPIH inflation forecasts for the Other category. These forecasts are the same as the CPIH forecasts developed for bad debt.[12]

Figure 18: Annual inflation forecasts for remaining inputs in retail services

Input	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Low case	3.94%	0.41%	-0.22%	0.64%	1.54%	1.80%	1.80%
Central case	4.00%	0.47%	-0.16%	0.70%	1.60%	1.86%	1.86%
High case	4.06%	0.53%	-0.10%	0.76%	1.66%	1.92%	1.92%

Source: KPMG analysis of ONS' CPI and CPIH data, and the OBR's CPI forecast.

[12] The numbers in figure 18 are higher than the bad debt inflation forecasts in figure 8 because the 92.5% weight applied to the bad debt inflation forecasts in figure 8 does not apply here.

4 Retail price inflation: pulling the evidence together

Figure 19 summarises the assessment on input price inflation covered in chapter 3.

Figure 19: Annual nominal inflation forecasts for each input in the residential retail service

Input	Weight	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Labour	47.2%	3.52%	1.07%	1.07%	1.47%	1.88%	2.90%	3.00%
Bad debt	25.0%	3.70%	0.43%	-0.15%	0.65%	1.48%	1.72%	1.72%
IT	9.0%	1.26%	-0.86%	-1.24%	-0.72%	-0.18%	-0.02%	-0.02%
Postage	4.3%	6.02%	2.50%	1.87%	2.73%	3.62%	3.89%	3.89%
Other	14.5%	4.00%	0.47%	-0.16%	0.70%	1.60%	1.86%	1.86%
Weighted avg. inflation	**100.0%**	**3.53%**	**0.71%**	**0.41%**	**1.01%**	**1.63%**	**2.23%**	**2.28%**

Note: The inflation forecasts in the table are the central case scenarios.
Source: KPMG analysis based on ONS data, OBR data and Affinity Water's data.

Ofwat requires companies to provide input price inflation estimates in table Supp11 of its business plan data tables. The tables are identical across wholesale and retail controls, with the following input categories: Labour; Energy; Chemicals; Materials, Plant and Equipment; and Other. These inputs are more suitable for wholesale than for retail services.

The retail inputs in figure 19 do not readily map to the inputs in Ofwat's Supp11, except for the labour input. The process below was adopted to populate Supp11 with the information in figure 19:

- The inflation on labour costs is transferred as is to the labour line in Supp11.
- The inflation on all other inputs is weighted together according to the formula below and populated in the Other line of Supp11.

$$\text{Other inflation (Supp11)} = \frac{25\%*(\text{bad debt inflation})+9\%*(\text{IT inflation})+4.2\%*(\text{postage inflation})+14.5\%*(\text{Other inflation})}{25\%+9\%+4.2\%+14.5\%}$$

This results in the figures reported in figure 20.

Figure 20: Annual nominal inflation forecasts for the retail table in Ofwat's business plan table Supp11

Input	Weight	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Labour	47.24%	3.52%	1.07%	1.07%	1.47%	1.88%	2.90%	3.00%
Energy								
Chemicals								
Materials, plant and equipment								
Other	52.76%	3.55%	0.39%	-0.18%	0.60%	1.40%	1.63%	1.63%

5 Does the evidence support funding of retail inflation?

5.1 The assessment framework

At PR19, Ofwat, in conjunction with Europe Economics, established a framework to assess the case for RPEs. The framework consists of the following three criteria:[13]

PR19 assessment framework for Real Price Effects

1. Is there a significant likelihood that the wedge between the input price inflation and the CPIH will materially differ from zero over the period of the price control?
    - Europe Economics used a wedge of 1% over a five-year period as a threshold.
2. Are there sufficient and convincing reasons to think that CPIH does not adequately capture the input price?
3. Is the input price and exposure to that input price outside management control during the duration of the price control?
    - Europe Economics considered the scope of management strategies to either substitute to alternative inputs, investing in new technologies and/or signing long-term contracts to reduce exposure to future price movements. Why inflation should be funded?

Because the retail controls are not indexed to the CPIH or any other measure of inflation, assessing these criteria is simpler than for the case of wholesale controls, where some allowance for inflation is provided through the indexation to the CPIH.

5.2 Assessment against the framework

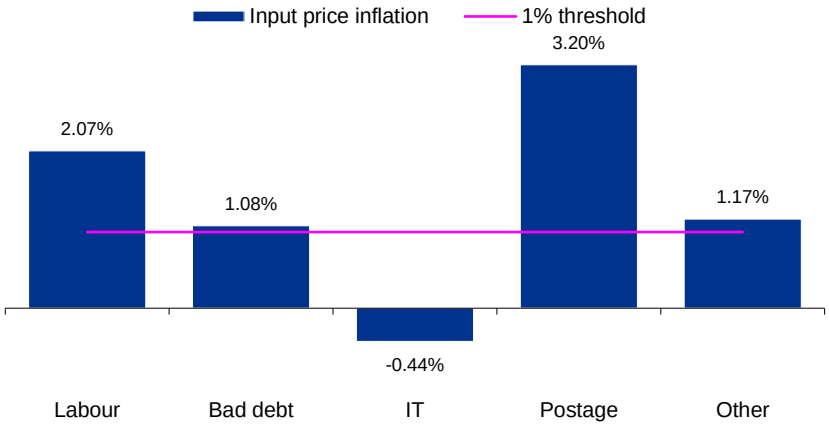
An assessment of the evidence on retail input inflation at AMP8 against Ofwat's criteria is provided below.

1. Is there a significant likelihood that the wedge between the input price inflation and the CPIH will materially differ from zero over the period of the price control?

Figure 21 provides average inflation forecast, based on the central case scenario, over AMP8. Except for IT, inflation of all other input averages above the 1% threshold.

[13] See PR19 final determination: Securing cost efficiency technical appendix, Ofwat, December 2019, page 200.

Figure 21: Average inflation forecasts over AMP8 for each input in the residential retail service



Source: KPMG analysis.

The expected inflation on bad debt exceeds the threshold by a low margin. However, it is also the case that, of all the inputs, inflation on bad debt is the one that can least be controlled. The inflation on bad debt is incurred automatically, due to the automatic indexation of the wholesale controls (hence the majority of customers' bills) to the CPIH. There is therefore an argument that the inflation on bad debt should be funded with less stringent conditions (e.g., a lower materiality threshold, if any). Notwithstanding, the average inflation on bad debt exceeds the 1% threshold.

2. **Are there sufficient and convincing reasons to think that CPIH does not adequately capture the input price?**

This criterion is irrelevant for retail given that the retail controls are not indexed to the CPIH or any other inflation measure.

3. **Is the input price and exposure to that input price outside management control during the duration of the price control?**

This criterion is considered from two perspectives:

- Can water companies influence inflation levels?
- Can water companies mitigate the impact of inflation on their business?

Can water companies influence inflation levels?

Water companies do not have any market power over bad debt inflation (i.e., the CPIH), postage inflation or IT inflation. These are driven by external market forces in the wider economy.

Water companies also do not have any significant market power over labour inflation.

In its assessment of labour inflation at PR19, Europe Economics acknowledged that water companies have little scope to limit wage inflations for their labour, given the competitive nature of the labour market and their lack of market power. Europe Economics suggested that some specialised labour may be less susceptible to these economy-wide inflationary pressures, but

that was not enough to conclude that water companies have control over labour inflation. Europe Economics concluded that in its view "there is no evidence that water companies have market power in labour markets".[14]

While the above consideration was in respect of wholesale services, it applies at least the same for retail services. Indeed, in the case of retail, the extent of specialised labour is reduced compared to wholesale, and therefore retailers may have even less market power over labour inflation than wholesalers.

Can water companies mitigate the impact of inflation on their business?

When assessing the question of whether companies can mitigate the impact of inflation on their business, it is natural to consider companies' control over their input mix. However, it is important to distinguish between short- and long-term control. It is the former that is more relevant to the question of mitigating inflation pressures.

Companies have a degree of control over the mix of inputs they use to provide a service. It may be the case that companies can reduce the use of labour in customer service or meter reading, and use cheaper, technology-based, solutions. Or reduce bad debt by increasing expenditure on debt management (thereby swapping one input, bad debt, with another, labour). Indeed, changes in the mix of postage, labour and IT have occurred over time, with the move to paperless bills, smart metering, and the use of webchat in customer service.

It is the role of management to optimise the mix of inputs. The optimisation is done to minimise total cost given the relative price of inputs. Optimisation requires investment and change in business practices, which may not be practical or efficient to implement in response to short-term fluctuations in inflation. Rather, changes in the input mix occur in response to sustainable changes in the relativity of input prices, such as in response to technological advances that reduce the price of any specific input (e.g., IT).

When assessing the question above – can companies mitigate the impact of inflation on their business - it is important not to consider it in the context of the short term.

In the short-term, companies have less ability to change their input mix in a flexible and effective way to mitigate the impact of inflation to any material degree.

While companies have limited ability to change the input mix in the short-term, companies may be able to manage inflation risk for certain inputs. For example, for energy – an important input in wholesale – companies can manage inflation risk through hedging (e.g., forward contracts), and for labour companies can manage inflation risk through contractual arrangements.

However, as Europe Economics acknowledged at PR19 (in their capacity as Ofwat's advisers), companies may be able to mitigate the risk of unforeseen changes in input prices, but they cannot avoid input price pressure on an expected value basis, as this would be priced into the contract:

> "Companies may protect themselves against volatility in the price of the input through long-term contracts which fix input prices. Companies are likely to still be exposed to input price pressures on an expected value basis, as suppliers

[14] Real Price Effects and Frontier Shift – Final Assessment and Response to Company Representations, Europe Economics, 7 December 2019, pages 31-32. Published on Ofwat's webpage.

> will build their expectations of future price movements into what they bid for long-term contracts."[15]

Finally, it is also important to recognise that companies are incentivised to optimise both their short-term and long-term mix of inputs through the price control's efficiency incentive. Companies would not be funded for inefficient cost, including costs resulting from an inefficient mix of inputs or inefficient hedging/contractual strategies that were implemented to manage input prices.

[15] Real Price Effects and Frontier Shift – Final Assessment and Response to Company Representations. Europe Economics, 7 December 2019, page 23 (see also page 31). Published on Ofwat's webpage.

Appendix 1: Office for Budget Responsibility forecasts

Table A1 provides the OBR's CPI and UK average earnings forecast, which are used throughout this report to estimate inflation scenarios for retail inputs.

Table A1: OBR forecasts

Year	CPI forecasts	UK average earnings forecasts
2022-23	9.90%	5.77%
2023-24	4.14%	4.11%
2024-25	0.61%	1.66%
2025-26	-0.02%	1.66%
2026-27	0.84%	2.06%
2027-28	1.74%	2.48%
2028-29	2.00%	3.49%
2029-30	2.00%	3.60%

Source: Office for Budget Responsibility, Long-term economic determinants, 1 June 2023, Baseline projection.
Notes: Values for 2023-24 to 2027-28 are based on the OBR's medium-term forecasts from the March 2023 Economic and fiscal outlook. From 2028-29 the OBR assumes a return to the Bank of England target inflation of 2%.