Hymans Robertson LLP has carried out a cashflow investigation of the London Borough of Hackney Pension Fund, details of which are set out in this report (“the Report”), addressed to London Borough of Hackney ("the Client"). The Report was prepared for the sole use and benefit of our Client and not for any other party; and Hymans Robertson LLP makes no representations or warranties to any third party as to the accuracy or completeness of the Report.

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Cashflow Investigation

Introduction

This paper is addressed to the Pensions Committee ("the Committee") of the London Borough of Hackney Pension Fund ("the Fund"). It has been prepared in order to assist with possible cashflow requirements. This paper is set out in the following sections:

- Scope of advice
- What is cashflow negativity and does it matter?
- Data, assumptions and methodology
- Modelling results
- Conclusions and next steps
- Reliances and limitations

Scope of advice

This document has been commissioned by London Borough of Hackney in its capacity as Administering Authority to the London Borough of Hackney Pension Fund ("the Fund"). It has been prepared by Hymans Robertson LLP in our capacity as advisers to the Fund, in order to provide the Administering Authority with an indication as to when benefit payments from the Fund may exceed contribution income.

What is cashflow negativity and does it matter?

A fund can be considered "cashflow negative" when the outflows exceed its contributions and income. For the purpose of this paper we have considered the Fund's income to consist of employer and employee contributions but excludes investment income. The Fund's outflows are the benefits payable to the members and their dependants (pensions, retirement lump sums, death in service benefits etc).

The contribution and investment strategies for most LGPS funds, including the Fund, are set on a long-term basis. They generally assume that a significantly higher degree of investment risk may be taken, than in most private sector schemes, in pursuit of higher returns, on the grounds not only of security of members' benefits and strength of employer covenant, but because the funds are still open and growing. As a result cashflow has tended to remain positive and funds have not been forced sellers of assets when investments fail to deliver the anticipated returns, although this is not the case for all funds.

Knowing when the Fund is likely to pay out more in benefits than it receives in contributions is important because it may in due course have implications for both the funding strategy and the investment strategy of the Fund.

In addition, for many funds income is automatically reinvested so the balance between contributions and benefits will have cashflow management implications.

Data, assumptions and methodology

To consider the effect on its cashflows of both possible changes in future contribution levels and a reduction in the active membership of the Fund, we have modelled four separate scenarios. The scenarios are as follows.

1. Continue to pay the same rate from 2019/20 onwards and no reduction in active membership;
2. Allowance for council rate to reduce by 1% p.a. for 10 years from 2020/21 with the remaining rates being unchanged and no reduction in active membership;
3. Continue to pay the same rate from 2019/20 onwards and a reduction of 10% in the active membership from 1 April 2018;

4 Allowance for council rate to reduce by 1% p.a. for 10 years from 2020/21 and a reduction of 10% in the active membership from 1 April 2018.

Data

The starting point for each scenario was the membership data as at the latest 2016 formal valuation. No changes were made to this data.

The membership for scenarios 3 and 4 was obtained by assuming a 10% reduction at the end of 2017/18 in the Fund's active membership. Since details of the actual leavers are uncertain, a random sample of active leavers has been chosen.

No allowance has been made for any additional retirement benefits being paid in the short term (e.g. redundancy) for these members as the circumstances which would result in a fall in membership of 10% are unknown. Further, more extensive, calculations could be carried out if it was considered to be appropriate to assume the leaving members were likely to be from a particular age group.

It should be noted the graphs contained in this report are purely illustrative, and not necessarily indicative of likely outcomes.

Benefit outgo

The benefits outgo assumed allows only for benefit payments in line with the valuation assumptions, i.e. expected lump sums and pensions on retirement and death. We do not anticipate transfers out (or in) in the valuation so no allowance is made for either of these in our projections.

The annual cash flows are shown for each year following 31 March 2017 (so the year 1 cash flows are payable during the period 1 April 2017 to 31 March 2018). The cashflows are assumed to be paid midway through their respective period.

We have shown cashflows separately for members who were active, deferred and pensioners at 31 March 2016. No allowance is made for members changing category after 2016, e.g. pension payments for active members assumed to retire after 2016 continue to be shown as active benefit payments.

Contribution income

We have included estimates of contribution income assuming that members contribute 6.4% of pay from 31 March 2016 in line with the rate calculated for the 2016 valuation. Employers are assumed to contribute as disclosed in the 2016 valuation. We have also allowed for lump sum deficit repayment contributions to be paid in line with the Rates and Adjustments Certificate prepared following the 2016 valuation.

Note that we have assumed that the total of employer and employee contributions would remain the same should employee contributions be increased. In practice there is currently no power to reduce employer contributions between valuations and the extent of any reduction from the next valuation would be dependent on a number of other factors. However, in the absence of any firm details on member contribution increases, we believe the approach we have taken is reasonable and should not materially affect the results of our analysis.

New entrants

During the modelling period we would expect natural membership reductions through voluntary leavers and retirals. To keep the membership stable we have assumed new entrants would join the Fund and replace the departing active members. We have assumed a 100% replacement ratio over the next 20 years which results in a stable salary roll over this period. The projected cashflow position could be markedly different if a different replacement ratio was assumed.

For scenarios 3 and 4 where 10% reduction in active membership are applied, we make no allowance for replacement of the 10% reduction but do allow for replacement in respect of the leavers, retirements etc among the remaining active membership.

The new entrants joining are assumed to be spread appropriately between ages 25 and 64 with an average at age 32. The demographic and salary assumptions that apply to the new entrants are based on those for the existing members but have been simplified. Despite the simplifications, we believe that these assumptions are reasonable given the highly significant uncertainty associated with the level and profile of new entrants.

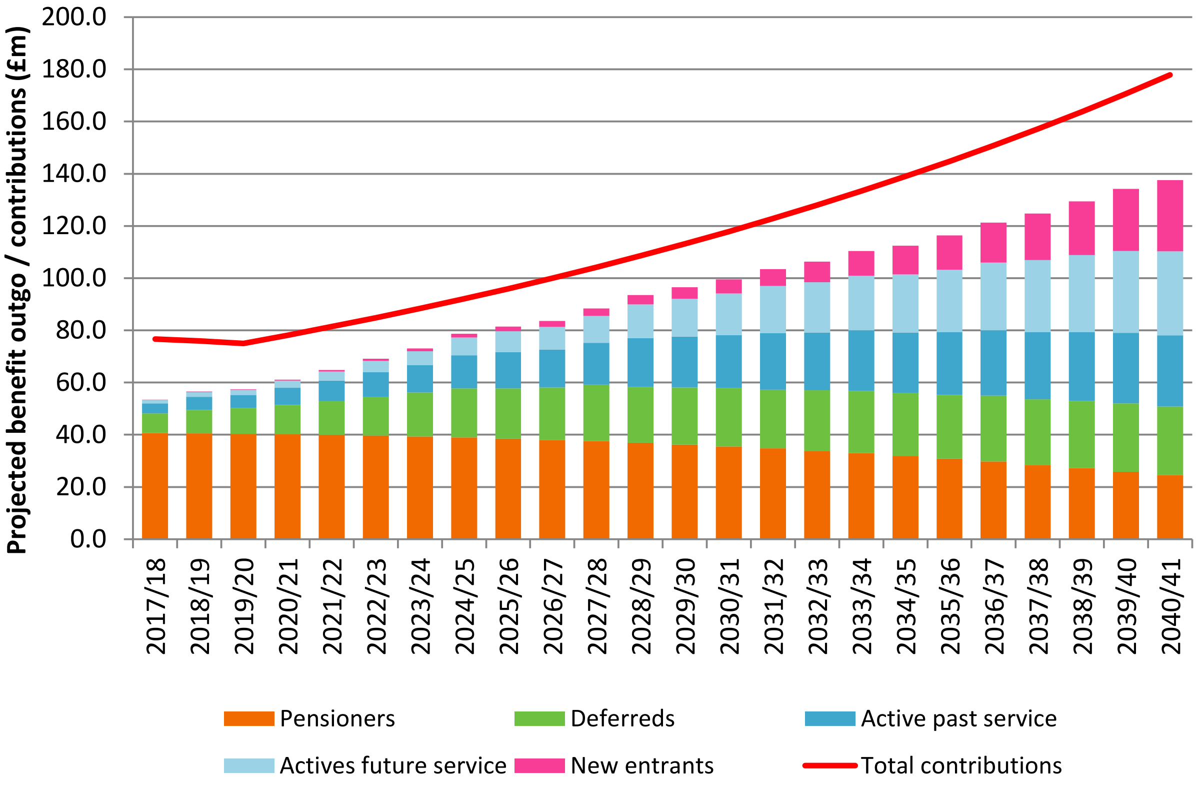
Assumptions

The financial and demographic assumptions used to project the benefit payments from the Fund are those underlying the final results of the 2016 actuarial valuation. For further details of these assumptions please see the 2016 formal valuation report dated 30 March 2016.

Modelling results

The graphs below show the results of the modelling.

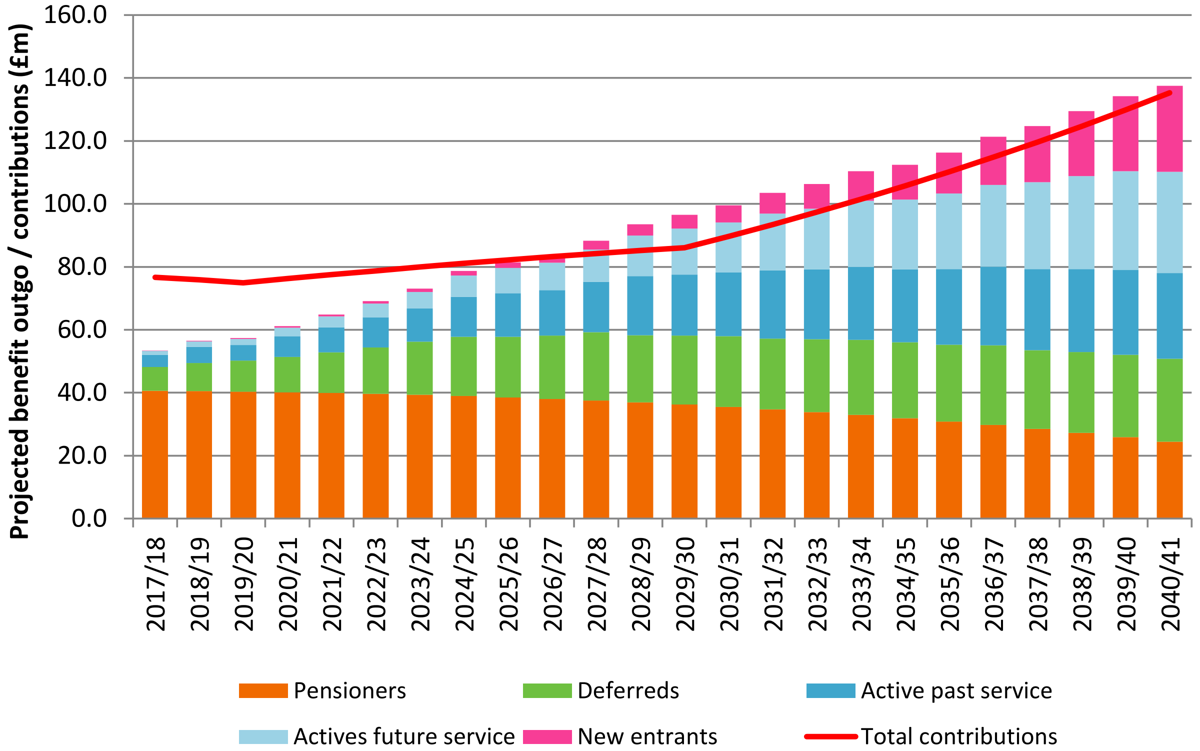
Scenario 1 (Same rate paid from 2019/20 onwards and no reduction in active membership)



From the cashflow graph above it can be seen that the estimated contributions paid into the fund are greater than the benefit outflow for the foreseeable future.

The stable level of contributions in the years to 2019/20 reflect the low level of salary increases in these years (1% p.a.) combined with the reduction in the contribution rate paid by the Council. From 2020, the level of salary increases are assumed to increase each year at a rate of 1% above RPI. Hence the increasing level of contribution income from 2020.

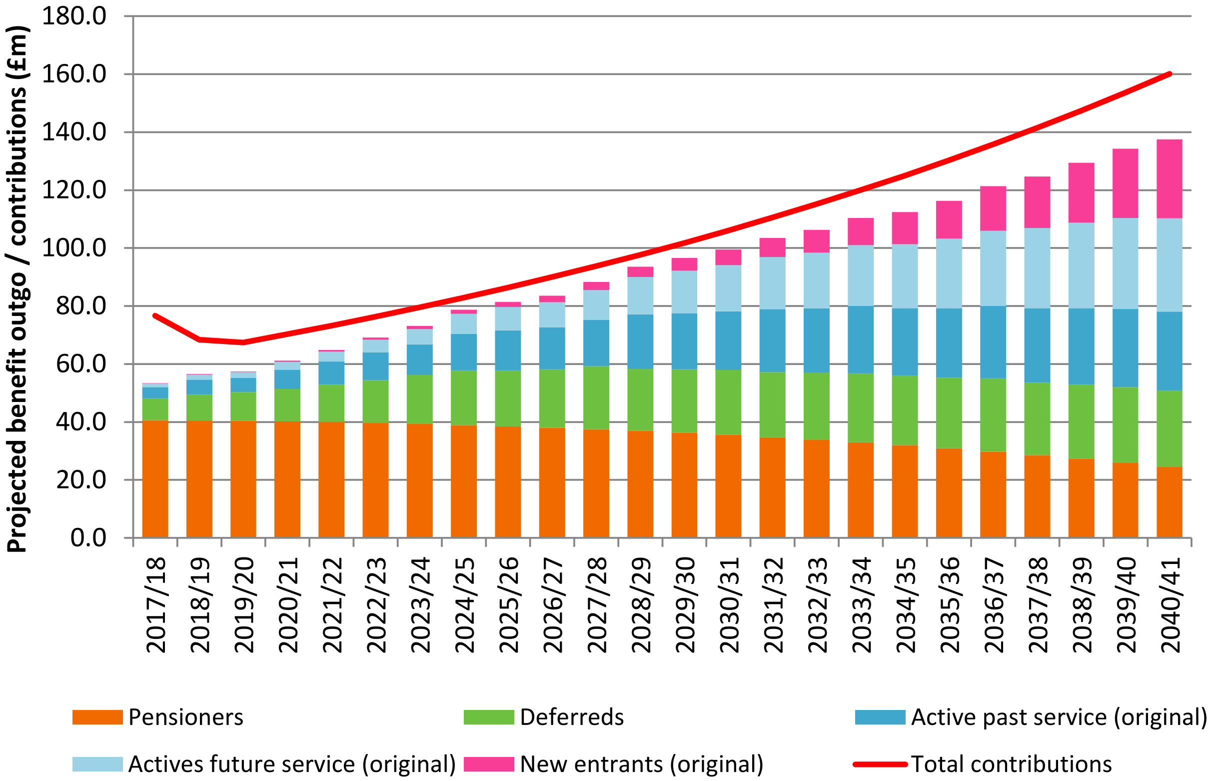
Scenario 2 (Council rate to reduce from 2020/21 by 1% p.a. for 10 years with the remaining rates remaining unchanged and no reduction in active membership)



With the council rate to reduce by 1% p.a. for 10 years you can see, from the chart above, that the estimated contributions paid into the fund are greater than the benefit outflow only until approximately 2025. The Fund is considered cashflow negative from this point.

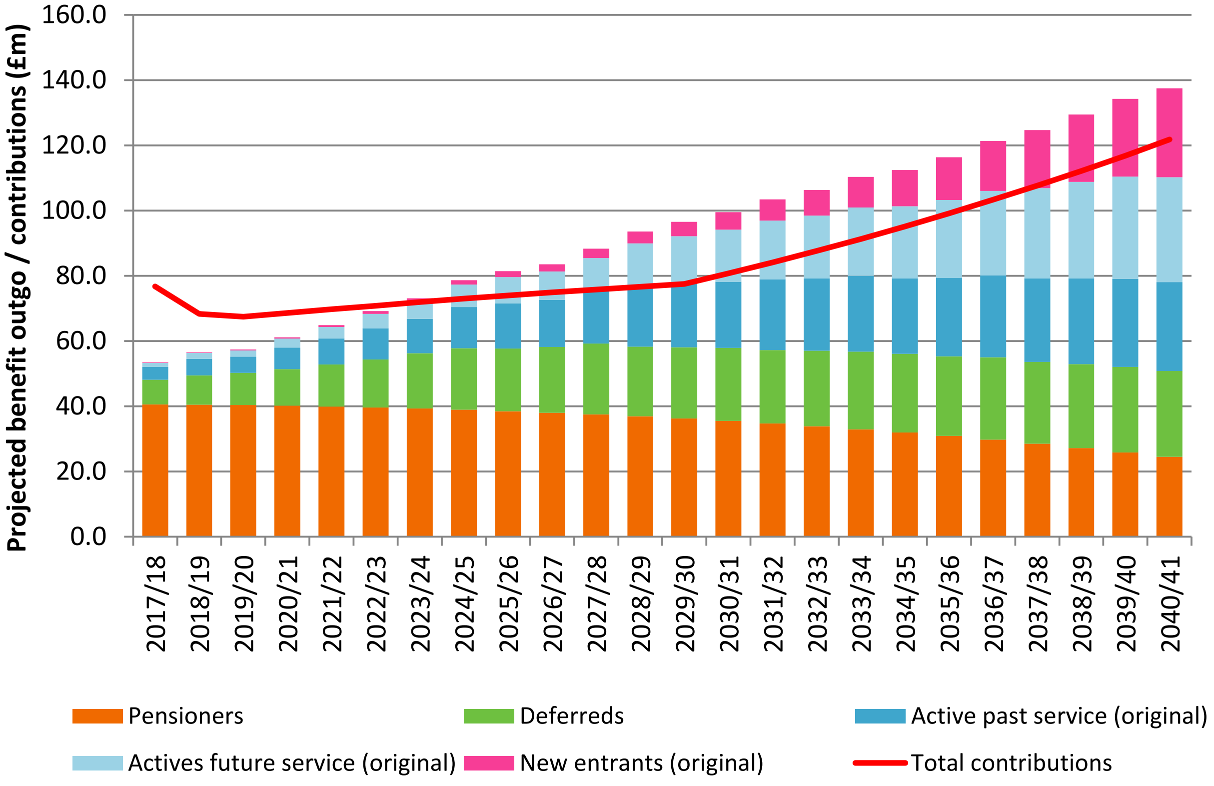
The same comments in scenario 1 in relation to salary increases apply in this scenario. However, contribution income is reduced as a result of the reduced rate of contributions for the 10 year period from 2020.

Scenario 3 (Same rate paid from 2019/20 onwards and 10% of actives leave at end of 2017/18)



From the cashflow graph above it can be seen that the estimated contributions paid into the fund are greater than the benefit outflow for the foreseeable future, although the fall in active membership will result in the level of positive cash flow being much reduced than would otherwise have been the case.

Scenario 4 (Council rate to reduce from 2020/21 by 1% p.a. for 10 years with the remaining rates remaining unchanged and 10% of actives leave at end of 2017/18)



With the council rate to reduce by 1% p.a. for 10 years you can see, from the chart above, that the estimated contributions paid into the fund are greater than the benefit outflow only until approximately 2024. The Fund is considered cashflow negative from this point.

Summary

The scenarios above show that contributions are expected to exceed benefit outflow if the membership does not reduce significantly, although, not surprisingly, the level of positive cash flow is reduced if there are subsequent reductions in the number of contributing members. However, if the there is a steady reduction in the Council's contribution rate (say 1% p.a. from 2020/21) this will more than likely result in a negative cash flow within the next 10 years.

Cashflow negativity

When benefit outgo exceeds the contributions income, the Fund would begin to rely on investment income to meet the difference. In this situation the Administering Authority would need to:

- carefully monitor ongoing cash requirements, factoring in the expected amount and timing of investment income;
- make operational changes to their investment mandates; for the appropriate segregated mandates consider asking managers not to automatically reinvest income and instead to deliver income back to make benefit payments and for appropriate pooled mandates change accumulation units to income units– the current arrangements are summarised in Appendix 1;
- factor the potential need for liquidity into consideration of any changes to investment strategy or management, and
- consider the effect of other membership movements, including bulk transfers, large redundancy exercises, the flow of new entrants and the effect of employers leaving the Fund to assist in predicting ongoing cash requirements.

Conclusions and next steps

In our view no immediate action is required. However, the Fund should be aware of the impact of reduced Council contributions which, depending on the level of reduction, could result in the Fund becoming cashflow negative within the next 10 years.

The next steps for the Fund are:

(a) to consider whether further analysis, potentially leading to changes in the investment policy, is appropriate at employer level (since some employers will already be cashflow negative and, due to the operation of a single investment strategy, this will lead to an element of cross-subsidy between employers[1]);

(b) to monitor membership changes and their effect on the Fund's cashflow position; and

(c) to consider whether there are other factors which might have an effect

As you may be aware a few years ago a Government review put forward the idea of increasing employee contributions and changes to the benefit structure of public sector pension schemes. The modelling results in this report do not allow for the possible effects that may occur from potential future increases to employee contribution rates or potential future benefit changes.

[1] This cross-subsidy is not new and is not, per se, an issue of concern, however as conditions change the Administering Authority may wish to better understand the extent and implications of the cross subsidy.

Reliances and limitations

This document should not be released or otherwise disclosed to any third party without our prior consent, in which case it should be released in its entirety. Hymans Robertson LLP accepts no liability to any other party unless we have expressly accepted such liability.

The cash flow projections are based on a specific set of deterministic assumptions, which are highly unlikely to be borne out exactly, but which were deemed appropriate for funding purposes. They do not represent all possible cashflows; in particular no allowance is made for transfers in or out.

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, for instance:

- directly for investment strategy changes, or
- at individual employer level.

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, 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.

Two of the important uncertainties are the rate of pension increases, the vast majority of which increase at the annual increase in CPI inflation, and the extent to which members elect to exchange pension for cash at retirement. The cash flows provided assume that 50% of members retiring will opt to take the maximum permissible amount of tax-free cash (equivalent to 75% for service from 1 April 2018).

In summary, it should be noted that there is significant uncertainty in the cash flows both into and out of the Fund, particularly the benefit outflow, which are largely unrelated to investment conditions.

The following Technical Actuarial Standards[2] are applicable in relation to this report:

- Pensions TAS
- TAS M - Modelling
- TAS R – Reporting; and
- TAS D – Data.

Geoff Nathan FFA	Andrew Johnston
For and on behalf of Hymans Robertson LLP	For and on behalf of Hymans Robertson LLP

6 June 2017

[2] Technical Actuarial Standards (TASs) are issued by the Board for Actuarial Standards (BAS) and set standards for certain items of actuarial work, including the information and advice contained in this report.

Appendix – Current investment arrangements

The table below provides a summary of the Fund's investments, highlighting which investments can distribute income if required and the estimate yield.

Manager	Asset Class	Distribution Capability	Estimated Yield
UBS	UK Equities	Distributing share class is not available	n/a
Lazard	Global Equities	Distribution share class is available	0.26%
Wellington	Global Equities	Distribution share class is available	2.78%
RBC	Global Emerging Market Equities	Distribution share classes for the underlying funds are available	Emerging Markets Equity Fund – 0.69% Emerging Markets Value – 1.39% Emerging Markets Small Cap Fund – n/a
BMO	Bonds	Income can be distributed	2.00%
Columbia Threadneedle	Balanced Property	Distribution share class is not available	n/a
	Low Carbon	Currently distributes income	Distributions have yet to be paid. Columbia Threadneedle are currently undertaking an exercise to calculate the distribution yield.
Invesco	Target Return	Distributing share class is not available	n/a
GMO	Absolute Return	Distributing share class is not available	n/a