

**Financial Assistance Scheme
Review of cost estimates**

December 2007

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Index

- 1. SUMMARY**
- 2. BACKGROUND**
- 3. ESTIMATED COSTS OF THE EXISTING FINANCIAL ASSISTANCE SCHEME**
- 4. ESTIMATED COSTS OF THE EXTENDED FINANCIAL ASSISTANCE SCHEME**
- 5. UNCERTAINTY OF PROJECTED COSTS AND ASSUMPTIONS USED**
- 6. ANNEX**

1. SUMMARY

The Financial Assistance Scheme (FAS) was announced in 2004 by the Department for Work and Pensions (DWP) to provide assistance to members of defined-benefit occupational pension schemes that wound up under-funded when their employers became insolvent during the period 1st January 1997 to 5th April 2005. At the inception of the FAS a model was created by the Government Actuary's Department (GAD) to estimate the likely flows of assistance provided by the scheme, and to ensure that they were consistent with the expenditure commitments of DWP.

Since 2004, Government has increased assistance levels and the scope of the scheme has expanded, greatly increasing the likely future expenditure and changing the likely profile of costs in future years. At the same time, new information has become available from FAS-eligible schemes through the FAS Operational Unit, while underlying assumptions (notably on mortality) have also changed. In light of these developments and the announcement of the extension of FAS, it is timely to revisit the costs estimates of FAS.

This document should be read alongside the final report of the Review of Assets undertaken by Andrew Young, which is published today. This can be found at <http://www.dwp.gov.uk/pensionsreform/fas-asset-review.asp>

As well as providing revised estimates of the costs of current levels of FAS assistance as announced in the 2007 Budget, this document describes the data and modelling improvements from an extensive model-development project involving the DWP, GAD and Pricewaterhouse Coopers (PwC) to improve data sources and refine estimates of the future cost of the FAS. This work was undertaken between July and November 2007. Part of the modelling process included validation by PwC. Their report can be found at <http://www.dwp.gov.uk/lifeevent/penret/penreform/fas/>

The results of this exercise are broadly similar to those of the 2004 costing exercise and subsequent cost estimates. Despite the much more complete data and modelling approach outlined in this document, there are only small cost changes at an aggregate level. This overall similarity conceals some offsetting changes in data, assumptions and modelling approaches, but this confirms that the previous estimates that Government used were broadly accurate and provided a sound basis for the formulation of policy.

Whilst the focus of this document is to update the cost estimates of FAS prior to the newly announced extension, this document also provides estimates of the extension which includes:

- Payment of 90% of expected pension
- Payment from scheme normal retirement age, subject to a lower age limit of 60
- Indexation of assistance relating to post-1997 service
- Extension of FAS to schemes with a solvent employer

The net cost of this extension is estimated to be £0.93 bn over and above the £1.99 bn already committed to which the savings identified by the Review of Assets will contribute. Throughout this document this extension is referred to as the 'newly announced extension of FAS' whilst 'current FAS' refers to FAS following the 2007 Budget extension.

By taking in scheme assets, Government has become responsible for making payments to members which previously would have been made by their scheme from those assets. This will therefore increase cash-flows from FAS. Further work is necessary to quantify this new stream of expenditure.

We are confident that the new approach is robust and is suitable for supporting the assessment of fiscal costs. We will continue to incorporate new information into our estimates as it becomes available and to keep assumptions under review.

ROBERT LASLETT

PENSIONS ANALYSIS AND STEWARDSHIP DIRECTOR

2. BACKGROUND

Previous estimates of FAS costs

1. Previous published estimates of the costs of the FAS and potential changes to the scheme have been based on data collected when the scheme was first established in 2004. At that time, data were collected on the characteristics of 380 potentially qualifying pension schemes. Specific data were also collected on some 1,300 individual members of schemes, thought to be reasonably representative of all scheme members with potential pension losses.
2. These data, together with scaling parameters, were then fed into a model developed for DWP by the GAD to generate profiles of future costs. As the data available were limited, the model made prudent assumptions about factors such as likely funding levels in schemes and scheme members' life expectancy. Details of the model and the main assumptions were set out in the DWP document 'Response to the Report of the Parliamentary Ombudsman *'Trusting in the Pensions Promise'*, published on 6th June 2006.

Improvements to modelling

3. Since 2004, a number of extensions in the scope of FAS have increased the potential costs considerably, from a cash cost over the lifetime of the scheme of around £600m originally, to around £8.6 bn prior to the newly announced extension. It is therefore important that cost projections are as robust as possible.
4. In order to provide a greater degree of assurance for the estimates, the Department, in conjunction with the Review of Assets team, has undertaken a new data collection exercise. This exercise, with the co-operation of a number of actuarial firms (details were provided in Annex I of the Review of Assets interim report), has provided improved data on a much larger sample of individual scheme members likely to be eligible for FAS. At the same time, the Department commissioned GAD to update and extend the actuarial model used to project costs, building on the new data provided.

Data and costing methodology

5. The new data collection exercise was undertaken in May to July 2007. Returns were received on 18,448 scheme members, of which 12,362 proved to be of sufficient quality to use within the actuarial model. The remaining returns were not used, in most cases because the data provided were incomplete, or inconsistent.
6. Although the original data request asked that information provided by scheme actuaries on individual members was anonymous, some records received contained names within the member data. Access to data on individuals - in line with DWP protocols - was restricted to the absolute minimum number of DWP staff and the data were kept in a secure area. Members were assigned a reference number, and any names deleted. All data passed to GAD and PwC as part of the modelling development work used only these anonymous reference numbers and did not contain any information that would allow individuals to be identified.

7. To facilitate the timely and robust production of the estimated costs it was decided to use a random sample of 4,945 of the 12,362 records. Comparisons of key variables in the 4,945 sample confirmed that the smaller sample was suitably representative of the full sample.
8. The updated costing model has been developed by GAD so that the improved data can be used to estimate FAS costs as robustly as possible. For each individual member of the sample, the model calculates the amount of assistance that would be paid in each year (either under current FAS rules or under possible alternative rules for calculating assistance levels in FAS). The calculations take account of the members' ages, their expected pensions, and the proportions of those pensions likely to be paid by their schemes. They also take account of the likely longevity of eligible members and their survivors. The projected cash flows in each year are then scaled up to the estimated total number of eligible scheme members.
9. For example, if an individual is 55 years old, the model will calculate the projected level of FAS assistance when that person reaches 65 (assuming that this is scheme normal pension age for the individual in question). Projected payments will be zero in each of the first 9 years: in the 10th year they will start at the projected level (only a part year payment, allowing for the probability of survival to FAS payment age). In subsequent years a proportion of the original projected payment will be estimated as paid, where that proportion represents the probability that the individual has survived to that age¹, in line with the chosen longevity assumption. Allowance for survivors' benefits on death both before and after age 65 is also made. This process is repeated for each of the members in the sample and the aggregate result is scaled up to the estimated total number of eligible scheme members.

Validation

10. To provide independent assurance regarding the new GAD model, DWP asked PwC to validate the model. PwC were asked to assess the likely reliability of the resulting cost estimates, taking account of the data used and the calculations made in the model.
11. PwC audited the model during the later stages of development, and their suggestions resulted in adjustments to the model whilst it was being developed. PwC's overall conclusion was that *"The model is well-constructed to provide a reasonable estimate of the likely cashflows from FAS."*
12. A full copy of the PwC validation report, also published today, can be found at <http://www.dwp.gov.uk/lifeevent/penret/penreform/fas/>

¹ It is assumed within the model that no one survives beyond age 120

3. ESTIMATED COSTS OF THE EXISTING FINANCIAL ASSISTANCE SCHEME

Prior to the newly announced extension of FAS² Government was committed to pay around **£8.56 billion in cash costs, or £1.99 billion in net present value (NPV) terms³**

13. This section presents updated estimates of FAS costs using the new model and data.

Change in cost estimates

14. Table 1 below compares previously-published cost estimates of FAS with the corresponding estimates using the new model. They are broadly similar, although the cost estimate for FAS following the Budget 2007 extension has increased by around £600m in cash terms and £100m in net present value terms. The profile of cash costs over time is shown in Chart 1.

15. This overall similarity conceals some offsetting changes in data, assumptions and modelling approaches, but this confirms that the previous estimates that Government used were broadly accurate and provided a sound basis for the formulation of policy.

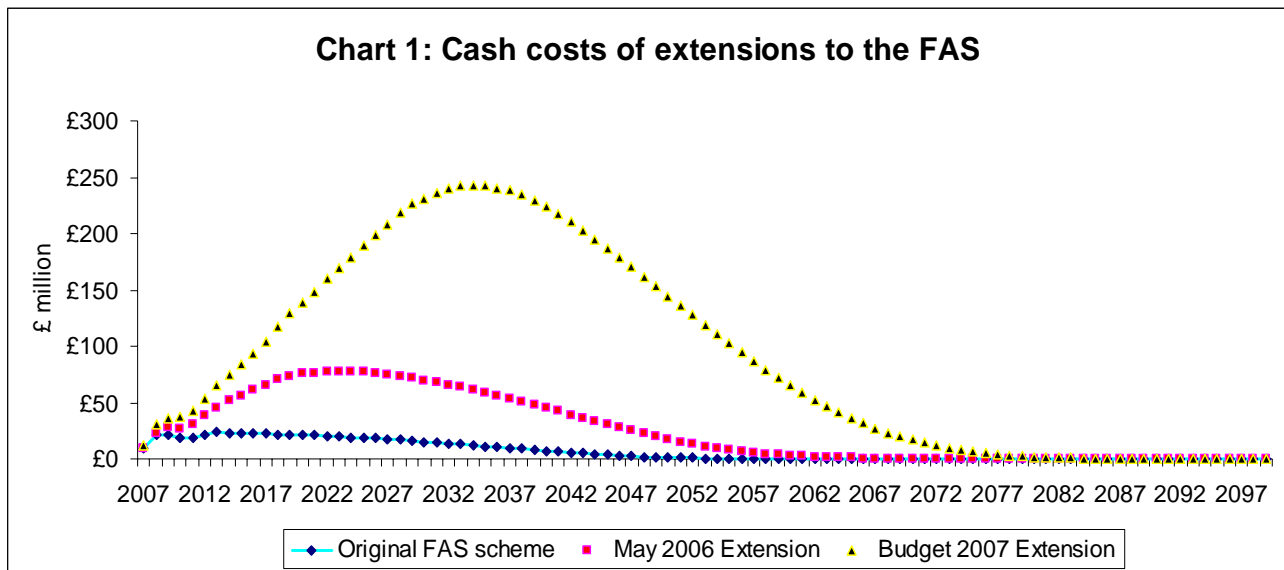
		Original model		New model	
	Terms	Total cash cost (£bn)	Total NPV cost (£bn)	Total cash cost (£bn)	Total NPV cost (£bn)
Original FAS	80% to those 3 years from pension age, £12,000 a year cap on assistance, £520 a year de minimis	0.61 ⁴	0.28	0.62	0.29
May 2006 extension	80% to those 7 years, 65% to 11 years, 50% to 15 years from pension age, cap, de minimis as before	2.38	0.83	2.36	0.81
Budget 2007 extension	80% to all, £26,000 a year cap, no de minimis	7.97	1.87	8.56	1.99

Note: Figures rounded to nearest £10m.

² Prior to the newly announced extension of FAS, the assistance level was 80 per cent of expected pension for all members payable from 65, with removal of the de minimis and an increased cap of £26,000 a year

³ See annex for explanation of NPV and the discount rate used. NPV costs are in 2007/8 price terms.

⁴ £610 million was the estimated lifetime costs of the original FAS scheme compatible with the original Government commitment of £20 million for 20 years i.e. £400 million cash.



16. The changes in the cost estimates reflect the combined effect of a number of differences arising from the use of new data and updated assumptions. The main sources of change are set out below.

a) Assumed annuity rates

The new model incorporates annuity rates that seek to reflect current rates. Previous modeling used rates of pension relating to assets available that were more relevant when FAS was first established in 2004. Annuity rates have fallen since then, due mainly to annuity providers assuming greater longevity. Therefore, the pension amounts estimated to be provided by schemes when purchasing annuities on scheme wind up are now lower for a given amount of assets available in the scheme for each individual, thus increasing the estimated costs of assistance.

b) Better data on scheme members potentially eligible for FAS (in particular regarding the age profile, scheme funding levels and actual and expected pension levels)

The new data set provides a more robust indication of the characteristics of qualifying schemes and individual members' likely losses. This new dataset broadly confirms earlier assumptions about expected pension levels and levels of scheme funding, but even quite small changes in these can have an appreciable impact on cost estimates.

c) Updated longevity assumptions and changed ONS longevity estimates

For the baseline costs the new model incorporates projections of life expectancy that are based on the assumptions used in the 2006-based Office for National Statistics (ONS) population projections, published in October 2007. The mortality rates used were 85% of those for the UK population as a whole, with the 85% representing differences in longevity between members of pension schemes eligible for FAS and members of the wider population. These new projected rates assume that future life expectancy will improve at a faster rate than assumed in previous projections and than assumed in the previous model. For example, in this model a man aged 65 in 2024 would be expected to live for a further 24.1 years on average. In the previous model this would have been lower, at 22.0. The corresponding expectation of life on the assumptions used for the 2006-based ONS national population projections is 22.5 (ONS principal projection)

d) A higher number of compromise agreements⁵

Previous estimates for the costs of the Budget 2007 extension to FAS made an assumption that including schemes where a compromise agreement was in place would increase the numbers eligible for assistance by around 8,000. In the light of more recent evidence, based on the number of relevant schemes that have contacted the FAS Operational Unit, we now estimate that compromise agreements will add up to 13,500 to the eligible population. This represents a very cautious estimate, and work is underway to improve the data for membership of schemes with a compromise agreement.

Offsets

17. As FAS assistance payments are made, expenditure on some Income Related Benefits, for example Pension Credit and Housing Benefit, may be reduced. Similarly, FAS payments are taxable, so there will be increases in tax revenue. These reductions in Income Related Benefit expenditure and increases in tax revenue are often referred to as offsets.
18. The level of these offsets depends critically on the overall income of FAS recipients, taking into account state pensions and other private pensions and investment income they may have built up. No direct information is available on this, so the estimated offset rates are based on assumptions and are uncertain.
19. Whilst the gross NPV cost of existing FAS is £1.99bn, taking these offsets into account would produce a net cost to government as a whole of £1.47bn NPV

⁵ See Review of Assets, chapter 7, for full definition

4. ESTIMATED COSTS OF THE EXTENDED FINANCIAL ASSISTANCE SCHEME

The net cost of the newly announced extension is estimated to be £0.93 bn over and above the £1.99 bn already committed to which the savings identified by the Review of Assets will contribute.

20. By taking in scheme assets, Government will also become responsible for making payments which previously would have been made from scheme assets. This will further increase cash-flows from FAS, so the gross increase in expenditure will be significantly more than £0.93 bn.
21. It should be noted that the cost of including members of schemes with a solvent employer is particularly uncertain. This is due to a lack of reliable information both over the total number of members, and around scheme funding levels.
22. A reasonable range of uncertainty around the central estimate of an additional £0.93 bn net cost would be that the additional cost lies between £0.6bn and £1.24bn.

5. UNCERTAINTY OF PROJECTED COSTS AND ASSUMPTIONS USED

The estimated cost of the current form of FAS is £1.99bn NPV. A reasonable range of uncertainty around this estimate would be £1.46 billion to £2.43 billion,⁶ up to 26% lower or 22% higher than the baseline estimate, of £1.99 billion.

The estimated net cost of the newly announced extension is £0.93bn to which the savings identified by the Review of Assets will contribute. A reasonable range of uncertainty around this would be that the additional cost lies between £0.6bn and £1.24bn.

Range of uncertainty

23. Whilst costs throughout this document are shown as single point estimates, such assessments of estimated future costs are inherently uncertain.

24. The PwC report identified that:

“Based on all the uncertainties around the data sampling and modelling, a reasonable estimate of the range of uncertainty is that costs could be as much as 12% lower or 7% higher than central point estimates. This range includes a 5% estimate by us of the possible deviation in the predicted cashflows as a result of data sampling.”

25. These figures relate only to the uncertainty that arises from data sampling and modelling, and should not be regarded as the total range of uncertainty in the cost estimates.

26. The other key sources of uncertainty are the estimated total FAS population, longevity and the total number of people who will be eligible for FAS through being in a scheme with a compromise agreement (see following sections for additional detail). Even minor variation in these estimates can lead to significant impacts on the cost estimates.

⁶ Based on varying the assumptions regarding longevity, scheme funding and the total number of people estimated to be entitled to FAS and also taking into account PwC’s observations about inherent uncertainty in the data collection process and the model. The main estimate of the number of people entitled to FAS through a compromise agreement is already considered to be a conservative estimate, and the only variant investigated is half the central estimate – this represents uncertainty as to whether all the schemes will qualify, and the possibility that such schemes are better funded than other FAS-eligible schemes, with associated lower government expenditure on FAS assistance.

27. There are many other sources of uncertainty, for example future inflation and trends in marriage rates. As a proxy for all the other areas of relatively minor uncertainties, the scheme funding level can be adjusted in the costing model. Thus, to illustrate a reasonable range of uncertainty we assume:
- a) Longevity differs from the central assumption, in “high life expectancy” and “low life expectancy” scenarios
 - b) The rating up factor to the estimated total FAS population is adjusted by + / - 5%
 - c) Scheme funding is adjusted by + / - 5%
 - d) The number of people in schemes with compromise agreements is half that which is used in the central estimate (low scenario only, given the cautious central assumption)
 - e) The range calculated by PwC which covers the uncertainty arising from data collection and modelling (-12% and +7%) is also applied
 - f) The range of uncertainty around schemes with a solvent employer is added for the recently announced extension to FAS – we estimate the central cost of extending FAS to these schemes is £0.21bn, with a £0.15bn range of uncertainty.
28. These assumptions are used to generate a range of low and high cost scenarios. The low cost scenario assumes that longevity is lower than the central estimate, that we have overestimated the number of people entitled to FAS, and that the other areas of uncertainty all lead to lower costs, whilst the high scenario assumes the opposite.
29. Based on this approach, the estimated cost of the current form of FAS is £1.99bn NPV. A reasonable range of uncertainty around this estimate would be £1.46 billion to £2.43 billion, up to 26% lower or 22% higher than the baseline estimate, of £1.99 billion. The range is asymmetrical as the adjustments for longevity, compromise agreements, and the PwC suggested range of uncertainty arising from data collection and modelling are not symmetrical.
30. The estimated cost of the announced extension is £0.93 bn. A reasonable range of uncertainty around this would be that the additional cost lies between £0.6 bn and £1.24 bn.
31. This range should not be regarded in any way as representing a standard statistical test, for example, a 95% or 99% level of confidence, as due to the nature of the data available such intervals cannot reliably be calculated. The range simply represents a reasonable estimate of the range of inherent uncertainty of the projected costs.

Key model assumptions

1) Number of potentially eligible members

32. The model rates the sample up to 120,000⁷⁸. This continues to be based upon information collected during the data collection exercise in 2004 to estimate the number of members eligible for FAS assistance and these estimates have been shown to be consistent with membership data collected by the FAS Operational Unit from schemes that have applied for FAS qualifying status.
33. In Budget 2007 the Government announced the extension of FAS to cover members of schemes that began winding up between 1st January 1997 and 5th April 2005 where a compromise agreement is in place, and where enforcing the full statutory debt against the employer would have forced the employer into insolvency. Initially it was estimated that there were around 8,000 members in these schemes, but in recent months additional schemes have contacted the FAS Operational Unit, leading us to estimate that there could be up to 13,500 members in schemes with a compromise agreement. This represents a very cautious estimate, and work is underway to improve the data for membership of schemes with a compromise agreement.
34. Taking account of the April 2007 extension to FAS in relation to compromise agreements, the table below shows the total number of members estimated as potentially eligible for FAS. It does not include members who have not experienced any losses⁹ – such people will primarily be those already in receipt of a pension at the starting date of scheme wind-up.

⁷ This is not the total FAS population as the model does not include certain types of FAS member. See section entitled '3) *Further adjustments to account for members and issues not incorporated within the model*' paragraphs 42 to 44.

⁸ The great majority of the members eligible for the proposed arrangement would be non-pensioners. The 380 schemes on which data were originally collected have around 70,000 non-pensioner members in total. In addition, DWP estimate that a further 50,000 or so non-pensioner members in a few hundred more schemes could have experienced losses. This estimate is based on DWP's data collection exercise and data from the Pension Schemes Registry, maintained by The Pensions Regulator (formerly Opra). DWP estimate that only around 5,000 pensioners would be eligible for payment as, due to their position in the priority order, they are less likely to experience significant losses.

⁹ The Review of Assets final report quotes the total number of members in schemes yet to complete wind-up who are eligible for FAS assistance. The numbers in this table only include members estimated to have experienced some loss (hence excluding many pensioners), and cover members in schemes that have both wound up and those that are still in wind-up.

Table 3: Numbers potentially eligible for FAS	
	FAS at 80% of pension
Total potentially eligible FAS members	120,000
Less adjustment for mortality ¹⁰	113,000
Less those with pension income above 80% and hence not eligible for assistance from FAS	110,000
Plus pensioners at date of wind-up but still experiencing some loss	Up to 115,000
Plus members in compromise agreements (upper estimate)	Up to 128,500
Plus members in schemes with a solvent employer	Up to 139,500

Numbers rounded to nearest 500

35. The newly announced extension which includes taking in scheme assets will result in Government becoming responsible to make payments to scheme members who were above Normal Retirement Age at the point of scheme wind-up and entitled to more than 80% of expected pension. These people are not included in the table above.

Current number of people entitled to FAS

36. Based upon the data provided by scheme actuaries, and information from the FAS Operational Unit, we now estimate that by December 31st 2007 the number of people aged over 65 and entitled to FAS payments will be 6,500 to 7,500¹¹. We have previously estimated that around 8,000 members eligible for FAS are now aged over 65 and therefore eligible to receive assistance.
37. At the start of December 2007, a total of 3,540 members were being paid by FAS Operational Unit.

¹⁰ Due to payment of survivor's benefits, around 5,000 to 6,000 spouses will receive money upon the early death of their FAS eligible partner before age 65

¹¹ This number does not include pensioners at the start of wind-up, or any members from schemes with a compromise agreement. The slightly lower number than previously reflects a slightly younger age profile in the updated data

38. Payments at 80 per cent of expected pension (subject to a cap) can be made to eligible members of schemes that have not completed winding up in one of three ways:

- The FAS Operational Unit pays 80 per cent of expected pension in full to members of winding up schemes, even if no interim pension is being paid by the scheme itself. This removes the expectation of pension payment from schemes still in wind up.
- Where trustees wish to pay interim pensions at a level supported by the scheme's actual funding level, the FAS can top these up to 80 per cent as before.
- Trustees can pay the 80 per cent from the assets available in their scheme if they feel this is appropriate, taking into account their duty to act in the best interests of their scheme members – with payments to eligible members guaranteed in the longer term by the taxpayer.

39. It should be noted that these numbers do not take into account the newly announced extension of payment of FAS from scheme Normal Retirement Age.

2) Longevity

40. DWP sought GAD's advice as to an appropriate longevity assumption to use when estimating the projected cost of FAS. DWP adopted an assumption recommended by GAD as being appropriate to give a best estimate of the long-term projected costs; the model is also able to produce estimates with alternative longevity assumptions. See section (c) within the section entitled 'Updated longevity assumptions' for a fuller description of the longevity assumptions used.

41. These longevity assumptions are consistent with those adopted last year by the Government Actuary to assess National Insurance rebates for members of contracted-out salary-related pension schemes (COSRs) and their employers in his March 2006 report to Parliament ("Review of certain contracting-out terms" Cm 6758). Those assumptions drew on earlier analysis of the mortality of members of COSRs based on DWP administrative data.

3) Further adjustments to account for members and issues not incorporated within the model

Compromise agreements

42. In April 2007, the government announced an extension of FAS to cover members of schemes that wound up where a compromise agreement is in place, and where enforcing the full statutory debt against the employer would have forced the employer into insolvency. As noted above, we estimate that there are around 13,500 members who may be in such schemes which represents a very cautious estimate. As FAS eligibility has so far focussed on schemes with insolvent employers, information (in particular funding levels and detailed membership data) on schemes with compromise agreements has not been collected routinely and further data collection is now underway. Therefore, estimates of the costs of including these schemes has been derived by assuming this group has similar costs to existing eligible schemes, based on the limited information we hold about scheme membership. This results in a cost increase of around 10%¹² NPV.

Pensioners

43. The model does not contain any information about people who were in receipt of a pension at the date of start of scheme wind-up and experienced a loss of some of their pension. This is calculated through a small addition to the results of the model, which impacts primarily in the early years of FAS expenditure, although this impact is small (approximately 1.3% NPV).

Re-profiling of expenditure to 2011

44. There is also a minor adjustment made for the time taken for members currently (or soon-to-be) entitled to FAS to start to receive payments, based on current expectations of the time it may take for schemes to provide the necessary data to enable the FAS Operational Unit to make payments to eligible members. This is a simple re-profiling of expenditure up to 2011 and hence has no impact on total cash costs, though it has a very minor impact on net present value costs.

¹² It should be noted that these members have not yet entered FAS, and will enter assessment following legislation expected in December

6. Annex - Net Present Value

Costs and benefits that occur in different time periods (cash costs) are not usually directly comparable since £1 today will, generally, buy relatively more than £1 in, for example, 2030. In order to make cash costs comparable they must be 'discounted' i.e. converted to a common time period. Discounting allows for the impact of inflation as well as the principle that people usually prefer to receive goods and services now (and pay costs later) and if they have to defer consumption they want to be compensated.

A simple example (ignoring the effects of inflation, uncertainty and tax) is as follows: a person can receive £100 now or they can wait a year; however, £100 in one year's time is worth less as the money received now could be placed in a low risk investment and may grow to £105. Therefore, given a choice of £100 now or £100 in a year's time a rational person would opt for £100 today. Given the choice of £100 now or £105 in a year's time a person should (assuming no risk, tax, uncertainty or irrationality) be indifferent between the two options i.e. the present value of £105 to be received in a year's time is £100.

For individuals the appropriate discount rate for converting future cash payments expressed in real terms (i.e. adjusted for inflation) to NPV is the real interest rate on money loaned or borrowed. Society as a whole also prefers to receive goods and services now (and defer costs to future generations). This is known as 'social time preference'; the 'social time preference rate' (STPR) is the rate at which society values the present compared to the future.

HM Treasury issues guidance, via the Green Book¹³, on the appropriate STPR and this is currently set at 3.5 per cent real for the first 30 years of a projects life, declining to 3.0 per cent for years 31 to 75 (for the full schedule of rates see Table 6.1 in Annex 6 of the Green Book). The decline in discount rates in the long term reflects the greater uncertainty attached to the distant future.

¹³ The Green Book, Appraisal and Evaluation in Central Government, HM Treasury, London, TSO, also see <http://greenbook.treasury.gov.uk/>