

Accumulating With-Profit (AWP) Calculation Examples

Example Calculation B: Pensions - policy in force at 31 December 2009

Mrs Baker has an Equitable Life Personal Pension Plan (PPP) which started on 11 April 1995 and is due to mature on 29 November 2045. She received a payment of £407 from the Equitable Life Payment Scheme.

This is an explanation of how the Scheme calculated Mrs Baker's payment to make the calculation easier to follow. The example is designed to make it easier for policyholders who have questions about the calculation model to understand the main steps taken in calculating their payment. It does not provide a step by step guide for policyholders to accurately recreate their own payment calculation.

In order to work out Mrs Baker's Relative Loss the Scheme has to identify the value of her Equitable Life Personal Pension Plan and compare it with the value of a comparable policy from another company. The values are compared between 1 September 1992 and 31 December 2009 as this is the period when a policyholder's decision to invest in Equitable Life may have been affected by the maladministration of its regulatory returns. The payment made represents 22.4% of Mrs. Baker's Relative Loss, which follows the Independent Commission on Equitable Life's recommendation for a pro-rata to be applied to AWP loss payments to meet affordability constraints.

A summary of key Equitable Life policy information used in this example is:

Policy Start Date	11 April 1995
Policy Exit Date	In force at 31 December 2009
Policy Maturity Date	29 November 2045
Policy type	PPP (Personal Pension Plan)
First Premium paid date	11 April 1995
First premium amount	£1,000
Second Premium paid date	11 April 1996
Second Premium Amount	£1,000
Third Premium paid date	11 April 1997
Third Premium amount	£1,000
"Value of your fund" from Scheme Statement	£4,083

These are the steps which were followed to calculate Mrs Baker’s payment.

Step 1: Identifying the correct calculation for the policy

First the Scheme must establish if Mrs Baker’s Personal Pension Plan is a Life or Pensions policy and if it is treated as being a contractual or non-contractual claim so that the correct calculation is carried out¹.

[Table B1](#) shows which Equitable Life AWP policies are classed as a life or a pensions policy. The Scheme therefore identified Mrs Baker’s Personal Pension Plan as a **pension policy**.

[Table B2](#) shows whether a policy is treated as a contractual or non-contractual claim. As the policy was in force at 31 December 2009 the Scheme identified the policy as being a **non-contractual claim**².

Step 2: Identifying the Equitable Life Policy Value

As Mrs Baker did not pay premiums before 1 September 1992 or after 31 December 2000, the Loss Calculation Period, and her policy was in force at 31 December 2009 the Equitable Life Policy Value used is the “Value of your fund”³ shown on the Statement sent to Mrs Baker by the Scheme.

Equitable Life Policy Value = £4,083

If Mrs Baker had made any premium payments before 1 September 1992 or after 31 December 2000, the Scheme would have to reconstruct the Equitable Life Policy Value so that only the payments to the policy during this period were taken into account.

Full details of how the Equitable Life Policy Value is reconstructed are set out in the Scheme’s Technical Annex⁴.

Step 3: Identifying the Comparator Policy Value

The Scheme has modelled a notional Comparator company based upon a basket of real companies that sold similar with-profits policies over the period of government maladministration. The returns from these companies are averaged to produce the comparator returns which are applied to the premiums paid into the Equitable Life policy to calculate the Comparator Policy Value.

The Scheme carries out two calculations to find the Comparator Policy Value: one using smoothed returns and one using unsmoothed returns. Smoothed returns spread fluctuations in returns over time to reduce the impact of volatility over short investment periods. Unsmoothed returns use an average return for each calendar year.

This example shows the smoothed and unsmoothed calculation the Scheme would have carried out to find the Comparator Policy Value for one premium in a simplified format to make it easier to follow.

¹ This information is set out in [Technical Annex](#) to Scheme Design: paragraph 14 shows which policies were treated as life or pensions business and paragraph 15 details contractual and non-contractual claims.

² [Technical Annex](#) paragraphs 23-24 cover the treatment of policies in-force at 31 December 2009 as non contractual claims.

³ This value is the Last Declared Total Value (LDTV) for the policy as at 31 December 2009 less the Market Value Adjustment (“MVA”) that applied at this date.

⁴ Details of the reconstruction of the Equitable Life Policy Value are set out in the [Clarifications](#) to the Scheme Design and [Technical Annex](#).

These calculations are undertaken to work out the value each premium paid contributes to the Comparator Policy Value.

If multiple premiums were paid in the Loss Calculation Period, 1 September 1992 to 31 December 2000, these calculations need to be repeated for each premium paid and the values added together for the Total Smoothed Comparator Policy Value (Result A) and Total Unsmoothed Comparator Policy Value (Result B) separately. As Mrs Baker's policy is a non-contractual claim, the lower of these two results is used as the Comparator Policy Value to compare against the Equitable Life Policy Value.

The amount of the premium which the Scheme uses in both smoothed and unsmoothed calculations is the actual amount of the premium paid into the policy, rather than the premium allocated to the policy that is shown on the Core Data Report (CDR) which contains deductions for expenses. Mrs Baker's original premium amounts would be contained in her Equitable Life policy documentation or in her own premium payment records.

Step 3.1: Calculating the time the premium was invested

The Scheme calculates how many days the premium was invested in each year for both the smoothed and unsmoothed calculations. Mrs Baker's first premium was paid on 11 April 1995, so was invested from 11 April to 31 December in 1995.

This period was **264** days so the proportion of that year was

$$264 \div 365 = 0.723$$

The premium was then invested for full years until and including the final year, 2009.

Step 4: Smoothed Comparator Policy Value

Step 4.1: Identifying the Smoothed Comparator Returns and adjusting for part years.

To begin the smoothed comparator calculation, the Scheme identifies the smoothed comparator returns to be applied to the premium. As Mrs Baker's policy was still in force at 31 December 2009, the Scheme applies the 2 year smoothing rates in her calculation⁵. The annual returns are shown in [Table B3](#) (Comparator: Pensions 2-year smoothed)⁶.

The returns which applied to Mrs Baker's policy are shown in column 1 of [Table B3](#) as her policy started on 11 April 1995 and 16 June 1997. In order to make the calculations easier to follow, the investment returns shown in the Technical Annex have been converted to investment factors in [Table B3](#).

Mrs Baker's first premium was paid on 11 April 1995, and [Table B3](#) shows that the **Comparator Investment Return factor for 1995 is 1.0648**. As Mrs Baker's premium was not invested for the whole calendar year (from 1 January to 31 December), it must be apportioned to reflect the time the premium was invested.

In order to do this, **1** is deducted from this factor to derive the return earned:

$$1.0648 - 1 = 0.0648$$

⁵ See [Technical Annex](#), paragraph 51 for the rule relating to whether 2 or 4 year smoothing applies to a policy.

⁶ Table 1 in Appendix A of the [Technical Annex](#) contains the unadjusted Comparator returns on which Table 3 is based.

This is multiplied by the proportion of the year the premium was invested using the figure of **0.723** calculated in Step 3.1:

$$0.0648 \times 0.723 = 0.0469$$

Add back **1** to get the **Smoothed Comparator Investment Return factor for the 1995 part-year**

$$1 + 0.0469 = 1.0469$$

After the first year the premium was invested for full calendar years (1996 until the final year, 2009) so the Smoothed Comparator Investment Return factors can be read directly from [Table B3](#) (Comparator: Pensions 2-year smoothed).

1996	1.1373
1997	1.1397
1998	1.1560
1999	1.1448
2000	1.0824
2001	0.9678
2002	0.9135
2003	0.9992
2004	1.1018
2005	1.1292
2006	1.1257
2007	1.0688
2008	0.9353
2009	0.9508

Step 4.2: Calculating the Total Smoothed Comparator Investment Return

In order to calculate the Total Smoothed Comparator Investment Return factor for the investment period, the annual factors are multiplied together:

$$1.0469 \times 1.1373 \times 1.1397 \times \dots \times 0.9353 \times 0.9508 = 2.286$$

Total Smoothed Comparator Investment Return factor

Step 4.3: Finding the adjustment factor used for market calibration of the smoothed return

The Scheme adjusts the Total Smoothed Comparator Investment Return to take account of the actual payouts made by the comparator companies in the Comparator Policy Value. This is done by applying the market calibration factors⁷. The adjustment factors shown in [Table B5](#) (Comparator: Pensions 2-year adjustment factors) have been simplified to make the calculation easier to follow⁸.

The premium was invested from 11 April 1995 to 31 December 2009. The **term is calculated as 14 years** by deducting 1995 from 2009 (2009 - 1995 = 14 years). [Table B5](#) shows the figure for a policy termination in 2009 with a term 14 years. This is:

$$1.080 = \text{adjustment factor}$$

⁷ Paragraphs 54-56 of the [Technical Annex](#) give further explanation of calibration to actual payouts
⁸ Table 4 in Appendix 1 of the [Technical Annex](#) shows the percentage market calibration factors on which Table B5 is based

Step 4.4: Calculating the Smoothed Comparator Value

The Smoothed Comparator Value for the first premium at 31 December 2009 can now be calculated.

The first premium of **£1,000** is multiplied by **0.95** to allow for 5% of the premium assumed to be used to pay up-front expenses⁹. This is then multiplied by the Total Smoothed Comparator Investment Return calculated in Step 4.2 of **2.286** and the adjustment factor from Step 4.3 of **1.080**.

$$\mathbf{£1,000} \times \mathbf{0.95} \times \mathbf{2.286} \times \mathbf{1.080} = \mathbf{£2,345}$$

Smoothed Comparator Value for first premium paid

Step 4.5: Calculating the Total Smoothed Comparator Policy Value

Steps 4.1 to 4.4 are repeated for every premium Mrs Baker paid into the policy in the Loss Calculation Period, 1 September 1992 to 31 December 2000, and the results added together.

Mrs Baker paid two further premiums to this policy (**£1,000 on 11 April 1996 and £1,000 on 11 April 1997**), using this method, these would have resulted in Smoothed Comparator values of **£2,209** (**£1,000 x 0.95 x 2.110 x 1.102**) and **£1,983** (**£1,000 x 0.95 x 1.855 x 1.125**). To get the total Smoothed Comparator Value, these amounts are added to the first premium:

$$\mathbf{£2,345} + \mathbf{£2,209} + \mathbf{£1,983} = \mathbf{£6,537}$$

Total Smoothed Comparator Policy Value (Result A)

Step 5: Calculating the Unsmoothed Comparator Value

As Mrs Baker's policy is treated as a non-contractual claim the Smoothed Comparator Policy Value calculated in Step 4.5 needs to be compared with what would have been paid out taking into account deductions (typically known as a Market Value Adjustment¹⁰) that might have applied to allow for the market conditions at the time, ie, the unsmoothed value.

Step 5.1: Identifying the Unsmoothed Comparator Returns and adjusting for part years

The calculation in Step 4.1 is repeated using [Table B4](#) (Comparator: Pensions unsmoothed) instead of [Table B3](#) (Comparator - Pensions: 2-year smoothed). As for Steps 4.1 – 4.4 in order to make the calculations easier to follow, the investment returns shown in the Technical Annex have been converted to investment factors in [Table B4](#).

For the first year 1995, the interest earned for the part- year that the premium was invested is calculated. The value from [Table B4](#) (Comparator: Pensions unsmoothed) is **1.1690**. As in Step 4.1:

1 is deducted from this factor to derive the return earned:

$$\mathbf{1.1690} - \mathbf{1} = \mathbf{0.1690}$$

⁹ See Section 8 Assumptions, page 78 of [Technical Annex](#) for assumed rate for Comparator Initial Expenses

¹⁰ See [Technical Annex](#) paragraphs 20 and 22 for application of Market Value Adjustment and Section 9, Glossary, page 86 for definition of Market Value Adjustment as applied to non –contractual terminations to ensure the payout targets approximately 100% of the unsmoothed asset share.

This then multiplied by the proportion of the year the premium was invested using the figure **0.723** calculated in Step 3.1:

$$0.1690 \times 0.723 = 0.1222$$

Add **1** back to get the **Unsmoothed Comparator Investment Return factor for the 1995 part-year**:

$$1 + 0.1222 = 1.1222$$

As before, the unsmoothed investment factors for premiums invested for full calendar years (1996 to 2009) can be read directly from [Table B4](#) (Comparator: Pensions unsmoothed):

1996	1.1064
1997	1.1740
1998	1.1382
1999	1.1516
2000	1.0173
2001	0.9206
2002	0.9063
2003	1.1018
2004	1.1018
2005	1.1572
2006	1.0952
2007	1.0430
2008	0.8390
2009	1.0778

Step 5.2: Calculating the Total Unsmoothed Comparator Investment Return

The Unsmoothed Comparator Investment Return factors for each year are multiplied together:

$$1.1222 \times 1.1064 \times \dots \times 1.0778 = 2.353$$

Total Unsmoothed Comparator Investment Return factor

Step 5.3: Calculating the Unsmoothed Comparator Value

For the unsmoothed value, no market calibration adjustment is used so Step 4.3 using Table B5 (Comparator: Pensions 2-year adjustment factors) does not need to be repeated.

The premium of **£1,000** is multiplied by **0.96** to allow for up-front expenses as described in Step 4.4 and then multiplied the **Total Unsmoothed Comparator Investment Return factor 2.353** (Step 5.2):

$$£1,000 \times 0.95 \times 2.353 = £2,235$$

Unsmoothed Comparator Value for first premium paid

Step 5.4: Calculating the Total Unsmoothed Comparator Policy Value

Steps 5.1 – 5.3 are repeated for every premium paid into the with-profits policy in the Loss Calculation Period and the results added together.

In this example, the following two years' premiums resulted in values of **£1,939** ($£1,000 \times 0.95 \times 2.041$) and **£1,726** ($£1,000 \times 0.95 \times 1.817$). To get the Total Unsmoothed Comparator Policy Value these amounts are added to the value for the first premium:

$$£2,235 + £1,939 + £1,726 = £5,900$$

Total Unsmoothed Comparator Policy Value (Result B)

Step 6: Identifying the lowest of the Comparator Values

As Mrs Baker's policy is a non-contractual claim Comparator Policy Value is the **lower of Result A** (£6,537) **and Result B** (£5,900), which is **Result B £5,900**.

Step 7: Calculating the Total Relative Loss

From Step 2, Mrs Baker's **Equitable Life Policy Value** (as shown on her Statement from the Scheme) is **£4,083** giving a Relative Loss of:

$$\begin{array}{r r r r r} \text{Comparator Policy Value} & - & \text{Equitable Policy Value} & = & \text{Relative Loss} \\ \\ £5,900 & - & £4,083 & = & £1,817 \end{array}$$

No additional interest is applied because Mrs Baker's Relative Loss has been calculated to 31 December 2009.

Step 8: Calculating the payment from the Scheme

A **pro-rata of 22.4% is applied** to the Relative Loss in Step 7 in order to meet the Scheme's funding constraints. Therefore, Mrs Baker's payment from the Scheme is:

$$£1,817 \times 22.4 \div 100 = \underline{\underline{£407}}$$

As Mrs Baker has one policy, off-setting¹¹ does not apply in this example.

¹¹ Where a policyholder holds more than one policy, one or more of which has a Relative Gain, (ie the Equitable Life Policy has performed better than the Comparator policy) the gain may be "offset" against the Relative Losses of the other policies, resulting in the reduction of the sum of the Relative Loss across all the policies which have been offset. Full details about offsetting are set out in the [Technical Annex](#).

TABLE B1 – Life or Pensions

This table is designed to assist in determining whether a policy is considered to be a Life or Pensions policy.

Abbreviated Policy Name	Full Policy Name	Life or Pensions Product
BND	Bond	Life
PIP	Personal Investment Plan	Life
SF	School Fee Trust Plan ¹²	Life or Pensions
RSP	Regular Savings Plan	Life
FPP	Flexible Protection Plan	Life
HTH	Health product	Life
PPP	Personal Pension Plan	Pensions
RA	Retirement Annuity	Pensions
IPP	Individual Pension Plan	Pensions
GR	Group Pension Plan	Pensions
MAN	Managed Pension	Pensions
TP	Transfer Plan	Pensions
DHA	Deferred Hancock Annuity	Pensions
FSA	Free Standing Additional Voluntary Contribution (FSAVC)	Pensions
WU	Wind Up Plan	Pensions

¹² Please note that the School Fees Trust Plan could be either a Pensions or Life policy, and you will need to find out which type of Plan you have/had by checking your policy documentation

TABLE B2 – Contractual or non-contractual

This table is designed to assist in determining whether a policy is considered to be a contractual or non-contractual claim. However, this is not an exhaustive list, and the classification will depend on the terms and conditions of each individual policy.

Reason for policy termination	Contractual or not
In Force ¹³	Not Contractual
Maturity Claim	Contractual
Transfer ¹⁴ /Surrender	Not Contractual
Death Claim	Contractual
Critical Illness Claim	Contractual
School Fee Trust Plan	Contractual
Personal Pension Plan Claim	Non-contractual
Bonds and Regular Savings terminating on 5 th or subsequent policy anniversary	Contractual
Bonds and Regular Savings not terminating on 5 th or subsequent policy anniversary	Not Contractual
Flexible Protection Plan surrenders on the expected maturity date	Contractual
Any other claim	Not contractual

¹³ In force means that the policy remained invested with Equitable Life, whether or not premiums were still being paid to the policy

¹⁴ A transfer for a personal pension refers to a movement of the pension benefits to another pensions provider

TABLE B3 (Comparator: Pensions – 2-year smoothed)

These factors are calculated from Table 1 in Appendix A to the Technical Annex. These figures account for the Shareholder Transfer Adjustment (“STA”) and renewal expenses. These are set out in paragraph 47 and 57 of the Technical Annex respectively.

For example, the first cell in the table is calculated by reading directly from *Table 1: Comparator Investment Return* the percentage for 1992 which is 14.23%. The renewal expenses are 0.75% and the STA is 0.98. The Comparator Investment Return and renewal expenses are converted from percentages to a factor by dividing by 100 so the calculation to find the Comparator Smoothed Investment Return factor for 1992 is:

$$(14.23 - 0.75) \div 100 \times 0.98 + 1 = 1.1321$$

The dates 16 June 1997 and 3 March 2000 were the dates of demutualisation of Norwich Union and Scottish Widows respectively.

Year	Policy start date		
	before 16/6/97	16/6/97 to 2/3/2000	on or after 3/3/2000
1992	1.1321	1.1294	1.1267
1993	1.1864	1.1826	1.1788
1994	1.0991	1.0971	1.0950
1995	1.0648	1.0635	1.0621
1996	1.1373	1.1345	1.1317
1997	1.1397	1.1369	1.1340
1998	1.1560	1.1528	1.1496
1999	1.1448	1.1419	1.1389
2000	1.0824	1.0807	1.0791
2001	0.9678	0.9684	0.9691
2002	0.9135	0.9152	0.9170
2003	0.9992	0.9992	0.9992
2004	1.1018	1.0997	1.0977
2005	1.1292	1.1265	1.1239
2006	1.1257	1.1232	1.1206
2007	1.0688	1.0674	1.0660
2008	0.9353	0.9366	0.9380
2009	0.9508	0.9518	0.9528

TABLE B4 (Comparator: Pensions unsmoothed)

These factors are calculated from Table 1 in Appendix A to the Technical Annex. These figures account for the Shareholder Transfer Adjustment (“STA”) and renewal expenses. These are set out in paragraph 47 and 57 of the Technical Annex respectively.

For example, the first cell in the table is calculated by reading directly from *Table 1: Comparator Investment Return* the percentage for 1992 which is 14.03%. The assumed renewal expenses are 0.75% and the STA is 0.98. The Comparator Investment Return and renewal expenses are converted from percentages to a factor by dividing by 100 so the calculation to find the Comparator Smoothed Investment Return factor for 1992 is:

$$(14.03 - 0.75) \div 100 \times 0.98 + 1 = 1.1301$$

The dates 16 June 1997 and 3 March 2000 were the dates of demutualisation of Norwich Union and Scottish Widows respectively.

Year	Policy start date		
	before 16/6/97	16/6/97 to 2/3/2000	on or after 3/3/2000
1992	1.1301	1.1275	1.1248
1993	1.2454	1.2404	1.2354
1994	0.9700	0.9706	0.9712
1995	1.1690	1.1655	1.1621
1996	1.1064	1.1043	1.1021
1997	1.1740	1.1705	1.1669
1998	1.1382	1.1354	1.1325
1999	1.1516	1.1485	1.1454
2000	1.0173	1.0170	1.0166
2001	0.9206	0.9222	0.9239
2002	0.9063	0.9082	0.9101
2003	1.1018	1.0997	1.0977
2004	1.1018	1.0997	1.0977
2005	1.1572	1.1540	1.1508
2006	1.0952	1.0932	1.0913
2007	1.0430	1.0421	1.0413
2008	0.8390	0.8423	0.8456
2009	1.0778	1.0762	1.0746

TABLE B5 (Comparator: Pensions 2 year adjustment factors)

These factors are calculated from *Table 2 Pensions Business, Smoothed Returns using a 2-year smoothing formula* in Appendix A to the Technical Annex. For example, the cell for term 1 and maturity 1993 is calculated by reading directly from Table 2 the percentage for 1993, -1.6%, and is converted to a factor by dividing by 100:

$$1 - (-1.6 \div 100) = 1.016$$

Termination year	Term (calculated as termination year minus transaction year)																		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1992	1.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1993	1.000	1.016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1994	1.000	1.076	1.076	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1995	1.000	1.052	1.052	1.052	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1996	1.000	0.930	0.930	0.930	0.930	-	-	-	-	-	-	-	-	-	-	-	-	-	
1997	1.000	0.919	0.919	0.919	0.919	0.919	-	-	-	-	-	-	-	-	-	-	-	-	
1998	1.000	0.980	0.980	0.980	0.980	0.980	0.986	-	-	-	-	-	-	-	-	-	-	-	
1999	1.000	0.956	0.956	0.956	0.956	0.956	0.982	1.008	-	-	-	-	-	-	-	-	-	-	
2000	1.000	0.932	0.932	0.932	0.932	0.932	0.962	0.993	1.023	-	-	-	-	-	-	-	-	-	
2001	1.000	1.048	1.048	1.048	1.048	1.048	1.057	1.066	1.075	1.084	-	-	-	-	-	-	-	-	
2002	-	1.092	1.092	1.092	1.092	1.092	1.099	1.107	1.115	1.122	1.130	-	-	-	-	-	-	-	
2003	-	-	1.171	1.171	1.171	1.171	1.165	1.158	1.151	1.145	1.138	1.140	-	-	-	-	-	-	
2004	-	-	-	1.184	1.184	1.184	1.149	1.113	1.078	1.042	1.007	1.030	1.053	-	-	-	-	-	
2005	-	-	-	-	1.131	1.131	1.090	1.049	1.008	0.967	0.926	0.952	0.978	1.004	-	-	-	-	
2006	-	-	-	-	-	1.229	1.161	1.093	1.025	0.957	0.888	0.891	0.894	0.896	0.899	-	-	-	
2007	-	-	-	-	-	-	1.103	1.058	1.014	0.969	0.925	0.925	0.926	0.926	0.926	0.927	-	-	
2008	-	-	-	-	-	-	-	1.018	1.016	1.013	1.010	1.000	0.990	0.980	0.970	0.960	0.959	-	
2009	-	-	-	-	-	-	-	-	-	1.125	1.147	1.169	1.147	1.125	1.102	1.080	1.058	1.069	1.079