

## Cashflow Management

This paper is addressed to the Officers of Warwickshire County Council as Administering Authority to the Warwickshire Pension Fund (“the Fund”).

This paper should not be disclosed to any other third parties without our prior written permission and then only in full. We accept no liability to third parties unless expressly accepted in writing.

The purpose of this document is to estimate possible future cashflows over the short term and identify any actions required to protect the Fund over this period.

# 1 Summary

Benefit obligations payable are expected to increase by more than the increase in the contributions receivable such that there is expected to be a negative net cashflow in the Fund in 2017/18 and 2018/19 with the Fund returning to a slightly positive net cashflow position in 2019/20 due to an increase in the projected contribution income and a slight fall in the expected lump sum payments.

## Projection

The table below shows the projected cashflows over the next 3 years based on experience over 2016/17.

**Table 1.1 – Estimated cashflows over the period 1 April 2017 to 31 March 2020**

	2017/18 (£m)	2018/19 (£m)	2019/20 (£m)
Pensions	-57.6	-59.7	-61.8
Lump Sums	-10.1	-11.5	-9.4
Contributions	64.2	68.0	72.0
<b>Net Cashflow</b>	<b>-3.5</b>	<b>-3.2</b>	<b>0.8</b>

There is no allowance in the estimates for any future redundancies and early retirements. Clearly more redundancies will increase lump sum outgo, increase regular pensions in payment and reduce regular contribution income (although there may be a short term increase in income from any strain payments for early retirements). The net effect of further redundancies would probably be to worsen the cashflow position.

## Key points

Based on estimates of future cashflows over the short-term (benefits and expenses payable versus contribution income), it seems likely that income will **not** be sufficient to meet outgo in the period 2017 – 2019. However, the position improves in 2019/20.

## Investment income

If we also allow for current levels of investment income, no shortfall is expected in the next 3 years (assuming current levels of investment income, £17.6m p.a. continue) This highlights the possibility that consideration could be given to a more flexible cashflow management policy e.g. a reduced working cash balance and reinvestment of any excess cash receivable.

## 2 Introduction

Cashflow management is an integral element of the administration of any pension scheme. The Fund has to meet its ongoing benefit payments. These may consist of monthly pension payroll, transfer value payments, retirement lump sums and death benefits. It also has to meet administration expenses.

In order to be able to meet these benefit payments, the Fund requires ready access to cash. Cash may be obtained from payments into the Fund in the form of contributions and transfer values, from income drawn from the Fund's assets or by the sale of assets.

The purpose of this paper is to identify the extent to which estimated contributions due to be received are sufficient to meet expected benefits outgo over the 'short-term'. For the purpose of this paper, the 'short-term' is defined as 3 years.

### 3 Analysis of historical cashflows and method for estimating future cashflows

We have used membership data from the actuarial valuation at 31 March 2016 to estimate future benefit payments from the Fund (pensions and normal retirement lump sums). This ensures that the estimated future benefits reflect:

- a) expected future deaths among existing pensioners; and
- b) expected future retirement dates of active and deferred members. (The long-term cashflows projected based on data at the 2016 valuation are shown in the appendix.)

There have been both changes to the membership profile of the Fund and differences between actual and assumed financial conditions (e.g. actual vs expected pension increases) since March 2016. We have therefore made approximate adjustments to the results from the model to allow for these differences since 2016. In this section of the report we explain the adjustments made.

By comparing the actual Fund benefit payments (pensions and lump sums) over the period 1 April 2016 to 31 March 2017 with those expected from the 2016 valuation, we can identify the reasons for any differences and use this information to calibrate the projected future pension payments based on actuarial valuation data for short-term use.

In the tables below, actual cashflows (A) for the period 2016-17 are compared with those expected (E) based on data at the 2016 valuation and assumptions about future pension increases and pay growth at that time.

**Table 3.1 – Comparison of actual (A) and expected (E) outgo over the last year**

	2016/17 (£m)	
	A	E
Pensions	-57.1	-56.9
Lump sums	-15.1	-14.4
Administration and expenses	-1.6	n/a
<b>Total</b>	<b>-73.8</b>	<b>-71.3</b>

**Table 3.2 – Comparison of actual (A) and expected (E) income over the last year**

	2016/17 (£m)	
	A	E
Contributions	71.4	72.9
Investment income**	17.6	n/a
<b>Total</b>	<b>82.4</b>	<b>72.9</b>

\*Investment income includes dividends from stocks and shares, income from pooled investment vehicles (some of which is automatically reinvested) less the administration and investment management expenses. (Source: Investment income information provided by Sukhdev Singh and Vicki Forrester)

Please note that future investment income is not an output from the model used to generate future liability cashflows. "Expected" future investment income is therefore not available for the table above.

We can make the following observations from this comparison.

### Pensions in payment

Actual pension outgo was approximately 0.3% more than expected in 2016/17.

A key reason for this is likely to be a higher incidence of early retirements in the year 2016/17, compared to the retirement age assumed for triennial valuation purposes or members opting not to commute as much lump sum as expected.

### Retirement lump sums

Lump sums (including death grants) were lower in 2016/17 than that expected from the 2016 valuation. Lower actual figures may be due to a combination of:

- the number of retirements being less than assumed, and
- the amount of tax free cash taken at retirement being less than assumed.

### Contributions

Actual contributions received in 2016/17 were lower than expected based on the payroll of all employees at the 2016 valuation. The reasons for this may be due to more employees than expected retiring before reaching the retirement age assumed at the triennial valuation. Early retirements reduce the employee membership, reduce pensionable payroll and reduce contribution income. We have estimated short term contribution income by applying certified contribution rates to the 2016 valuation payroll.

### Investment income

We have shown the actual investment income realised (net of expenses) to highlight the magnitude of this against other cashflows. Future investment income is not an output from the model used to generate future liability cashflows and “expected” future investment income is therefore not available. This could be estimated directly from actual investment holdings. (Please see section 5.)

## 4 Short term cashflow projection

### Methodology

The principles adopted to estimate future cashflows are set out in the appendix. In summary:

- 1 Future benefit payments (pensions and normal retirement lump sums) are estimated from 2016 valuation data with appropriate adjustments to reflect differences between actual and expected pension increases over the period 2017-20. This method ensures projected benefit payments reflect expected pensioner deaths and new retirements from the existing workforce.
- 2 Future contributions are estimated from actual contribution income received in the year 2016/17. The estimates allow for expected long term salary increases and approximate increases to the employer contribution rates in line with the Rates and Adjustments certificate.

### Projection

The table below shows the estimated cashflows over the period 1 April 2017 to 31 March 2020.

**Table 4.1 – Estimated cashflows over the period 1 April 2017 to 31 March 2020**

	2017/18 (£m)	2018/19 (£m)	2019/20 (£m)
Pensions	-57.6	-59.7	-61.8
Lump Sums	-10.1	-11.5	-9.4
Contributions	64.2	68.0	72.0
<b>Net Cashflow</b>	<b>-3.5</b>	<b>-3.2</b>	<b>0.8</b>

It can be seen from the above table that the Fund is already cashflow negative and (on central assumptions) is expected to continue to be so until 2019/20.

The estimated future annual shortfall between contribution income and benefit outflow is much less than the annual investment income likely to arise from the Fund's assets.

No allowance for early retirements has been made in this projection; the lump sums are estimates of lump sums expected as a result of normal retirements.

### Sensitivity of results to more early retirements

Early retirements increase pension / lump sum payments and may reduce contributions to the Fund. In Table 4.1 we have projected the pensions and lump sums paid out in line with actual retirement experience over 2016/17. However, if there were to be increased levels of early retirements and/or redundancies above those observed, we would expect to see increased lump sum outgo, increased regular pensions in payment and reduced regular contribution income (although there may be a short term increase in income from any strain payments for early retirements). The net effect of increased redundancies and/or early retirements would worsen the cashflow position.

In order to fully understand the impact that early retirements and redundancies could have on the Fund, we would recommend carrying out a further cashflow analysis. We would happy to discuss this with you in more detail.

### Sensitivity of results to future pay growth

The public sector pay freeze has been extended following the Chancellor's 2015 Summer Budget. The pay rises for public sector workers will be capped at an average of 1% p.a. up to 2020.

As the public sector pay freeze will come to an end, by the end of the projection period and due to the current uncertain political situation, we have not commented on the sensitivity of the results to future pay growth.

The projections do however build in the lower short term salary growth assumption agreed at the 2016 valuation.

## 5 Investment income

The projections suggest that the Fund is currently cashflow negative but will become less so over the next 2 years before turning cashflow positive in 2019/20. These results are very sensitive to the levels of pay growth, number of early retirements occurring and amount of tax free cash lump sum commuted therefore consideration should be given to reinvestment of the contribution and investment income generated by the Fund's assets. At present, we understand that income is received from some of the Fund's investment managers, whilst the income from other managers is reinvested within the respective portfolios.

It should be possible to estimate the level of investment income available to be reinvested into the Fund's assets across all of the investments (the accuracy of these estimates will vary depending on asset class).

Reinvesting income may ultimately create an imbalance in the overall cash availability which must also be managed. We therefore recommend that the overall cash availability is monitored closely. Eventually, assets may need to be sold on a regular basis in order to fund outgoings, should these increase in the longer term, though we expect this point to be some time away. At that point, account will need to be taken of the underlying liquidity of each of the Fund's investments (and therefore how readily available cash actually is) alongside the administrative complexity of instructing frequent investments/disinvestments.



## 6 Actions required

The observations made from this analysis should feed into the cashflow management policy. It is desirable in such a policy that;

- The cash balance maintained is not so large as to reduce the potential for future investment returns.
- The cash balance maintained is not so small so as to create a risk that the balance will be easily exhausted, and thus disinvestments will be required either frequently or at short notice.
- Additional assets are invested in the most efficient manner possible.

Regular monitoring of short term cashflows, based on whole fund membership data is recommended.

## 7 Data

The whole fund contribution data used in this analysis was taken from the 2016 valuation data. The investment income/expenditure was provided by Sukhdev Singh and Vicki Forrester of Warwickshire County Council. This data is summarised below.

Whole Fund Cashflows	2016/17 (£m)
Total Contributions	71.4
Pensions Paid	56.9
Lump Sums and death grants	15.1
Net investment Income	17.6

Transfer values (in or out) are excluded from our analysis.

Information relating to the whole Fund membership was taken from the 2016 valuation data.

	Whole Fund membership	Total salaries/pensions (£m)
Active	15,531	255
Deferred	15,582*	17
Pensioner	11,940	55

*\*including frozen refunds and leaver options pending*

## 8 Reliances and limitations

The cashflow projection provided represents one possible outcome based on the information held at this time and is provided to facilitate discussion on the likely consequences and actions required to address any future cashflow problems.

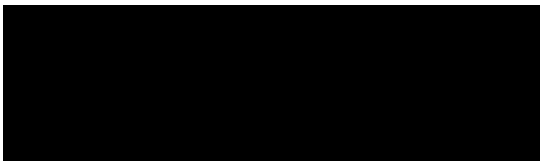
Hymans Robertson accepts no responsibility for the consequences of decisions taken on the basis on the information provided and recommends a more detailed analysis be carried out prior to specific decisions being taken.

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

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

This paper and the Warwickshire Pension Fund Formal Valuation Report dated 31 March 2017 comprise the aggregate report for this advice, in accordance with TAS R.

Prepared by:-



Richard Warden FFA

For and on behalf of Hymans Robertson LLP

10 May 2017

## Appendix - methodology

In order to project the Fund cashflows over the short-term, we have calibrated the long-term cashflows projected at the date of the most recent actuarial valuation of the Fund (31 March 2016) to allow for any deviation from the valuation assumptions from that date.

**Table A.1 – Projected cashflows from 1 April 2016 to 31 March 2021 based on 2016 valuation data**

	2017/18 (£m)	2018/19 (£m)	2019/20 (£m)
Pensions	58.0	60.2	62.3
Lump sums*	10.1	11.5	9.4
Contributions	64.2	68.0	72.0
Net cashflow	-3.9	-3.7	0.3

\*Lump sums include death grants

Please note that the value of transfers has been excluded from this analysis. No allowance for transfers is made in the actuarial valuation.

Details of the assumptions made at the 2016 valuation are set out in the Warwickshire Pension Fund Formal Valuation report dated 31 March 2017.

The projected contributions above are based on the contributions due in line with the R&A certificate dated 31 March 2017. Salaries have been projected based on the 2016 valuation assumptions and make no allowance for new entrants.

### Calibration principles

The following principles underpin the calibration of the long-term valuation cashflows for short-term use;

- We have made no allowance in the projected cashflows for further early retirements from 1 April 2016, due to the uncertain nature of these. Early retirements increase pensions in payment and lump sum payments and may reduce the contribution income compared to that expected.
- Projected pensions will increase as a result of higher pensions (higher than that expected in 2016) being paid during the period 1 April 2016 to 31 March 2017. Allowance has been made for pension increase orders (or the valuation assumption where this is not known).
  - Additional pensions of around £0.2m p.a. are assumed to have been paid during the period 2016/17.
- The pension increase order for 2017 was 1.0%, compared to the valuation assumption of 2.1% p.a. The consequence of this is to decrease the projected pensions in payment for all years from and including 2017/18 by 1.1% p.a.
- No adjustments have been made to lump sums in the absence of specific membership data. The difference between actual and expected lump sum payments in 2016/17 will mainly have been due to the amount that members commuted into a tax free cash lump sum compared to our expectation.
- Due to the limitations of the contribution income projected from 2016 valuation data, we have instead estimated short term contribution income by applying certified contribution rates to the payroll implied from the actual contributions paid (reflecting the increase in the employee membership and pensionable payroll since the 2016 valuation). By projecting the pensionable salary for 2016/17 over the period 1 April 2017 to 31 March 2020 in line with the valuation salary growth assumption, we can identify the normal contributions

expected to be paid to the Fund over the next 3 years. This method allows for new entrants by assuming that new entrants replace leavers/retirees. No allowance is made for strain payments by adopting this approach, which is consistent with the approach taken with respect to early retirements.