Gwynedd Pension Fund

2022 cashflow projections

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For and on behalf of Hymans Robertson LLP

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Executive summary

This paper is addressed to Gwynedd Council as the Administering Authority to the Gwynedd Pension Fund ("the Fund"). The objective of this paper is to project the expected cashflows of the Fund over a 20 year time horizon and to understand the sensitivity of the net cashflow position of the Fund to a number of inflation scenarios.

From the analysis and projections set out in this paper, the following conclusions can be drawn:

- In the absence of investment income, the Fund is likely to be cashflow negative by 2032 assuming inflation is in line with the baseline scenario.
- If allowance is made recent levels of investment income into the Fund's bank account, and ignoring income that is automatically reinvested within mandates, the year at which the Fund is likely to be cashflow negative is pushed back to 2036 (under the baseline inflation scenario). Sensitivity analysis of the investment yield highlights the key role the Fund's investments play in ensuring there is enough liquidity.
- Assuming a "recession" inflation scenario improves the cashflow position; it is projected to remain positive for the whole 20 year observation period.
- Assuming a "stagflation" inflation scenario, the Fund is likely to become cashflow negative by 2029, with a significant gap opening up over the longer term.
- The projections will also be sensitive to both payroll growth and changes in employer contribution rates, although these sensitivities are not modelled here.

The cash flow projections are based on a specific set of deterministic assumptions, which are unlikely to be borne out exactly. The assumptions are summarised later in the paper and will be detailed in the Fund's 2022 formal valuation report.

Summary of net cashflow position for the Whole Fund

Whole fund	First cashflow negative by	Estimated net cashflow position by		
		2027	2032	2042
Baseline inflation scenario	2032	+£17m	-£2m	-£10m
Recession inflation scenario	N/A	+£21m	+£12m	+£28m
Stagflation inflation scenario	2029	+£11m	-£28m	-£123m

Notes

This table shows cashflow positions from member transactions only (projected benefit payments, employer and employee contributions). No allowance is made for investment income.

Background and inputs

What are the cashflows of the Fund

In this paper we consider the main cashflows in and out of the Fund over the next 20 years.

The Fund's primary sources of income are:

- Contributions from employers in the Fund
- Contributions from employee members in the Fund
- Income streams generated from the Fund's investments

The contribution income is estimated and based on:

- The 2022 valuation payroll
- The 2022/23 contribution rates currently in payment (equivalent to an average of 20.2% of pay for the Fund as a whole).
- The aggregate of all proposed employer contribution rates payable from 1 April 2023 to 31 March 2026. Thereafter the contribution rate has been assumed to remain stable up to year 20.

The Fund's outflows are the benefits payable to the members and their dependants. These include:

- Retirement lump sums paid to active and deferred members on retirement
- Retirement pensions paid to pensioners and their dependents
- Death in service benefits and ill health benefits.

Transfers in and out of the Fund by individual members are not usually a significant source of income or outflow and typically balance out over time. They have therefore been excluded.

The projected cashflows are sensitive to a number of assumptions. The most significant are:

- Level of future benefit increases (all LGPS benefits are index-linked and increase in line with Consumer Price Index (CPI) inflation)
- Level of current and future payroll (determines the amount of contributions received)

All cashflows are projected over 20 years

What is cashflow negativity and does it matter?

Every month, the Fund receives income via contributions and pays out benefits to members. Historically, the benefits have been paid out of the contribution income with any excess being invested. This is how the Fund's asset value has built up over time (along with investment returns).

Over time a pension fund will mature and the level of benefit payments will start to exceed contribution income. At this point, a pension fund is considered "cashflow negative".

Being cashflow negative itself is not unexpected for a pension fund. **The assets that have been accrued are for the purpose of paying benefits – using them for that purpose is exactly as intended.** However, if the transition to being cashflow negative is not monitored and managed effectively, it can pose a liquidity risk and the Fund may become a forced seller of assets.

At the 2022 valuation, the focus on cashflow is greater given the likely significant increase in benefits at April 2023 due to rising inflation.

Knowing when the Fund is likely to become cashflow negative is helpful as it can have implications for both the funding and investment strategy, such as :

- Having cash available to meet the Fund's primary objective of paying member benefits
- The ability to maintain stable contributions over time and withstand volatility from investment markets
- Understanding the level of cash balance that needs to be retained while avoiding a drag on investment returns
- Avoiding the risk of being a forced seller of assets at inopportune times
- Making the most efficient use of income generated by Fund assets
- Implementing optimum rebalancing and cash management policies

The cashflow position will influence the requirement for income generating investments

Methodology and Data

Membership data

We have used the data provided for the 2022 valuation of the Fund.

Assumptions

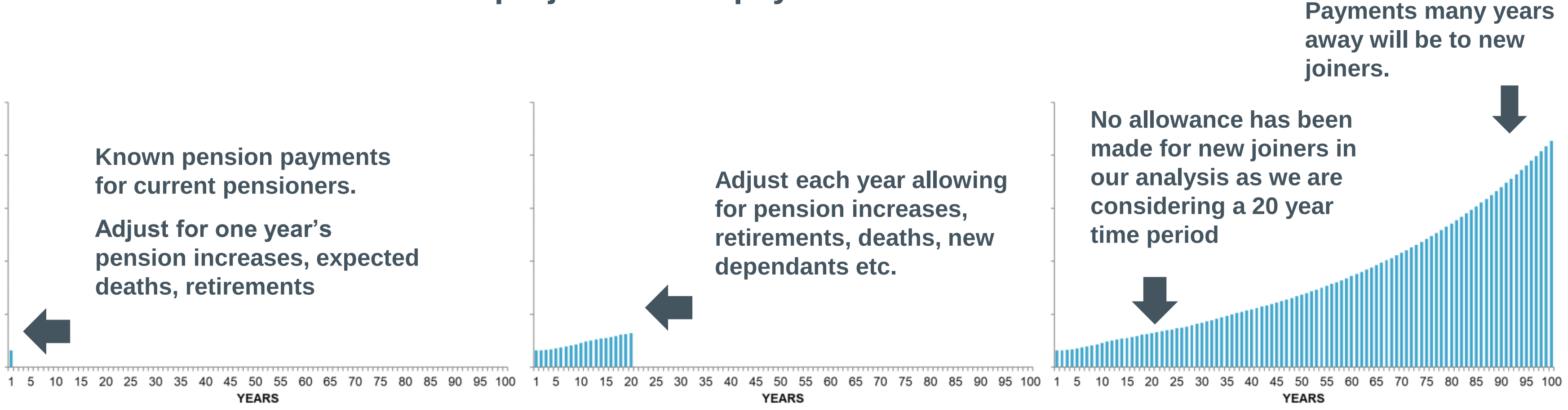
The **demographic** and **financial** assumptions are in line with those adopted for the **2022 formal valuation** of the Fund unless stated otherwise.

To assess the income required as a percentage of the asset share, assets are assumed to increase at **4.1% p.a.**

To project the contribution income, employer contributions are assumed to move in line with the pattern set out on page 13.

New joiners have not been considered within the projected benefit payments as they do not significantly influence benefit payments over the 20 year modelling period.

Illustration: how we project benefit payments



Two types of assumptions:

1 **Financial** assumptions (like inflation) affect the amount of payments.

2 **Demographic** assumptions (like how long members live) affect the timing of payments.

The Fund’s cashflows

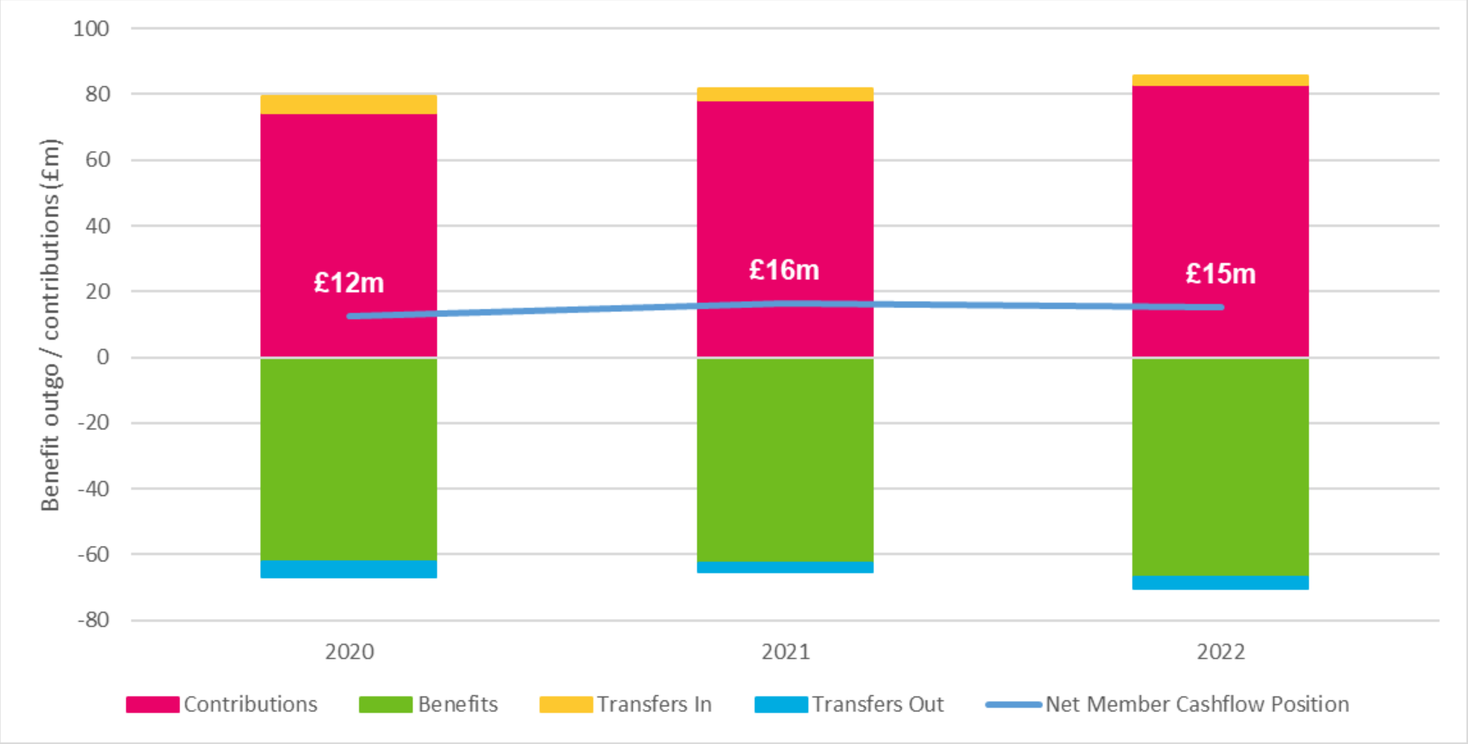
Recent cashflow position

Using the annual report and accounts for years ending 2020, 2021 and 2022, we have summarised the recent cashflow position for the Fund.

The chart shows the absolute value of contribution income and benefit outgo (bars) and the net cashflow position (blue line and white figures).

During this period, the Fund remained cashflow positive, ie income exceeded outgo.

Transfers in and out broadly net off and are cashflow neutral. We have excluded transfers from our further analysis.



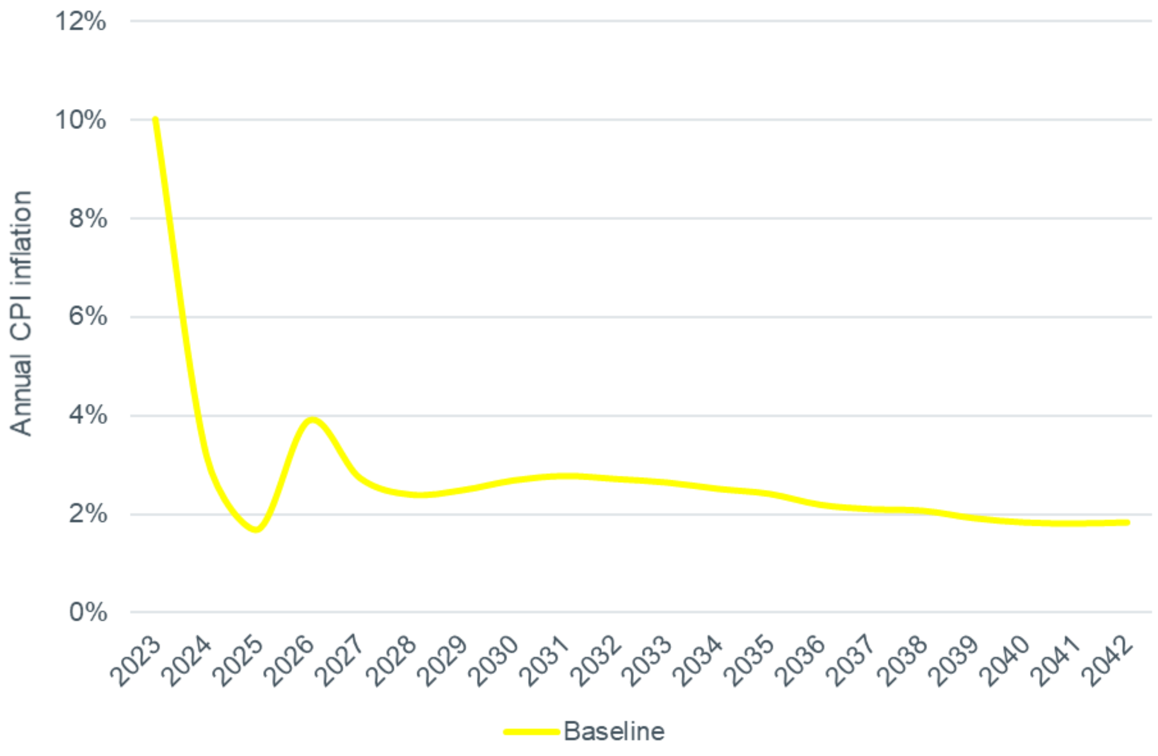
The cashflow position has remained positive in recent years.

Scenario 1 - baseline inflation

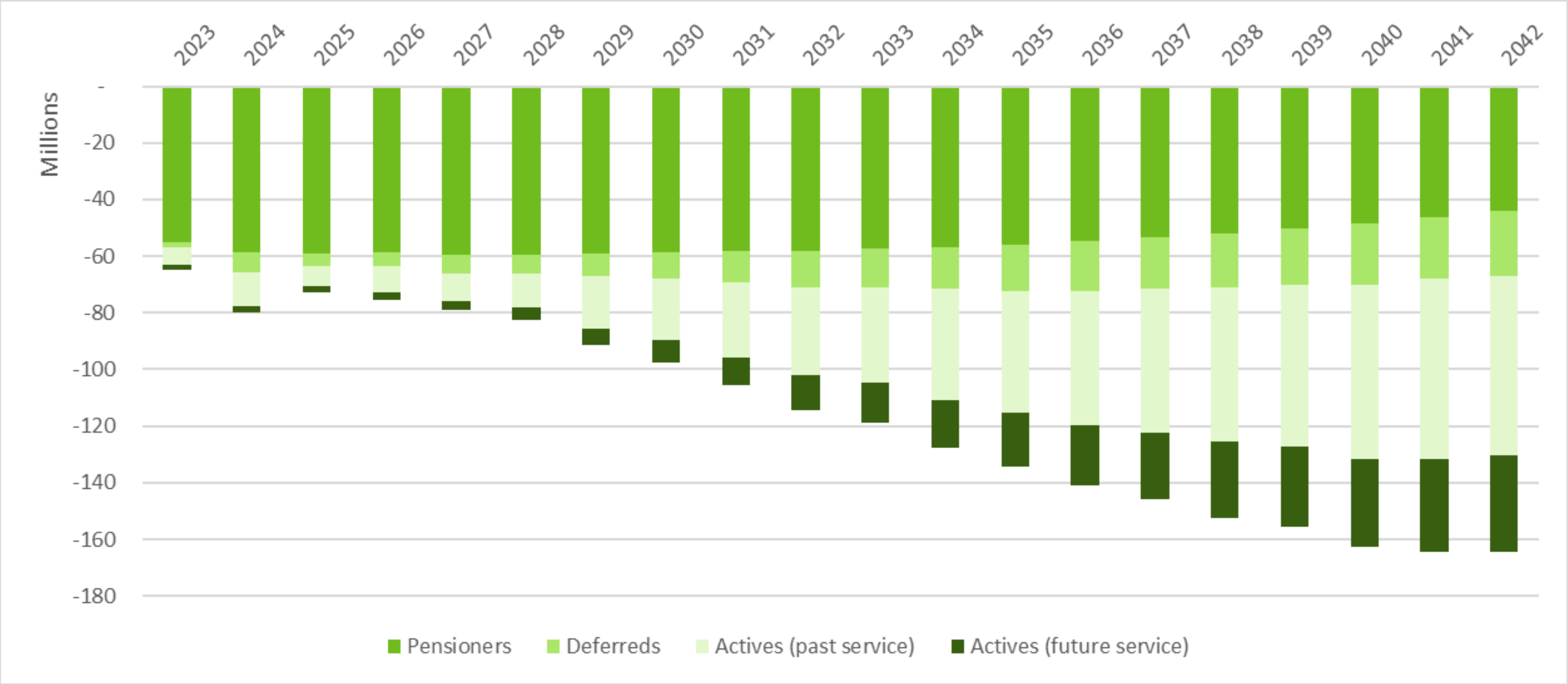
Future CPI inflation

Given the sensitivity of future benefit payments to inflation, we have firstly considered a baseline scenario for future inflation (which allows for a 10% increase in benefits in April 2023).

- Scenario 1 : this baseline scenario represents the median CPI assumption within the Hymans Robertson economic scenario service (ESS) model as at 31 March 2022 (this is the assumption used for the 2022 valuation).
- This is a combination of short-term market expectations and a longer-term expectation that the rate will tend to the Bank of England's 2% pa target.



Projected benefit outflows (baseline inflation scenario)



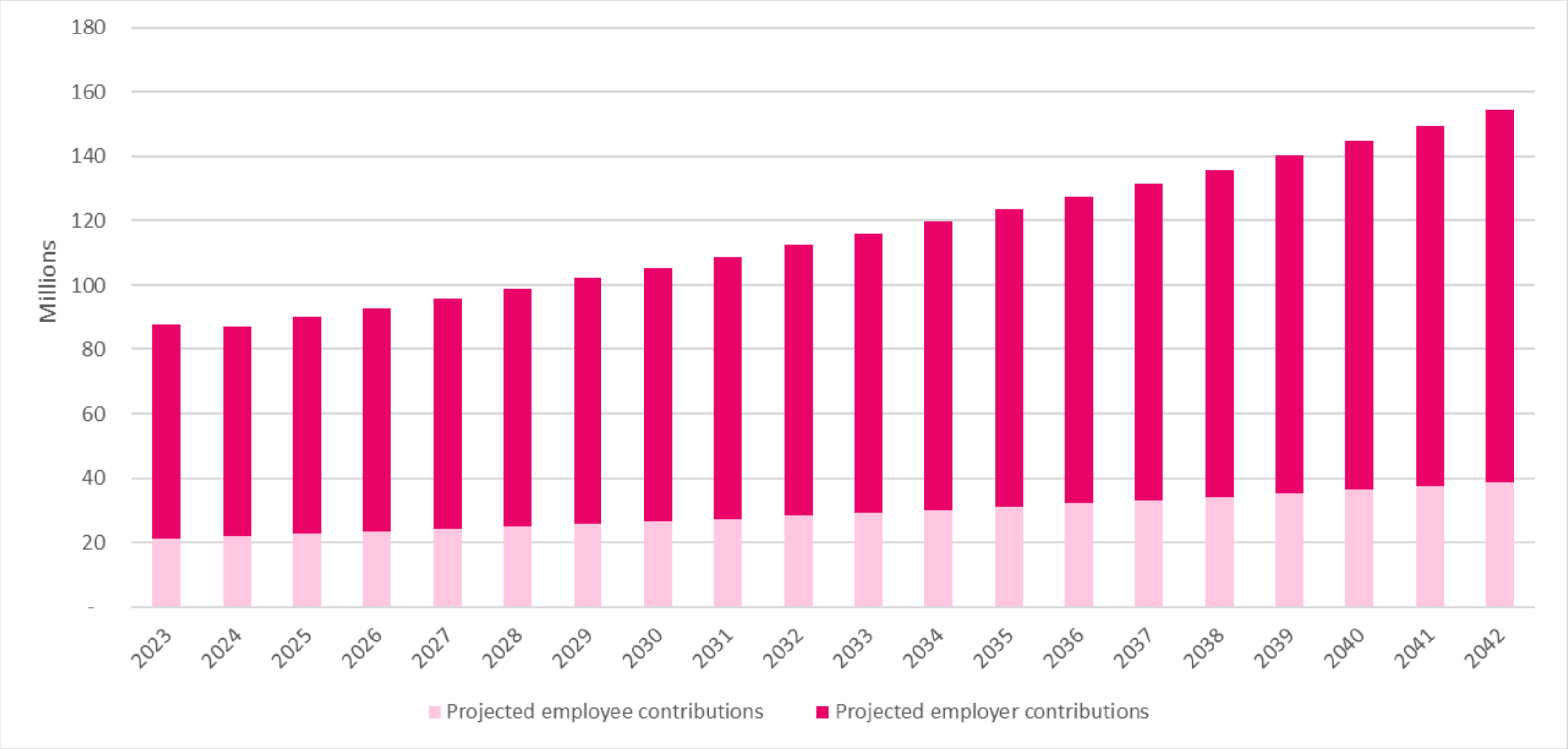
Notes

The stepped increase in benefit outflow in 2024 (year 2) is as a consequence of the model assumption that all active members already past their assumed retirement age will retire +1 year after the valuation date. In reality these outflows would be spread across a longer period.

The years along the x-axis refer to the year-end i.e. 2023 means the 2022/23 financial year (from 1 April 2022 to 31 March 2023).

The Fund currently pays around £65m in benefit payments.
This is expected to double by around 2034 assuming baseline inflation.

Projected contribution income



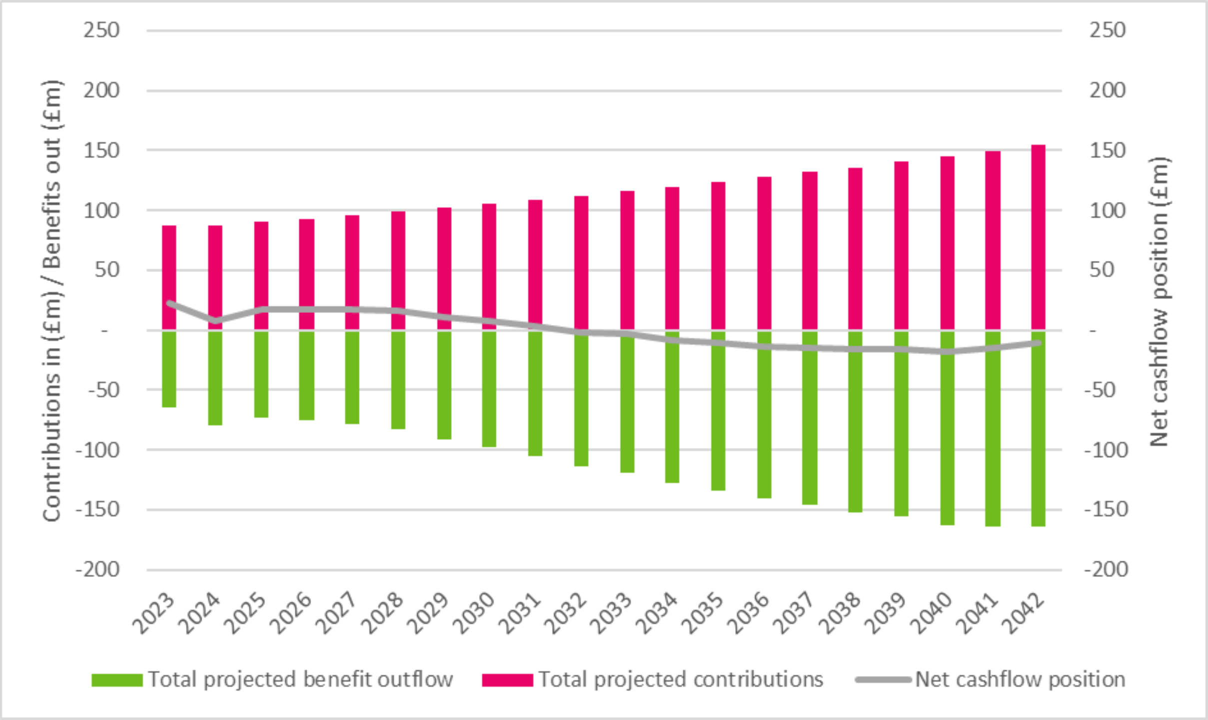
Notes

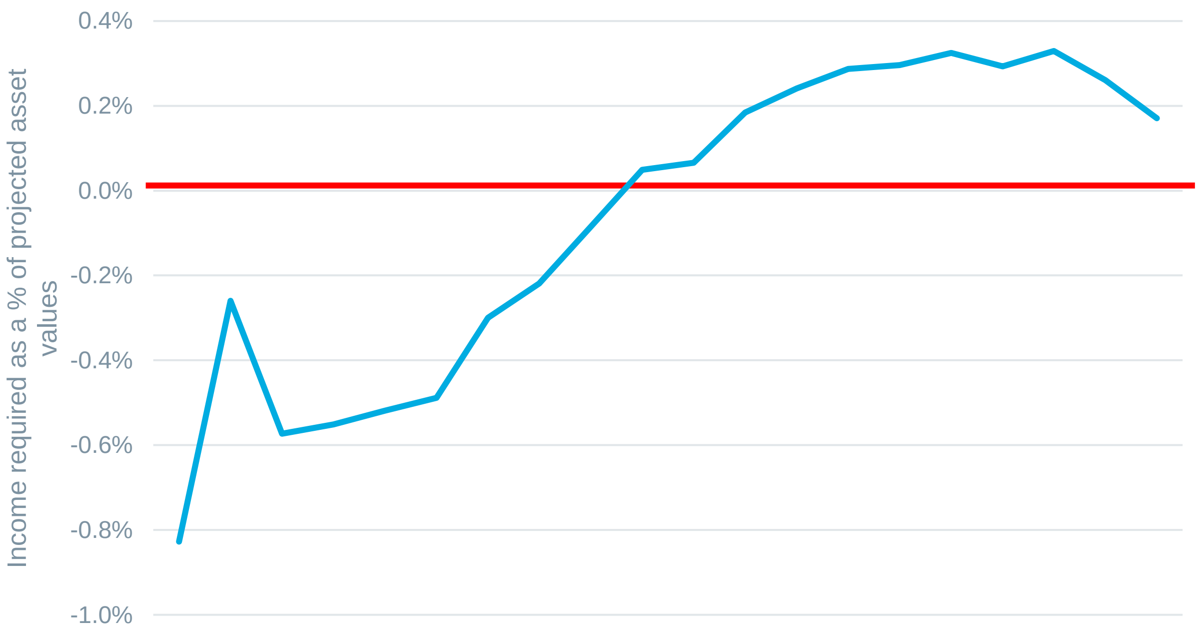
New entrants are implicitly allowed for in the income cashflow by assuming the payroll grows with inflation.

The years along the x-axis refer to the year-end i.e. 2023 means the 2022/23 financial year (from 1 April 2022 to 31 March 2023).

Payroll is assumed to increase at 3.2% pa (in line with the formal valuation)

Net cashflow position (ignoring investment income)

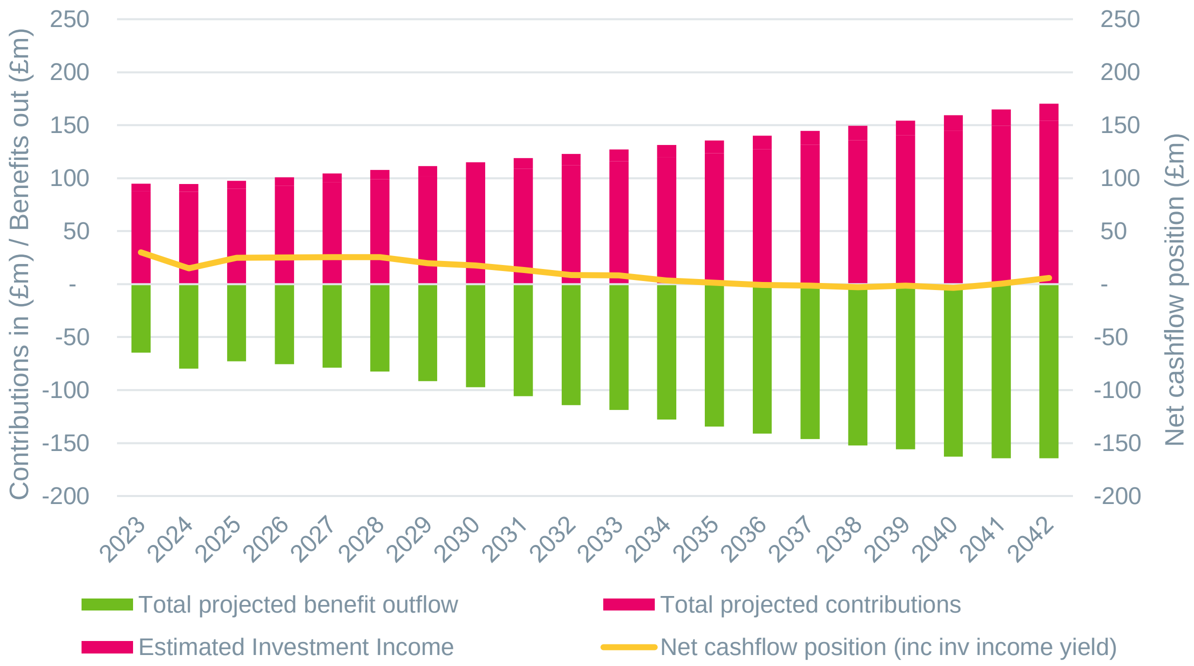


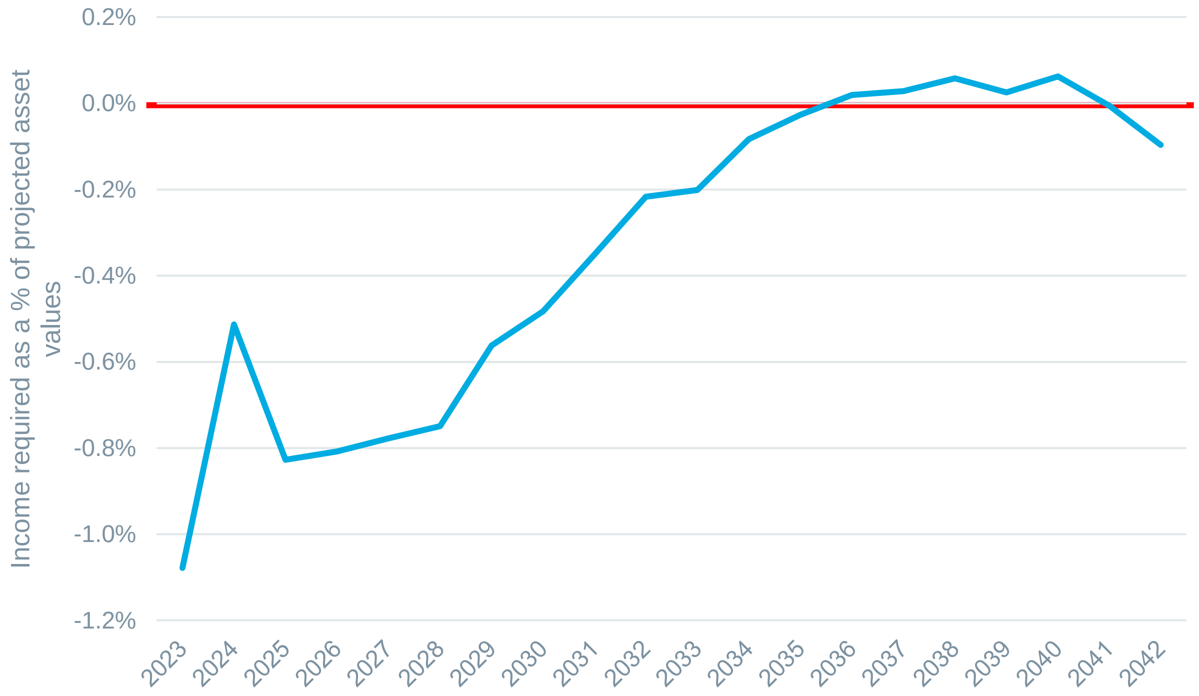


In the absence of investment income, benefit outflow is estimated to exceed contribution income by 2032 for the Fund
By 2035, investment income yield of 0.25% of assets is required to support the cashflow position

Assets are assumed to increase at 4.1% pa

Net cashflow position (including investment income of 0.25% pa*)





The net cashflow position improves when allowance is made for assumed investment income.
Investment income of 0.25% pa would postpone cashflow negativity until 2036.

*The assumed investment yield of 0.25% pa reflects the average yield attained by the Fund during 2019-22 and excludes income that is automatically reinvested within mandates. Assets are assumed to increase at 4.1% pa.

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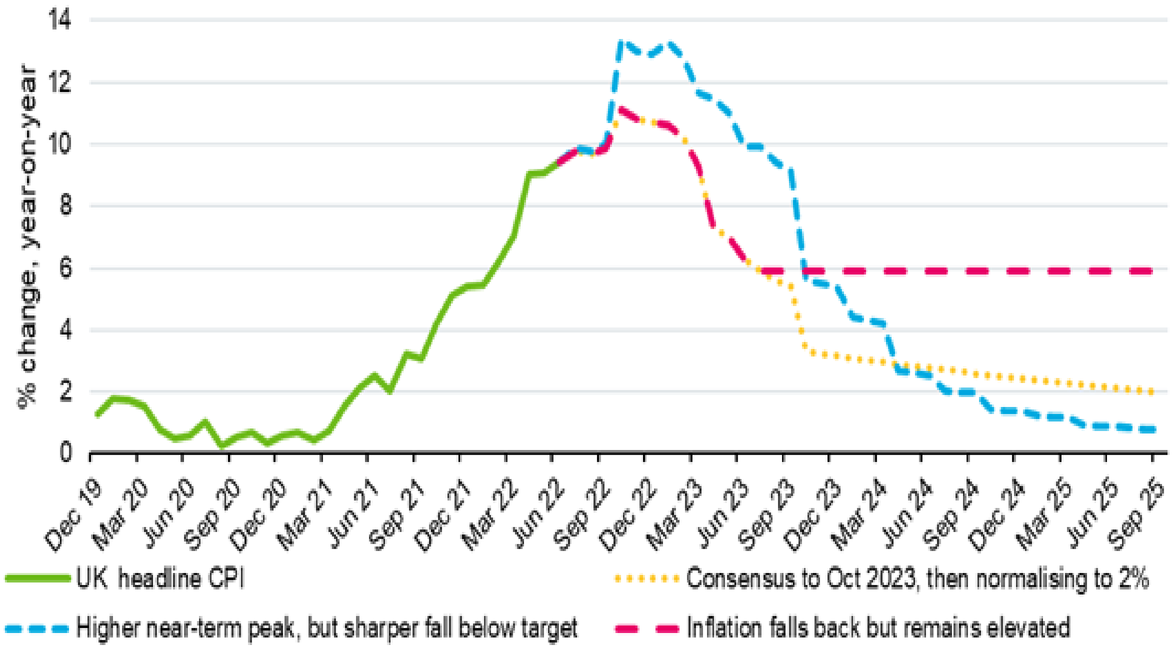
Alternative inflation scenarios

Inflation scenarios

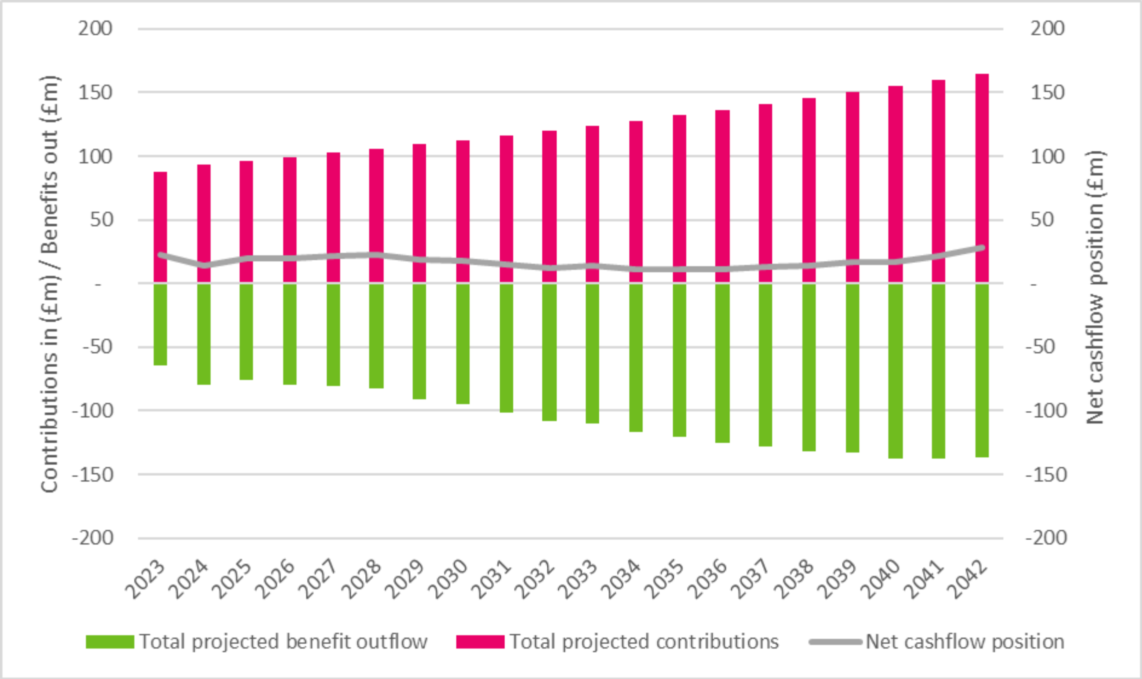
Below are two alternative potential scenarios for future inflation. All scenarios assume a 10% increase in April 2023:

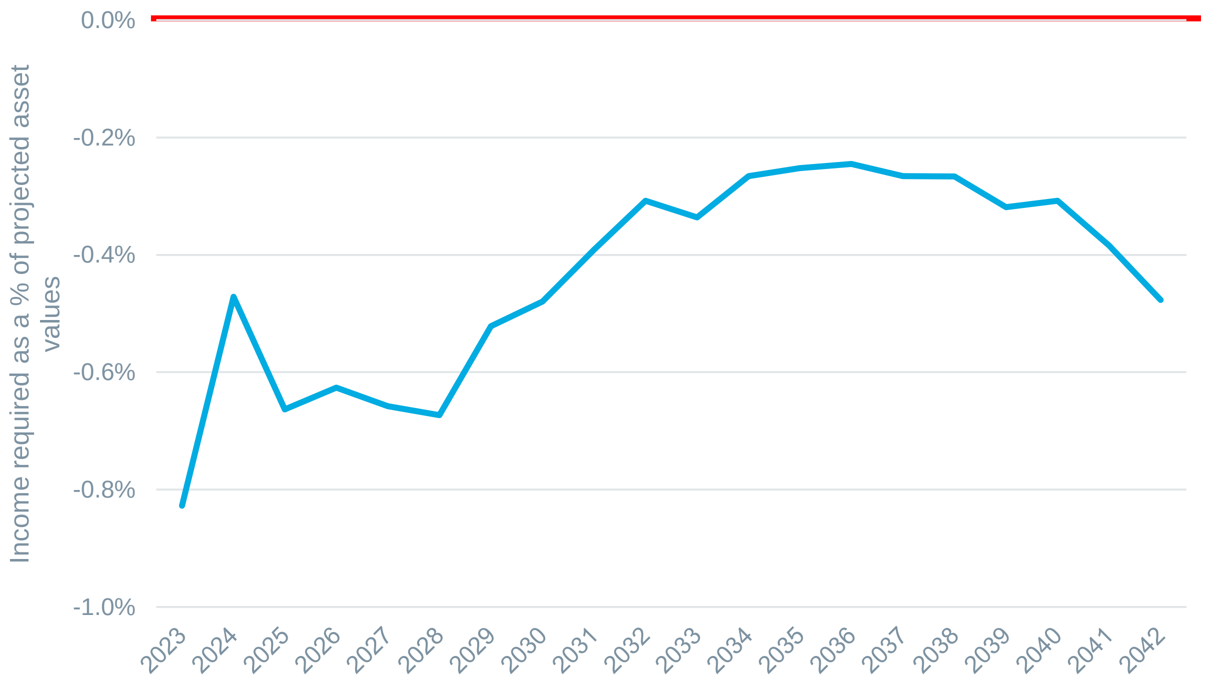
- Scenario 1 (the yellow line): this represents the baseline scenario, where inflation trends to the **long-term Bank of England target** of 2% p.a. by September 2025 (results shown in previous slides)
- Scenario 2 (the blue line): this represents a **recession** scenario, occurring largely due to excess supply over demand as a result of higher energy and food prices. This is similar to the Bank of England forecast.
- Scenario 3 (the pink line): this represents a **stagflation** scenario where inflation remains high due to higher energy and food prices.



We have considered both alternate scenarios in the following slides.

Net cashflow position (scenario 2 - recession)

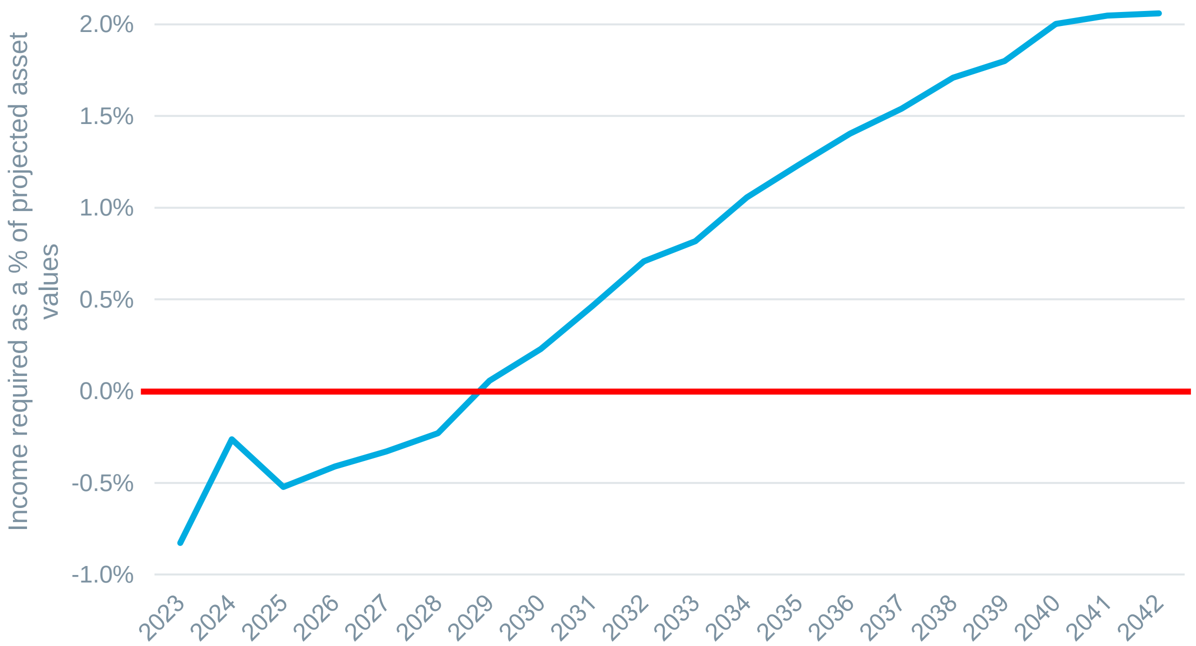




Benefit outflow is not expected to exceed contribution income over the 20 year observation period. Investment income would further improve the position

Assets are assumed to increase at 4.1% pa

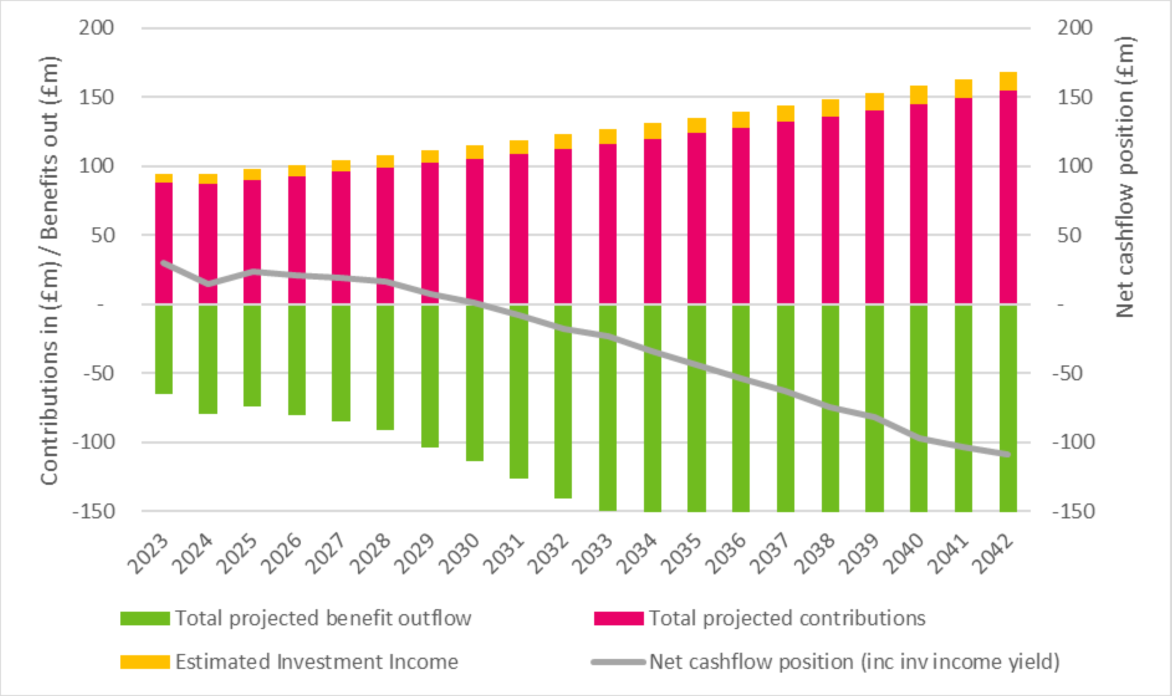
Net cashflow position (scenario 3 - stagflation)

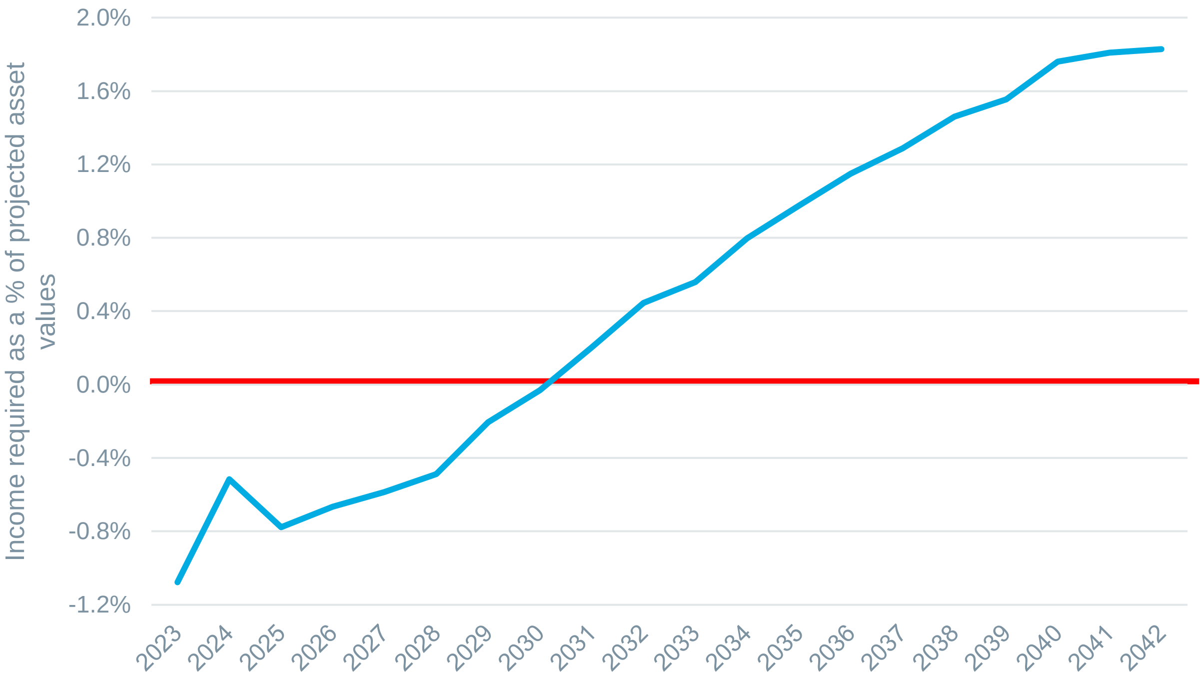


In the absence of investment income, benefit outflow is expected to exceed contribution income by 2029, with a substantial gap opening up in the longer term.

Assets are assumed to increase at 4.1% pa

Net cashflow position (stagflation incl investment income of 0.25% pa*)





Including investment income of 0.25% pa pushes back the 'tipping point' by 2 years i.e. the Fund will become cashflow negative by 2031. However a substantial gap still opens up over the longer term e.g. investment income of almost 2% pa is required by 2042.

*The assumed investment yield of 0.25% pa reflects the average yield attained by the Fund during 2019-22 and excludes income that is automatically reinvested within mandates. Assets are assumed to increase at 4.1% pa.

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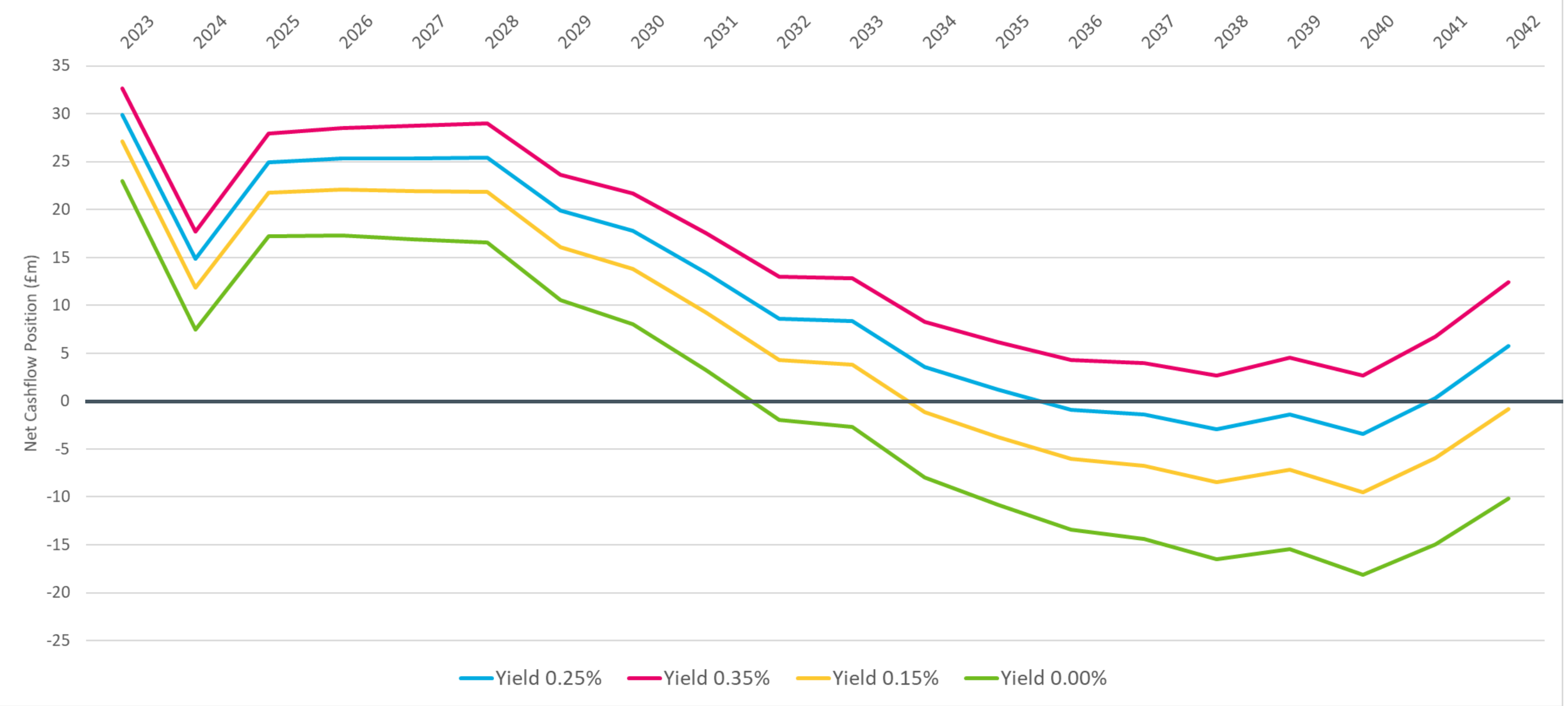
Sensitivity of net cashflow (to investment income)

Sensitivity of net cashflow to investment income* (baseline inflation)



Notes

This highlights the sensitivity of the cashflow position to the assumed investment income yield. For example, a higher yield of 0.35% p.a. results in a positive cashflow position for the full 20 year period under investigation.

A lower yield of 0.15% p.a. results in a cashflow negative position from 2034 onwards (as shown in slide 13).

As shown previously, ignoring investment income (i.e. assuming a yield of 0%) results in a cashflow negative position from 2032.

This highlights the key role the Fund's investments play in ensuring there is enough liquidity within the overall strategy (funding and investment) to meet benefit payments.

*The assumed investment yield excludes income that is automatically reinvested within mandates. Assets are assumed to increase at 4.1% pa.

Next steps

Next steps

1. Monitor membership changes and their impact on the cashflow position
2. Consider any factors (e.g. inflation) that may affect the cashflow position
3. Consider the investment strategy in light of any future possible negative cashflow position
4. Consider evolving or developing new cashflow management and/or rebalancing policies with your investment advisor

Reliances and limitations

APPENDIX 1

Reliances and limitations

This paper is addressed to Gwynedd Council as Administering Authority to the Gwynedd Pension Fund. It has been prepared in our capacity as actuary and investment consultant to the Fund and is solely for the purpose of projecting the expected cashflows of the Fund over a 20 year time horizon. It has not been prepared for any other purpose and should not be used for any other purpose.

The cashflow projections are based on a specific set of deterministic assumptions, which are highly unlikely to be borne out exactly. We therefore do not claim that the future will exactly match the figures in this paper. The results should be used to give an indicative idea of the Fund's medium term cashflow requirements only.

Any party must accept full responsibility for establishing that the cashflows are appropriate for the purpose to which they want to put them and any decisions that are taken based on their analysis. We cannot be held responsible for any losses sustained as a result of third parties relying on the cashflows provided, or if the cashflows are used for any inappropriate purpose

The extent of the deviations from the assumptions underpinning the cashflow projections depends on uncertain economic events as well as other factors that are not known in advance such as members' decisions, variations in mortality rates, retirement rates and withdrawal rates, fluctuations and rates of salary increase, and the numbers and ages of future new entrants which cannot be accurately predicted. In addition, there could be changes in the regulatory environment and possible changes in retirement benefits. These other uncertainties are often not related to any particular investment and economic eventualities.

Three of the important uncertainties are the:
(a) Rate of pension increases, the vast majority of which increase at the annual increase in CPI inflation
(b) Extent to which members elect to exchange pension for cash at retirement
(c) Level of future payroll and contribution rates which will determine the amount of contributions paid into the Fund

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- TAS100
- TAS300.

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Thank you