Northamptonshire Pension Fund

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 Northamptonshire County Council as the Administering Authority to the Northamptonshire Pension Fund ("the Fund"). The paper considers different future projections of the Fund's cashflows under a range of different scenarios. The analysis and projections will help the Fund better understand its current and potential future cashflow position and is part of its management of risk in this area.

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 2026 allowing for the April 2023 pension increase order of 10.1% and the expected April 2024 pension increase order of 6.7%, as well as pay growth in line with national local government pay award information. This is later than previously anticipated (2025) as part of the analysis carried out in December 2022 due to increased contribution income (based on increased payroll).

- The cashflow position of the Fund is sensitive to future levels of inflation. The recessionary scenario represents a "hard landing" and associated new period of low inflation. Under this scenario, the Fund remains cashflow positive over the 20-year projection period (disregarding 2024 due to a modelling assumption). This highlights the importance of reviewing the cashflow position on a regular basis in an uncertain inflationary environment.

- In the longer-term, the most significant risk to the Fund (in respect of its cashflow position) is a high inflation scenario, where inflation remains elevated for a longer period. Under this scenario, the Fund becomes cashflow negative over the next couple of years, with the gap increasing to a material level in the longer-term.

Background and inputs

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. 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 significant increases in benefits (10.1% at April 2023 and 6.7% at April 2024) due to rising inflation.

Knowing when the Fund is likely to be cash flow negative is helpful as it can have implications for both the funding and investment strategy:

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

This paper explores the Fund's cashflow position under a variety of different scenarios to inform its approach to cashflow management

Recent cashflow position

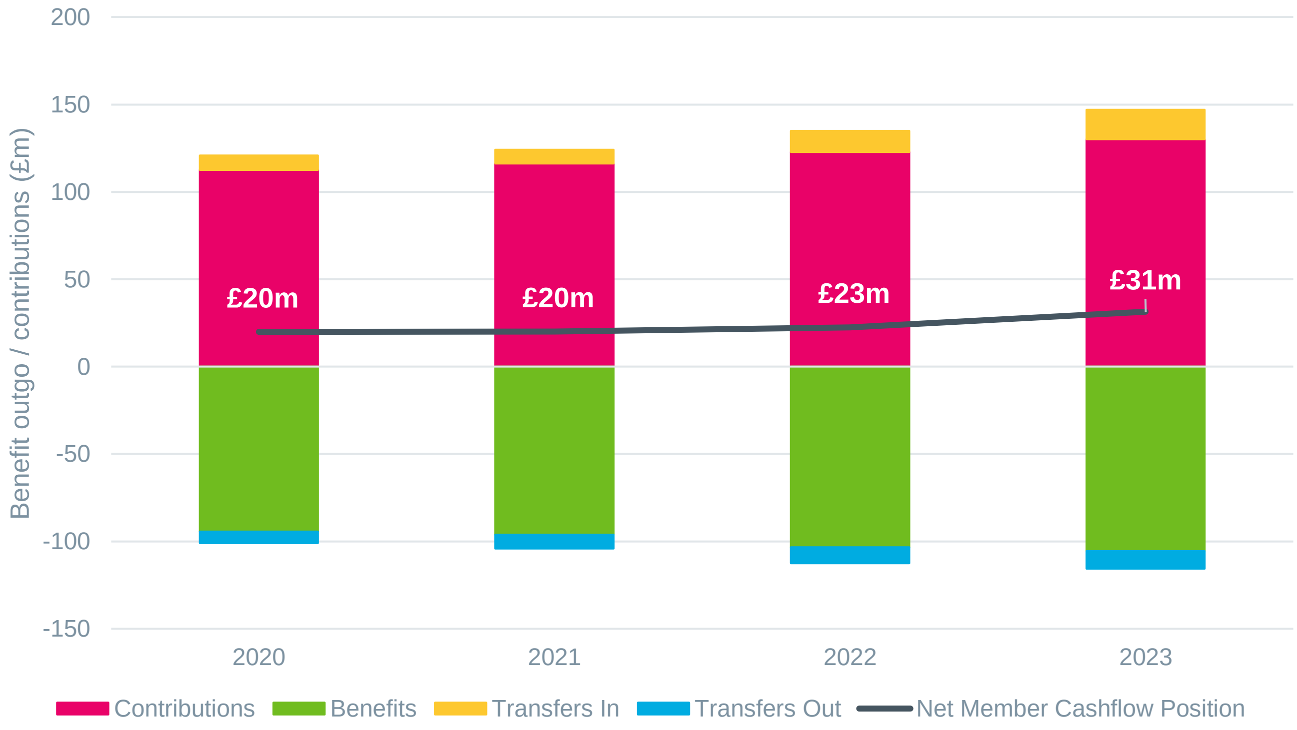
Using the annual report and accounts for years ending 2020, 2021, 2022 and 2023 (draft), we have analysed the recent cashflow position for the Fund.

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

During this period, the Fund remained cashflow positive, i.e. contribution income exceeded benefit outgo.

Transfers into and out of the Fund can significantly affect the cashflow position. In 2021/22, there were c.£12m of transfers into the Fund which helped increase the net cashflow position. These were partially offset by c.£9m of transfers out in the same period.

NB The average investment income yield is c.0.7% of assets p.a.



The cashflow position has been positive in recent years. Excluding the impact of transfers, the current net cashflow position is around £20m (contributions exceeding benefits).

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

Contributions paid are estimated based on:

- The 2022 valuation payroll
- An allowance for increases in payroll in 2023 and 2024 in line with national local government pay award information.
- The aggregate of all certified 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 dependants
- 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.

The projected cashflows are sensitive to several assumptions. The most significant are:

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

We have prepared future cashflow projections under a range of different inflation and payroll scenarios to inform decision making.
This helps the Fund understand the sensitivity of its cashflow position to these sources of uncertainty and make appropriate management plans.

Data, assumptions and methodology

Membership data

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

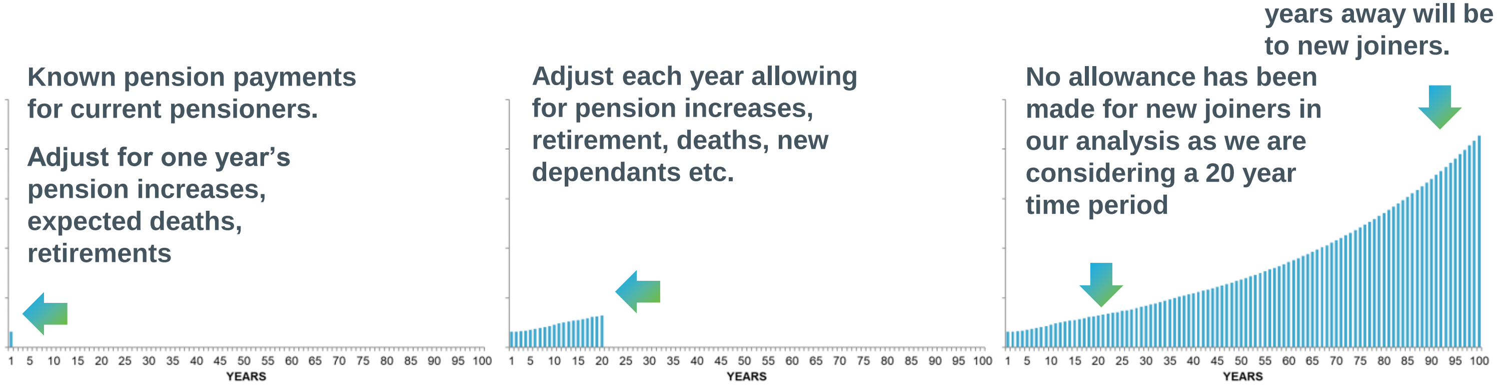
Assumptions

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

Further information on the membership data and assumptions is detailed in the 2022 valuation initial results report dated October 2022, and in the final valuation report dated March 2023.

Allowance for benefit outgo in respect of benefits yet to be accrued by current active members is included in the projection; however, given the relative short timeframe considered, no allowance has been made for benefit outgo in respect of accrual by members yet to join the scheme.

Methodology: how we project benefit payments



Methodology: projecting contribution income

- Payroll is assumed to stay constant in real terms, i.e. it increases in line with the valuation assumption of 3.2% pa, however an allowance has been made for an increase of 7.4% in 2023 and 6.9% in 2024 in line with the national local government pay award information.
- Employer contributions are assumed to be in line with the pattern as set out on page 7
- Employee contributions are based on the weighted average for the Fund at the 2022 valuation (6.3% of pay).

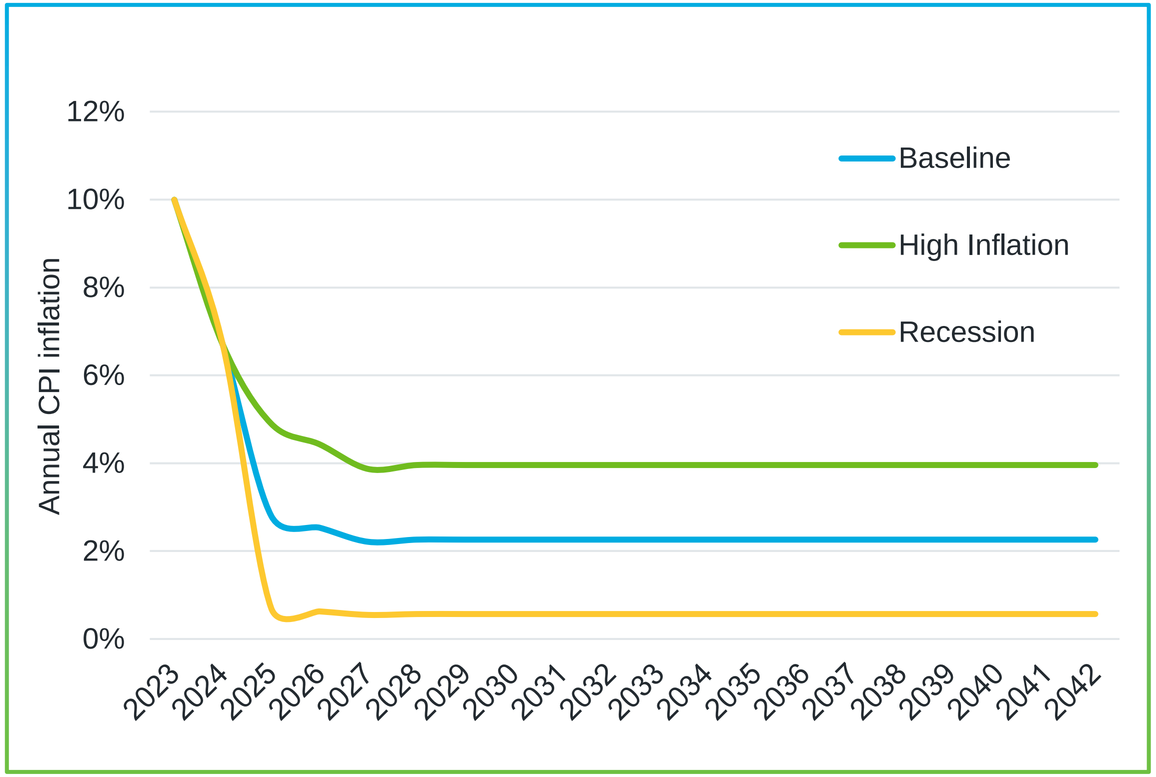
Scenarios explored

Future CPI inflation

Given the sensitivity of future benefit payments to inflation, we have considered three potential scenarios for future inflation. All scenarios recognise a 10.1% increase in benefits in April 2023 and an expected 6.7% increase to benefits in April 2024:

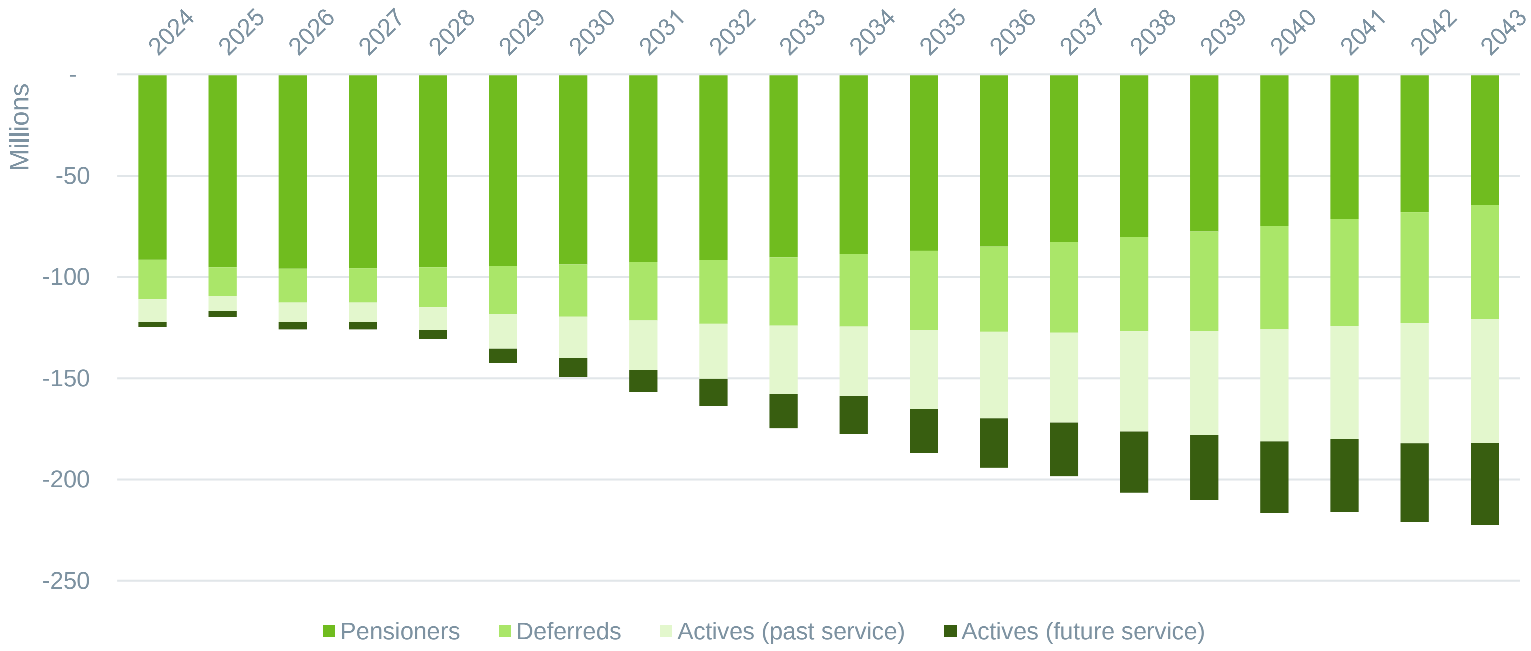
- Scenario 1: this **baseline** scenario represents consensus forecasts for future inflation based on current market data. This is a combination of short-term market expectations and longer-term expectation that the rate will tend towards the Bank of England's 2% target.
- Scenario 2: this represents a plausible **recession** scenario, occurring largely due to excess supply over demand because of higher energy and food prices. This results in a "hard landing" and associated new period of low inflation remaining below the Bank of England target.
- Scenario 3: this represents a plausible **high inflation** scenario where inflation remains high due to higher energy and food prices.

In all scenarios we have kept the payroll growth assumption constant at 3.2% p.a.. However, we have made an allowance for higher pay increases in 2023 and 2024 in line with the national local government pay award information.



Inflation scenarios

Projected benefit outflows (baseline scenario, consensus inflation)



Notes

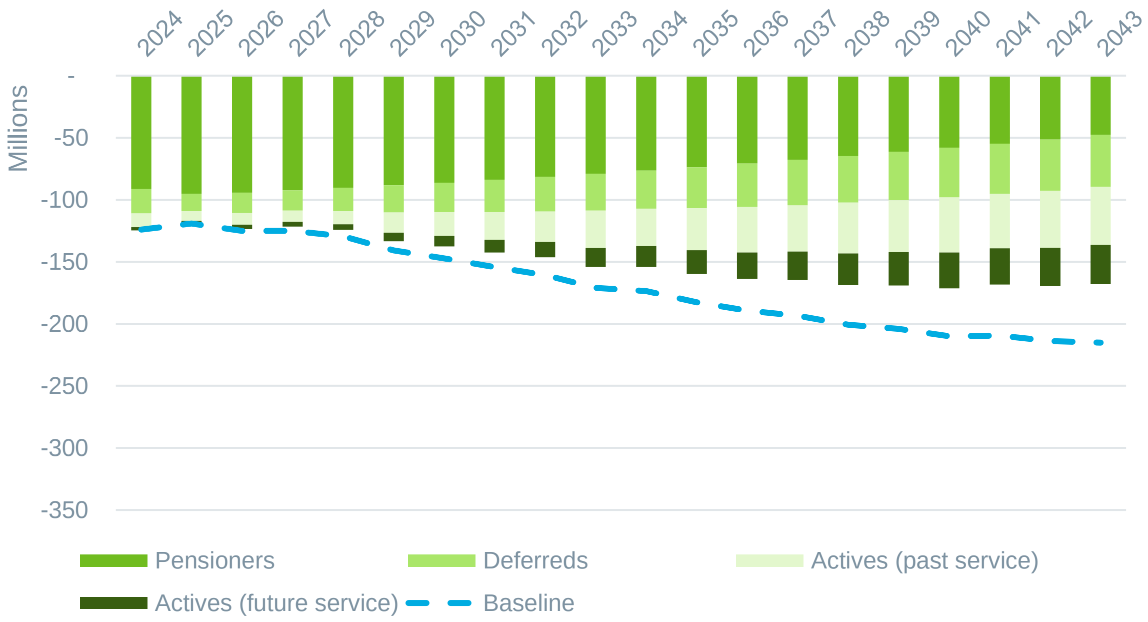
The years along the x-axis (horizontal) refer to the year-end i.e. 2024 means the 2023/24 financial year (from 1 April 2023 to 31 March 2024).

Increased benefit outflow in 2024 in comparison to 2025 is because of the model assumption that all active members already past their assumed retirement age will retire 1 year after the valuation date (2022). In reality these outflows would be spread across a longer period.

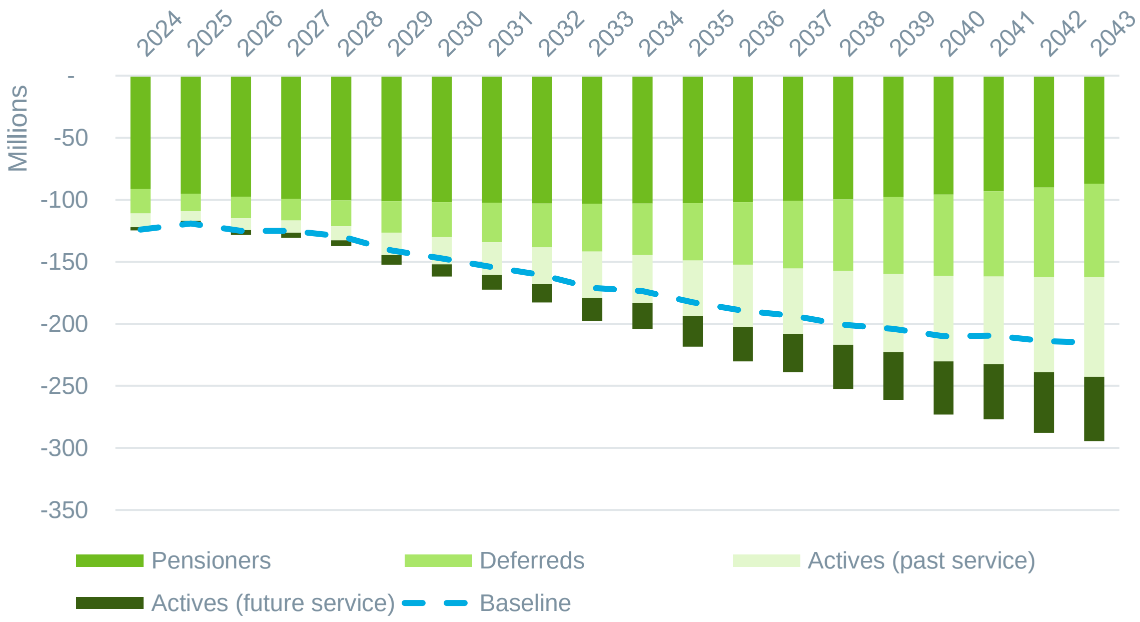
The Fund currently pays around £105m in benefit payments. This is expected to double by 2039.

Projected benefit outflows (alternative inflation scenarios)

Recession



High Inflation



Scenario analysis helps understand the impact inflation may have on future benefit payments – difference of c.£120m in annual benefit payment by 2043

Projected contribution income (all inflation scenarios)

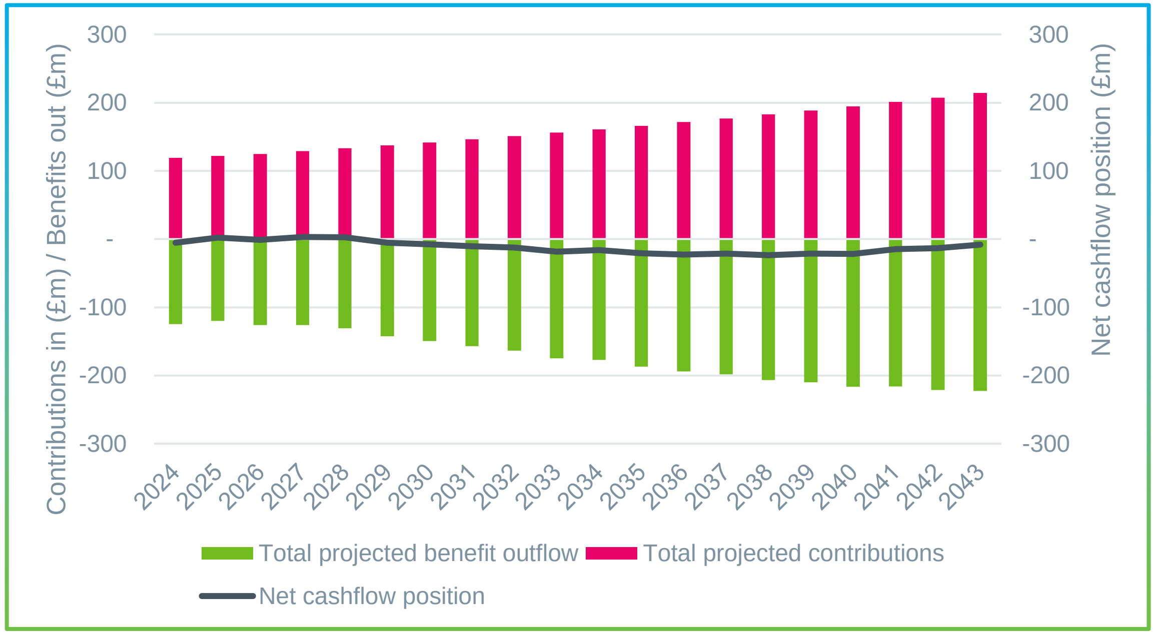
Notes

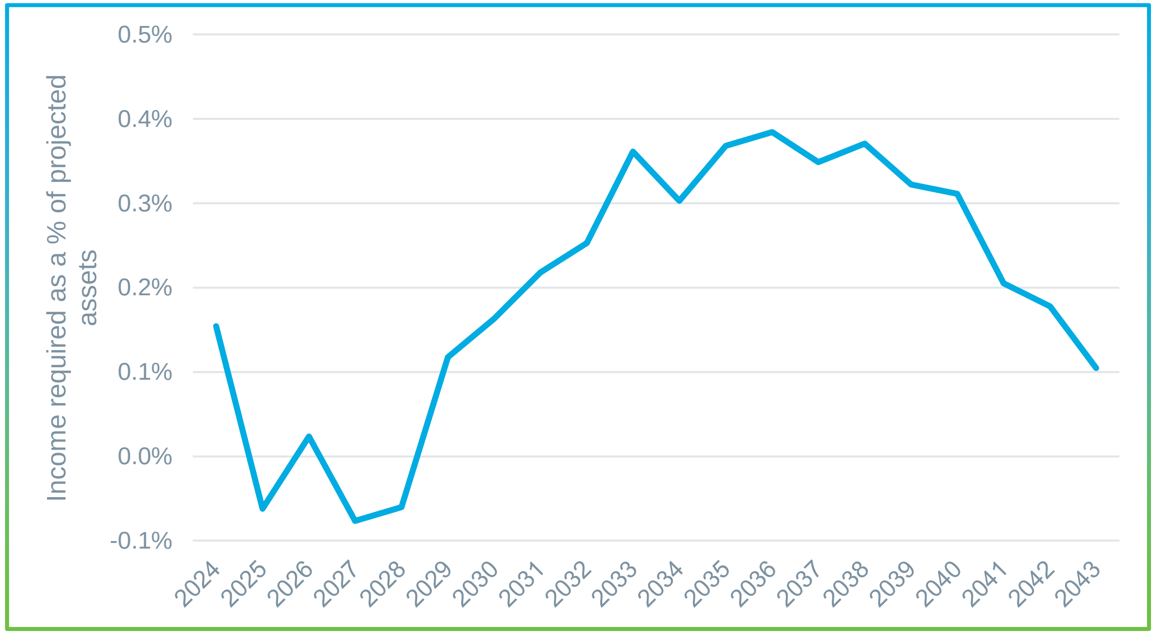
New entrants are assumed to replace leavers, and are implicitly allowed for in the income cashflow by assuming the payroll grows with inflation.

The years along the x-axis refer to the year-end i.e. 2024 means the 2023/24 financial year (from 1 April 2023 to 31 March 2024).

Payroll is assumed to grow at 3.2% pa (in line with the formal valuation), however allowance has been made for national local government pay award information in 2023 and 2024.

Whole fund net cashflow (baseline scenario)

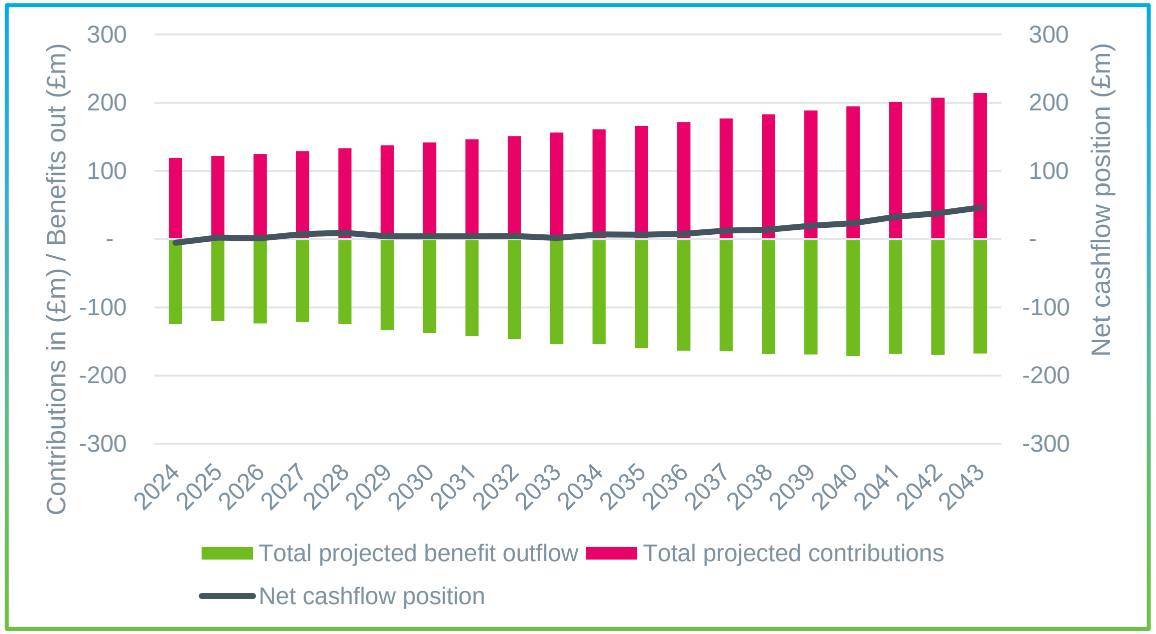


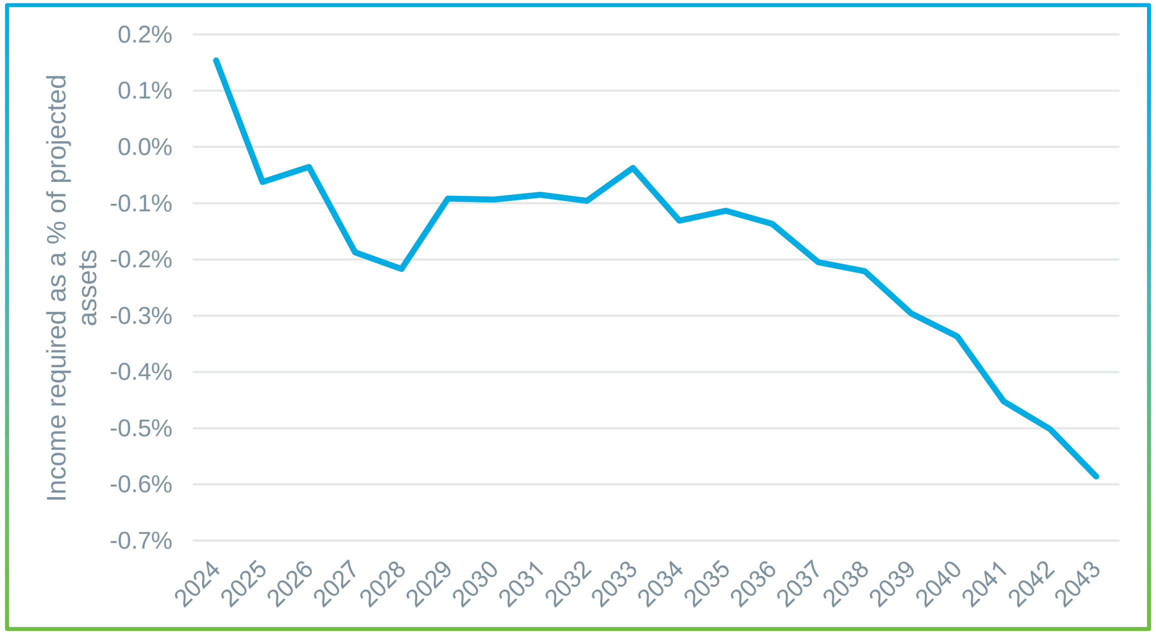


Benefit outflow is expected to exceed contribution income by 2026 (we have discarded 2024 as it is a result of the retirement age assumption – in reality these retirements may be spread over the next 2-3 years). However, the Fund's current income yield from assets (c.0.7% pa) would be sufficient to meet the shortfall from contributions over the next 20 years (requiring no more than c.0.4% yield).

Asset values are assumed to increase at 4.35% pa

Whole fund net cashflow (recession scenario)

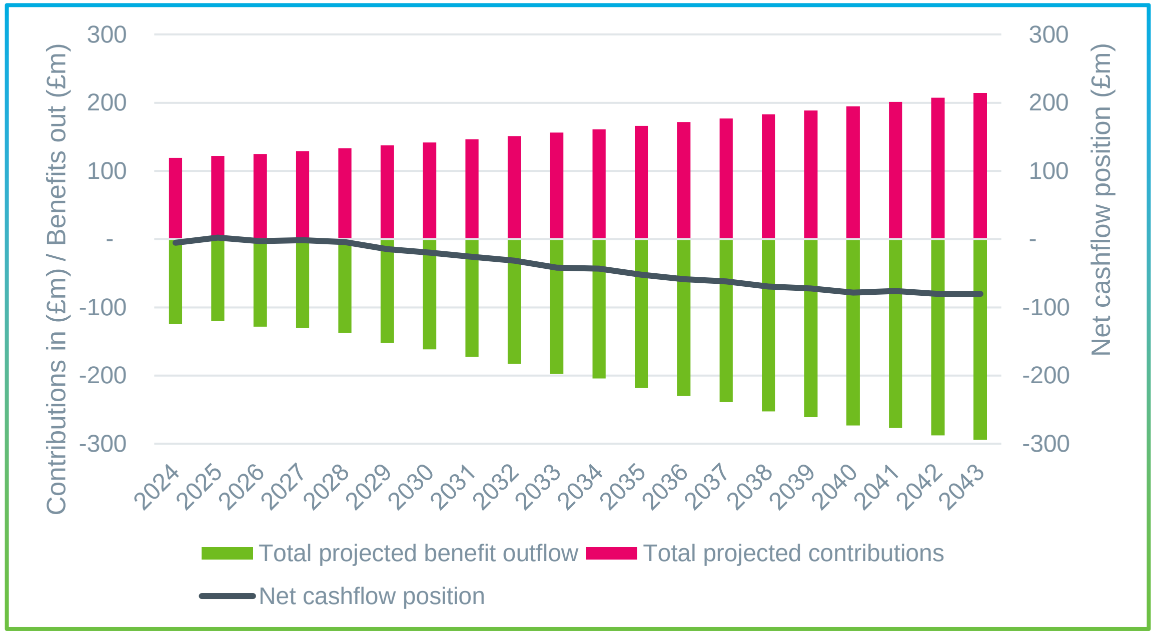


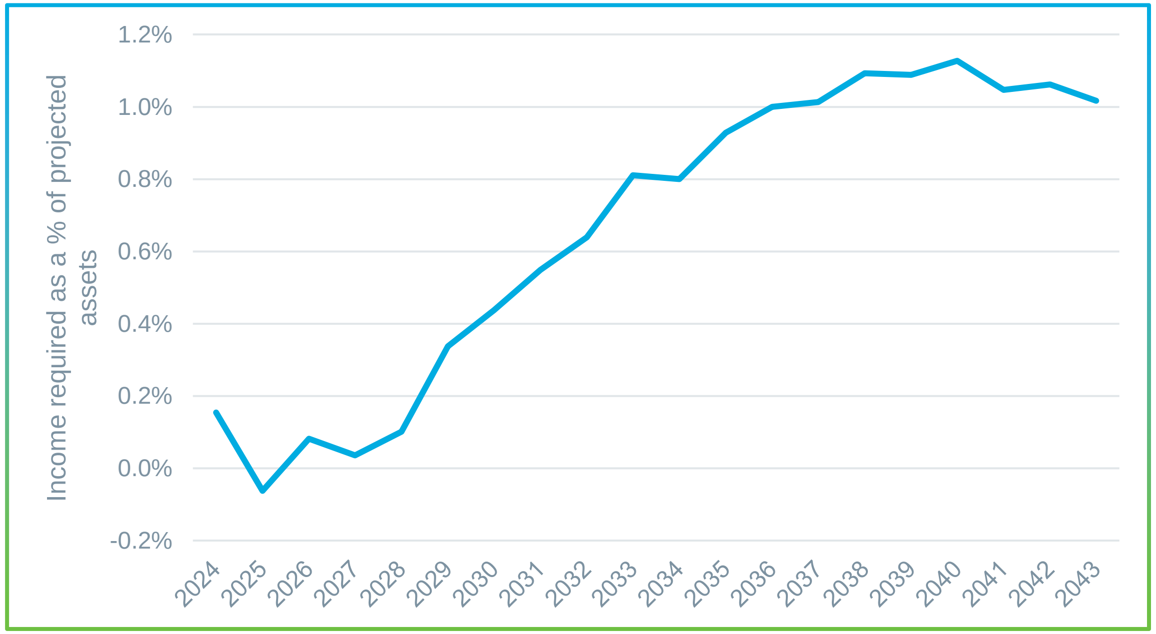


Relative to baseline, a “hard landing” would improve the Fund’s net cashflow position in future years.

Asset values are assumed to increase at 4.35% pa

Whole fund net cashflow (high inflation scenario)





A high inflation scenario would worsen the Fund's cashflow position in future years, with a substantial gap opening up (assuming pay increases remain at 3.2% pa) in the longer term. This would need to be managed by a higher level of income from the Fund's assets (in excess of 1.0% pa).

Asset values are assumed to increase at 4.35% pa

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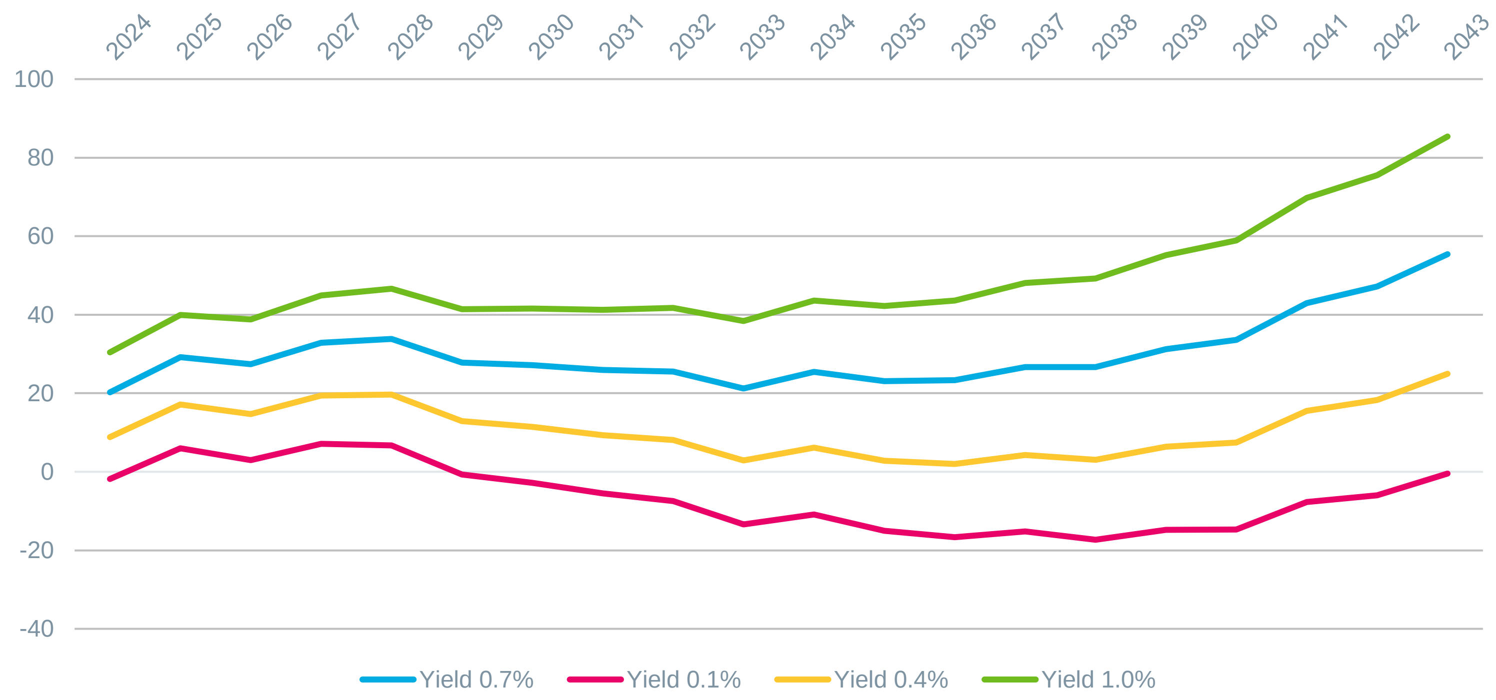
Investment yield sensitivity

Sensitivity of net cashflow to investment income yield



Notes

This highlights the sensitivity of the cashflow position to the investment income yield. For example, a yield of 0.7% pa results in a positive cashflow position for the majority of the 20-year period under investigation (baseline scenario).

A yield of 0.1% pa (as shown) may result in a cashflow negative position for the majority of the 20-year projection period.

Based on the latest Fund accounts, the current investment income yield (net of investment management fees) is around 0.7% pa. This level of yield results in a positive cashflow position over the period (the blue line), meaning the Fund may not have to increase income generation or sell assets to continue to meet pensions obligations as they fall due.

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

Asset values are assumed to increase at 4.35% 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 Northamptonshire County Council as Administering Authority to the Northamptonshire Pension Fund. It has been prepared in our capacity as actuaries 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

The Administering Authority is the only user of this advice. Neither we nor Hymans Robertson LLP accept any liability to any party other than the Administering Authority unless we have expressly accepted such liability in writing.

This report may be shared with the Fund's independent advisor for information purposes only but may not be passed onto any other third party (such as including in the public part of the Pension Committee & Board's meeting papers) except as required by law or regulatory obligation, without prior written consent of Hymans Robertson LLP.

In circumstances where disclosure is permitted, the advice may only be released or otherwise disclosed in its entirety fully disclosing the basis upon which it has been produced (including any and all limitations, caveats or qualifications).

The following Technical Actuarial Standards are applicable in relation to this advice, and have been complied with where material and to a proportionate degree:
- TAS100
- TAS300.

Thank you