This paper has been produced by industry representatives on the Department for Work and Pensions GMP conversion working group to accompany the Department's consultation on a new methodology for equalising pensions for the effect of GMPs. All views expressed within this document are those of such representatives acting in an individual capacity.

For comment – a ten-stage possible process for resolving the GMP inequalities issue

This paper draws together the salient points from a number of discussion papers produced by industry representatives on the Department for Work and Pensions GMP conversion working group.

It sets out a ten-stage possible process for resolving the GMP inequality issue through conversion, illustrates the calculations involved in such a process by taking a simple case involving a deferred pensioner, and then discusses undertaking the calculations more widely, some of the difficulties that arise, what drives the size of the GMP inequalities uplift and concludes with some final thoughts.

This paper only puts forward a possible model that might be used by schemes, which will need to be adapted as necessary to reflect their benefit structure. The model aims to achieve equality going forward – it does not address past practice.

1. A ten-stage possible process

The process outlined below would result in the adjustment of benefits to compensate for post 16 May 1990 GMP inequalities as well as conversion of GMPs and in large part mirrors processes under the current GMP conversion legislation. However, there are a number of places where industry representatives are of the view that the legislation hinders use of the GMP conversion facility, either because it raises ambiguities that discourage schemes from undertaking a complicated and expensive process, or because it sets up unintended roadblocks to use by many schemes. Some of these are discussed in the Department's consultation paper and they are not discussed further here. The industry representatives have also made suggestions as to how the pensions tax legislation may need to be modified or re-interpreted in order that the conversion process does not result in unintended pensions tax consequences.

The process in large part follows the current GMP conversion legislation, but some changes to it will be necessary

The pensions tax legislation may also need to be modified or re-interpreted

It is important that the conversion process is as simple to execute and explain as possible and is sufficiently flexible to fit with the wide variety of scheme benefits provided under UK occupational pension schemes.

It is assumed that any GMP reconciliation exercises with HMRC will be completed prior to the initiation of this process.

The process proceeds in ten stages as follows:

Stage 1 – Reach agreement with the employer

The trustees agree with the employer that GMP conversion is to be undertaken. This consent extends to the terms on which benefits are to be converted as part of the conversion exercise.

Stage 2 – Identify the "selected members" and agree the "conversion benefits"[1]

The trustees and the employer identify and agree which members will be converted – the "selected members". The selected members could include survivors in receipt of GMP survivors' pensions following the death of a previously contracted-out member.

A decision regarding which benefits will be converted (the "conversion benefits") and the form they will take will also be required.

A decision is needed on which benefits to convert and the form they will take

The description of the later stages assumes that the benefits to be converted are limited appropriately (typically to that part of pensionable service up to 5 April 1997 during which the GMP that is being converted accrued) in order that the GMP conversion is not regarded as having a material pension increase exchange component.

Stage 3 – Set the conversion date

The trustees and the employer agree the date at which conversion is to be effected (the "conversion date").

Stage 4 – Pre-conversion notification

The trustees then write to the selected members to inform them of the proposed conversion.

Notification should be at a high level stating:

- that the benefits (including GMP) earned during a specified period will be converted and these benefits will be adjusted to allow for the effect of unequal GMPs, which may result in changes to these benefits, but which will not reduce their overall actuarial value;
- that more personalised information will be made available once calculations have been concluded; and
- the details of the person to be contacted if there are any questions, or comments.

Stage 5 – Valuation

The trustees instruct the actuary to value for each selected member:

Valuation is in two parts:

- The member's benefits to be converted (along with attaching survivor benefits) – typically those in respect of that part of pensionable service up to 5 April 1997 ("Amount A") during which the GMP that is being converted accrued.

  Amount A is effectively the pre-conversion, pre-GMP-equalisation value of these pre 1997 benefits.

Amount A – the value of the member's benefits to be converted

[1] These terms are defined only for the purpose of this document.

It should be acceptable for this valuation to be on the scheme's Cash Equivalent Transfer Value (CETV) basis. If this basis is being used, no adjustments based on the level of funding should be permitted.

The trustees will need to decide whether to treat active members as either continuing in service or immediately leaving (ie at the conversion date). For this purpose they may wish to seek actuarial advice.

- The member's benefits (along with attaching survivor benefits) in respect of the same part of pensionable service (so typically up to 5 April 1997 during which the GMP that is being converted accrued), but assuming that for the period from 17 May 1990 (or 6 April 1990 for convenience) to 5 April 1997 the member's benefits (including but not limited to the GMP) was that of the other sex, with the excess over GMP being adjusted accordingly.

  Again, it should be acceptable for this amount ("Amount B") to be calculated on the CETV basis.

Amount B – the value of the member's benefits to be converted, assuming that the member's benefits for the 1990/97 period was that of the other sex

If the CETV basis is to be used, it may be necessary for the actuary to review the existing basis to ensure that it is appropriate for CETVs, given that such a basis might have been set having regard to those most likely to transfer, rather than those with GMPs (which will include pensioners). If so, this review would most likely be undertaken with Stage 1. Whatever basis is used, a unisex approach should be adopted.

The CETV basis is one possible way in which the valuation can be undertaken

Both amounts A and B will be calculated as at the conversion date.

It will be necessary to value and compare the whole (non-money purchase) benefit accrued in the selected period – not just the GMP – because members with a higher GMP will have a lower excess over GMP. Depending on the benefit structure of the scheme (in particular rights to indexation and survivors' benefits on the excess over GMP) a £1 of excess may be more or less valuable than a £1 of GMP. For example, if the excess over GMP increases at 5% pa fixed, having a higher GMP is likely to be a disadvantage to the member.

Both the GMP and its related "excess" need to be valued and converted

Stage 6 – Equalisation

Adjusting for the effects of unequal GMPs (so called "equalisation") would be achieved as part and parcel of conversion by using a conversion value for each selected member which is the higher of Amount A or Amount B, in other words the more valuable of the male or female benefit structure, thus encompassing the different male / female GMP entitlements.

Equalisation is achieved through taking the greater of Amount A and Amount B

The higher amount is the selected member's "conversion amount".[2]

This is the "conversion amount"…

[2] This term is defined only for the purpose of this document.

Stage 7 – Conversion – determining the post-conversion benefit

… which is turned into an equalised pension benefit using a basis consistent with that used for valuation

Having calculated the conversion amount it is then necessary to turn it into a revised pension benefit (typically representing that part of the member's pre 1997 pensionable service during which the converted GMP accrued).

A consistent approach to the Stage 5 valuation should be used – so possibly employing the scheme's CETV basis (adopting a unisex approach if currently sex-based).

Stage 8 – Post-conversion notifications[3]

Selected members would receive a second notification, this time that their benefits will be (or have been) converted as at the conversion date. They should be told what this means in terms of the amount and the shape of the benefit going forward. The date on which any benefits in payment will change (or have changed) should be included in the notice.

HMRC will be notified that the GMPs have been converted (if still required following the ending of contracting out on 5 April 2016).

Stage 9 – Certification

The actuary will certify that the calculations have been completed and that the post-conversion benefits are actuarially at least equivalent to the pre-conversion benefits.

Stage 10 – Modification of scheme to effect conversion

The trustees will resolve to amend the scheme to provide the converted benefit on the agreed basis. (It may be, depending on the scheme's rules, that this resolution will need to have been passed prior to the conversion so there should be an ability to amend by resolution at any point in the process.)

2. Application of the process to a specimen deferred pensioner

That's the theory – now let's see how it could work for an individual

In this section of the paper, specimen calculations are set out for a deferred pensioner to illustrate how the proposed methodology described in Stages 5-7 above could work in practice. It is important to note that this is just one means by which benefits can be assessed, the GMP inequalities component identified and conversion takes place. Other implementations of this method are possible.

Let's suppose that the trustees of a scheme have completed the following stages:

- Stage 1 – agreed a GMP conversion process with the employer;

[3] But the appropriate order of Stages 8-10 may depend on the circumstances, with the order possibly being certification, modification and then notification.

- Stage 2 – identified which members to convert (all members whose benefits include a GMP), determined which of their benefits to convert (all of the benefits that accrued when the GMP accrued, including the GMP), determined the desired form that the converted benefits should take (the same as applied to excess scheme benefits that accrued with the GMP from the retirement equalisation date (1 July 1994) to 5 April 1997);
- Stage 3 – set the conversion date (31 October 2013); and
- Stage 4 – completed the pre-conversion notification to members.

The trustees now instruct the actuary to carry out Stages 5 to 7, ie valuation, equalisation and conversion.

The relevant details of the individual are as follows:

Date of birth	05/04/1955
Date joined scheme	06/04/1973
Date left pensionable service	05/04/2010
Sex	male
Final pensionable salary on leaving service	£18,000

The scheme benefits, valuation and conversion assumptions are summarised in Appendix 1. Details of the methodology underlying the calculations are set out in Appendix 2.

The assumptions used are purely illustrative

The assumptions, which are purely illustrative, were set for a specimen calculation undertaken as at 31 October 2013, whose purpose was to demonstrate that the GMP inequalities issue could be resolved through GMP conversion. The assumptions should not be taken to have any other meaning and have not been updated for current financial conditions.

In this example the member's pensionable service period is wider than the period during which GMPs accrued. As a result the member's benefits need to be split into six segments as follows (the member's GMP and the opposite sex GMP for post Barber date service is also illustrated):[4]

[4] The member's benefits need to be considered in segments because different rules will apply to them as a result of contracting out legislation and retirement age inequalities. Appendix 2 explains each of these segments.

All the dates are set by legislation and Barber v GRE (17 May 1990) except for the date at which the scheme equalised retirement ages (1 July 1994) which will be scheme-specific. There could be further segments as a result of changes to scheme rules during this period for other reasons which could further complicate the process.

Benefit segment	1 (pre 6/4/78)	2 (6/4/78 to 5/4/88	3 (6/4/88 to 16/5/90)	4 (17/5/90 to 30/6/94	5 (1/7/94 to 5/4/97	6 (post 5/4/97)	Total
Deferred pension at date of leaving	1,500.00	3,000.00	625.00	1,225.00	850.00	3,900.00	11,100.00
Member GMP at date of leaving		690.56	126.36	250.12	170.04		1,237.08
Opposite sex GMP at date of leaving				284.44	193.96		

To address the GMP inequality it is only necessary to examine the fourth and fifth benefit segments, giving an uplift to the member where necessary. But as it is desired to convert all of the GMP, a value will also have to be placed on segments two and three as well (but there will be no inequality uplift on them as this is not required).

A long service record has been chosen deliberately to illustrate the need to segment the benefits into potentially a number of service periods

The calculation starts by projecting:

- the deferred pension to the unisex retirement age where it is assumed to come into payment;
- the GMP to when it becomes payable (the later of the GMP payment age[5] and the unisex retirement age); and
- testing whether, where the GMP payment age is later than the unisex retirement age, there needs to be at this point an uplift to the scheme pension to cover the GMP.[6]

One needs to project the pensions in each segment to their appropriate payment ages

It then establishes the cash equivalent value of these benefits at the conversion date by applying relevant actuarial factors as indicated in the table below.

And then apply relevant actuarial factors

[5] 65 for men and 60 for women.

[6] This uplift is often referred to as a “GMP step-up”.

Benefit segment	1 (pre 6/4/78)	2 (6/4/78 to 5/4/88	3 (6/4/88 to 16/5/90)	4 (17/5/90 to 30/6/94	5 (1/7/94 to 5/4/97	6 (post 5/4/97)	Total
Total projected pension at retirement age	1,712.93	3,461.51	720.24	1,851.00	1,079.83	4,910.10	13,735.61
Factor A	19.775	19.775	19.775	19.775	19.775	19.775	
Projected GMP when GMP becomes payable		982.88	179.85	356.00	242.02		
Factor B		-6.218	-2.478	-2.478	-2.478		
Uplift to cover GMP		0.00	0.00	0.00	0.00		
Factor C		16.912	16.912	16.912	16.912		
Value at conversion date	33,873	62,340	13,797	35,722	20,754	97,098	263,584
Amount A		62,340	13,797	35,722	20,754		132,613

To obtain the value of each segment at the conversion date

In other words, to obtain the values for each benefit segment set out at the bottom of the table one multiplies:

- the total projected pension by Factor A;
- the Projected GMP by Factor B;[7]
- the Uplift to cover the GMP by Factor C,[8]

and then adds these three amounts together to get the cash equivalent of the benefit segment. All the cash equivalents are then added together to get the overall cash equivalent of the member's benefits; £263,584 in this case. [9]

From which Amount A is obtained

Amount A is the sum of the cash equivalent of benefit segments 2, 3, 4 and 5, ie £132,613.

The process is repeated for two of the segments as if the member was of the opposite sex

Benefit segments 4 and 5 are now revisited as if the member was of the opposite sex. This necessitates projecting the benefits again and applying consistent but potentially different valuing factors [10] with the following results: [11]

[7] Factor B is negative and so values the projected GMP as an offset amount. This takes account of the fact that there are no increases to the pre-1988 GMP and the 3%LPI increases to the post-1988 GMP are less generous than the 5%LPI increases applied to the scheme pension in excess of the GMP.

[8] In this particular case no uplift is required when the GMP comes into payment at 65 because the pension in payment at this point is greater than the GMP. This will not always be the case.

[9] It is not necessary in this case to value benefit segments 1 and 6 as they are not being converted.

[10] In this example Factor A remains the same as a unisex actuarial basis has been used and the pension is being valued from age 63 in both cases. Factor C increases because any uplift is valued at age 63 for the female comparator (as opposed to age 65 for the member). Factor B becomes more negative because the difference in pension escalation between the GMP and the scheme excess is being valued at age 63 as opposed to age 65.

[11] In this example the female comparator has a higher total projected pension than the member in segment 5 but a nearly identical total projected pension in segment 4 to that of the member. This is because of the interaction of GMP and excess revaluation factors, and GMP increment and scheme late retirement factors, applying at different ages due to the dates each segment and benefit type first become payable unreduced.

Benefit segment	1 (pre 6/4/78)	2 (6/4/78 to 5/4/88	3 (6/4/88 to 16/5/90)	4 (17/5/90 to 30/6/94	5 (1/7/94 to 5/4/97	6 (post 5/4/97)	
Total projected pension at retirement age				1,851.18	1,123.02		
Factor A				19.775	19.775		
Projected GMP when GMP becomes payable				435.64	297.06		
Factor B				-3.002	-3.002		
Uplift to cover GMP				0.00	0.00		
Factor C				19.559	19.559		
Value				35,299	21,316		

Amount B is the sum of benefit segments 2, 3, 4 and 5, taking 2 and 3 from the member's valuation, and 4 and 5 from the opposite sex valuation.

Resulting in Amount B being obtained

Benefit segment	1	2	3	4	5	6	
Amount B		62,340	13,797	35,299	21,316		132,753

The value of the uplift is given by the following formula:

In this case there is an uplift as Amount B exceeds Amount A

max (Amount A, Amount B) – Amount A.

So in this particular case the value of the uplift is only £140, which is 0.25% of the member's value of segments 4 and 5. [12]

We now move on to convert the benefits in segments 2, 3, 4 and 5. We have a conversion budget of £132,753 (as Amount B exceeds Amount A) and the trustees have determined that when converting these benefits they should take the same form as applies to excess (over the GMP) scheme benefits that accrued in segment 5.

The factor is 24.923 which results in a converted deferred pension at date of leaving of £5,326.59 pa. [13]

So it is Amount B that is divided by an actuarial factor to obtain the converted benefit

[12] The uplift would be higher (£562) if the greater of the member and the opposite sex valuation had to be compared for benefit segments 4 and 5 separately.

[13] The factor of 24.923 is obtained by multiplying the 19.775 factor by a further factor of 1.259. By dividing Amount B by the first factor one obtains the required additional deferred pension as at the conversion date. By going on to divide this result by the second factor resets the deferred pension to one at date of leaving.

So to recap, at the beginning of the process, we had the following:

Benefit segment	1 (pre 6/4/78)	2 (6/4/78 to 5/4/88	3 (6/4/88 to 16/5/90)	4 (17/5/90 to 30/6/94	5 (1/7/94 to 5/4/97	6 (post 5/4/97)	Total
Deferred pension at date of leaving	1,500.00	3,000.00	625.00	1,225.00	850.00	3,900.00	11,100.00
Member GMP at date of leaving		690.56	126.36	250.12	170.04		1,237.08

And at the end of the process we have the following:

Benefit segment	1	2 – 5	6	Total
Deferred pension at date of leaving	1,500.00	5,326.59	3,900.00	10,726.59

This result is acceptable for a deferred pensioner as the GMP conversion legislation does not prevent such an individual's deferred pension at date of leaving from reducing.

In this case the converted deferred pension at leaving reduces

If there was an actual (as opposed to the notional) comparator, the process for her would result in the conversion of her deferred pension in benefit segments 2-5 with the converted benefits in each of benefit segments 4 and 5 being identical to the converted benefits of the above scheme member. In other words, in segments 4 and 5 only, absolute sex equality would be achieved.

Returning to the scheme member it would be possible to convert the benefits in segments 2-5 into a different shape in order to get a higher deferred pension at date of leaving. For example, if pension increases were set to 0% the converted pension would rise from £5,326.59 pa to £8,604.25 pa.

Amount B could be converted into different benefits resulting in a different converted deferred pension at leaving

It is important to note that whatever form the reshaped benefits take there is no loss of actuarial value.

3. Dealing with other members

3.1. Active member

An active member can either be treated as continuing in service or immediately leaving (ie at the conversion date). In the first case the effect of GMP inequalities is examined through looking at the counterpart's GMP at the projected retirement date. In the second the differences are established at the conversion date before being rolled forwards as with the deferred pensioner

Turning to other member types, for actives a decision is needed as to whether to treat as continuing in service or immediately leaving calculation. A potential issue is whether results vary significantly according to the treatment adopted.[14]

3.2. Pensioner member

The pensioner calculation is far more involved

Pensioners would be examined through a more complex mechanism that takes as its starting point the pension currently in payment. This pension and the associated GMP are rolled back, in potentially a number of stages, to when the individual left pensionable service, whether that is on retirement, or earlier, in order to estimate their benefits at this point. The effect of GMP inequalities is then examined through looking at the counterpart's post 16 May 1990 GMP when pensionable service ceased and projecting benefits forward to the conversion date, again in potentially a number of stages.

The backwards and then forwards process for pensioners only assesses the effect of GMP inequalities in respect of pension payments from the conversion date – it ignores the effect in relation to payments made before this date, including that arising from the exercise of options, such as the commutation of pension for lump sum, that might vary between the member and opposite sex comparator. Both are potentially significant omissions. Past inequalities could add to or offset future inequalities.

But for either, the same valuation and conversion principles apply

Valuation for both actives and pensioners follows the same principles as before – for each benefit segment one multiplies:

- The total projected pension by Factor A;
- The projected GMP by Factor B;
- Any uplift to cover the GMP by Factor C.

The conversion process also follows the same lines as before. However, for pensioners, there is a need to ensure that the pension in payment does not reduce.

4. Data issues

There are significant data issues to address before carrying out an appropriate GMP inequality solution

Building a model that operates on the individual membership data likely to be available exposes many practical difficulties. All of these would also apply if delivering a GMP inequality solution through dual record keeping, but at least under a GMP conversion route it is 'once and done' and the calculations kept outside the administration system.

4.1. The GMP starting point

If the starting point can only be the actual pre-1988 GMP and post-1988 GMP, this means that the derivation of the post 16 May 1990 GMP and the ratio of this with the opposite sex equivalent – both key considerations when it comes

[14] A further complexity arises because schemes that ceased to contract out on 6 April 2016 whilst remaining open for accrual may have introduced a fixed rate GMP revaluation underpin to a GMP that otherwise increases in line with section 148 Orders.

to quantifying the cost of the GMP uplift – will be approximate. However, it is unlikely to result in material discrepancy in the vast majority of cases.

If there are concerns, one possible way of addressing it may be for schemes to obtain full earnings data and opposite sex GMP calculations from HMRC.

It seems short sighted to conduct a GMP inequality exercise before GMPs have been reconciled with HMRC and rectified where necessary. Not only is it important to ensure that such an exercise is based on agreed GMPs, it is also important to identify all those in the scheme for whom there are GMP liabilities.

4.2. Unavailability of data when looking back in time

Of potential greater significance is that the further one has to look back in time to assess the effect of the GMP inequality the higher the likelihood that there will be insufficient data to do so.

The looking back in time issue can be quite problematic

Scheme administrators will often hold only sufficient records to administer benefits that have been set up, and not those that are necessary to re-create past benefit calculations.

Pensioner data is likely to be very problematic in this respect. Conducting a GMP inequality exercise for a survivor of a pensioner may be so difficult (because it should be driven from the member record which it may not be possible to recreate) that it cannot be carried out without sweeping approximations or assumptions.

Examples potentially include:

- the amount of pension commuted for cash, and the terms of conversion;
- the early or late retirement factors in place at the time;
- the proportion of the pension which derived from AVC payments;
- the pattern of discretionary pension increases applied;
- levels of pension sacrificed for additional spouse's pension;
- pension transferred in from previous employment; and
- switches of rate of accrual from "works" to "staff" or similar.

Changes to administration systems and changes of administration providers are likely to further complicate such reaching into the past.

4.3. Differences in options and decisions

A further difficulty in relation to the looking back in time issue is that where the member took certain decisions resulting in an immediate payment being made it may not be clear from the current member record what they were, still less, how best to reflect this when considering what a consistent decision by the opposite sex comparator would be.

Examples include commuting part of the member pension for a lump sum, exchanging part of the member pension for a spouse pension and transferring out part of the scheme benefit.

4.4. Changes to the operation of the scheme

A pension scheme may have awarded discretionary increases in benefits, made improvements in benefits, or changed administrative practices over the years. In determining the scope and nature of any exercise to remove GMP inequalities it may be necessary to come to a view on the extent to which such discretionary practices, changes in benefits and practice need to be taken into account, or can be modelled via 'reasonable assumptions'.

For example, if administrative practice or actuarial factors regarding the calculation of benefits have changed over the years, can the current practice and factors be applied in all opposite sex calculations or do historic practices and factors need to be reproduced?

5. Scheme processing

Considerable professional time is likely to be involved in building GMP inequality and conversion processing tools and applying them

Notwithstanding the data issues above, although it is tempting to believe that the calculations involved in a GMP inequality and conversion exercise can be readily automated, this is unlikely to be the case.

Whilst it is possible to build core processing tools, their nature is such that considerable investment in time and resources will be necessary before an actuarial firm will have comfort that they are safe to use. Any attempt by an actuarial firm to go further and build a generic model that can be applied to all schemes is likely to result in massive complexity.

Even when the core tools are available, considerable professional time will be needed in relation to each scheme to do the following:

- Make any necessary adjustments to the core tools to allow for peculiarities of the scheme in question – depending on the scheme these could be very complex and require significant adjustments;
- Ensure that clean data in an appropriate standard form is presented for calculation;
- Understand and identify any special cases for which the tool is unlikely to work – a difficulty in this regard is that, although the developers of the processing tools should have left sufficient documentation so that it is clear what cases can safely be processed, special cases may not be readily identifiable from the membership data;

- Assess the GMP inequality uplift result for each member individually before accepting its validity – this is because there are many moving parts in the calculation and so no rules of thumb are likely to be possible.

All this points to the likely need to have specialists to safely process the necessary calculations. The processing has some similarities with that required for redress calculations due to pension mis-selling and is certainly dissimilar to that required in regular actuarial work. Even if a specialist approach is adopted, the cost of undertaking the work is likely to be high.

As such, specialists are likely to be needed

6. What drives the size of the equalisation uplift?

When considering the overall uplift, it is important to recognise that, although a scheme's uplift cost might ultimately be expressed as a percentage of its full past service costs, it is best analysed as a percentage of the 1990-97 benefits as benefits accrued in other periods are unaffected.

From some initial work carried out by industry members of the working group on two, not necessarily representative, schemes, the features that may be observed across formerly contracted-out schemes with GMPs requiring an equalisation uplift could be as follows:

There may be some common aspects of the nature of the equalisation uplift

- Of those with 1990-97 service, a significant proportion in all categories of membership are likely to require no equalisation uplift;
- Of those who need an uplift, when expressed as a percentage of the value of their 1990-97 service it may be of the order of 2% - 5% for most, with the actuarial value being typically modest, with very few above £5,000;
- There may be a handful of cases with significant percentage uplifts above 20%, but their actuarial values are likely to be modest.

The 1990-97 service uplift percentage can be expected to vary between schemes as follows:

There are a number of factors affecting the percentage size of the GMP uplift

Indicator of a higher percentage uplift	Indicator of a lower percentage uplift	Reason why higher
Low accrual rate (eg 1/80ths)	High accrual rate (eg 1/60ths)	Accrued GMP is a higher proportion of scheme benefit
Low pensionable earnings as a percentage of NI earnings	High pensionable earnings as a percentage of NI earnings	Accrued GMP is a higher proportion of scheme benefit
Fixed rate revaluation	Limited rate or section 148 revaluation	Revalued GMP is a higher proportion of scheme benefit
Statutory minimum excess revaluation	RPI-linked excess revaluation	Revalued GMP is a higher proportion of scheme benefit

Indicator of a higher percentage uplift	Indicator of a lower percentage uplift	Reason why higher
High scheme normal retirement age	Low scheme normal retirement age	Uplift on GMP for late payment (1/7% pw) and missed pension increases
Short Barber window (assuming that equalised NRA is higher than pre-Barber female NRA).	Long Barber window	More of the GMP will be uplifted for late payment and missed pension increases
Low increases on excess pension (LPI only applies post 5 April 1997)	Generous increases on excess pension	GMP in payment is a higher proportion of scheme benefit

7. Some final thoughts

The nature and distribution of the likely uplifts and the effort involved in their determination in a live situation inevitably leads to the following thoughts:

Given the complexity of the solution outlined in this paper, it may be beneficial to explore whether there are acceptable workarounds

- Whether it is possible to apply a cost / benefit approach to the issue of GMP inequalities in order to limit the amount of work that needs to be done.
- Whether there is scope for developing a de-minimis approach – ie action is only needed if the actuarial uplift is above a certain amount. However, detailed calculations may be needed in any event to assess whether the uplift exceeds the de-minimis.
- Whether it is possible or appropriate to develop some 'rough justice' uplifts as an alternative to detailed calculations being done, especially as regards past payments.
- Given the size of some uplifts, whether schemes should have the option to make compensatory payments or grant additional benefits for at least those individuals with small uplifts instead of going through what might be an unwanted GMP conversion process.

Any exercise that involves revisiting historic calculations will be complex to implement. However, the proposed way forward set out in this paper is considered by the industry representatives of the GMP conversion working group to be less onerous than the dual calculation methodology set out in the 2012 consultation document.

But the solution put forward is believed to be less complex than the dual calculation methodology

Appendix 1

Scheme benefits, valuation and conversion assumptions

The following have been used for the deferred pensioner with a long service record in section 2 of the body of this paper:

Benefit structure

Accrual rate	1/60ths
Guarantee period on member pension	5 years
Spouse's pension proportion	50%
Post-Barber equalisation normal retirement age	63
Effective from (Post-Barber equalisation day)	01/07/1994
Barber window retirement age	60
Pre Barber male retirement age	65
Pre Barber female retirement age	60
Scheme late retirement factor (applicable to Barber adjustment periods)	9% pa
Scheme early retirement factor (applicable to Barber adjustment periods)	5% pa
GMP revaluation	Fixed
Excess revaluation	Statutory
Excess revaluation cap	5% pa
Pre-1988 GMP increase in payment	0%
Post-1988 GMP increase in payment	3%LPI
Excess increase in payment	5%LPI

Valuation and conversion: main assumptions

Unisex mortality	CMI_2012_SMPI[1.25%][15]
Pre-retirement discount rate	20 year Bank of England spot yield plus a 4% equity risk premium
Post-retirement discount rate	20 year Bank of England spot yield plus a 0.5% corporate bond premium

Conversion benefits – the same as excess scheme benefits that accrued with the GMP from the post-Barber equalisation date to 5 April 1997

Revaluation	Statutory
Revaluation cap pa	5.0%
Pension increases	5% LPI
Retirement age	63
Spouse's pension proportion	50%

[15] This is the unisex mortality basis set by AS TM1 for statutory money purchase illustrations undertaken with an illustration date between 6 April 2013 and 5 April 2014. The unisex q-rate is 50% of the male q-rate, derived from PCMA00 with CMI_2012_M[1.25%] improvements, plus 50% of the female q-rate, derived from PCFA00 with CMI_2012_F[1.25%] improvements.

Appendix 2

Methodology underlying the calculations

The calculations have been carried out using a model, the key aspects of which are discussed below in relation to a deferred pensioner.

1. Pre-conversion scheme benefits

Scheme benefits are assumed to be of a simple final salary nature, such as 1/60ths of final pensionable salary for each year of pensionable service payable from normal retirement age, with attaching survivor benefits, before introducing necessary complexities as a result of contracting out and ensuring that the legislative requirements regarding revaluation and indexation are met. The scheme is also assumed to have addressed sex-based inequalities in normal retirement age at some point in the years following the judgement in Barber v GRE on 17 May 1990.

As a result the deferred pension calculated on leaving pensionable service is segmented into potentially six service periods:

	Service period	GMPs	Age at which benefits can be taken
1	Pre 6 April 1978	No GMPs accrued	Likely to have sex-based differences
2	6 April 1978 to 5 April 1988	Pre-1988 GMPs accrued	Likely to have sex-based differences
3	6 April 1988 to 16 May 1990	Post-1988 GMPs accrued	Likely to have sex-based differences
4	17 May 1990 to retirement equalisation day	Post-1988 GMPs accrued	The lower age would apply to the disadvantaged sex
5	Retirement equalisation date to 5 April 1997	Post-1988 GMPs accrued	A unisex (and potentially new) age applies
6	6 April 1997 onwards	No GMPs accrued	A unisex (and potentially new) age applies

The deferred pension is assumed to come into payment at the post-Barber equalisation normal retirement age (the “unisex retirement age”) and attract the scheme’s normal pension increases on the entire pension. Equal treatment in relation to retirement ages is delivered by adjusting those benefit segments whose age at which benefits can be taken differs from the unisex retirement age as follows:

- by a late retirement factor where the benefit segment would otherwise have come into payment earlier than the unisex retirement age (eg females prior to 17 May 1990 and males between 17 May 1990 and retirement equalisation day); and
- by an early retirement factor where the benefit segment would otherwise have come into payment later than the unisex retirement age (eg males prior to 17 May 1990).

Before applying these factors each deferred pension benefit segment is revalued from date of leaving to the earlier of the unisex retirement age and the age at which that benefit segment would otherwise have come into payment. If a GMP accrued in the segment, the benefit is sub-divided into a GMP and an excess at the date of leaving with potentially different revaluation rates applying.[16]

To allow for different pension increases on the GMP, the GMP at the later of the GMP payment age (60 for women, 65 for men) and the unisex retirement age is determined. Any difference in pension increase rate is then allowed for from this point.

If the GMP payment age is later than the unisex retirement age, a test is carried out at the GMP payment age to see if there needs to be a step up at this point to ensure that the GMP is covered. Any step up then has applied to it the scheme's normal pension increases because allowance for different pension increases on the GMP has already been dealt with.[17] [18]

2. Opposite sex benefits

The same process as outlined above is then carried out on those benefits in the fourth and fifth segment but assuming that the individual is of the opposite sex. This involves using an opposite sex GMP and opposite sex ages at which these benefits can be taken.

3. Valuation of benefits

Each projected benefit segment at the unisex retirement age and the associated GMP adjustments are then valued as at the date of calculation using a cash equivalent basis.

The cash equivalent of each benefit segment is added together to return the cash equivalent of all the member's benefits. Amount A is a subset of this being the cash equivalent of those benefit segments in which a GMP accrued.

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[16]Although statutory requirements are such that GMP revaluations do not have to be applied until GMP payment age, the more common scheme practice has been adopted of including notional GMP revaluation within the projected benefit at an earlier retirement date. Similarly, the excess over the GMP has been allowed to revalue between normal pension age and the unisex retirement age, although this is not a legislative requirement.

[17] The need for a step up is determined taking each of benefit segments 2, 3, 4 and 5 in isolation. In practice schemes are likely to test for a step up taking these benefit segments together and possibly including benefit segment 1. This would lessen, potentially significantly, the need for a step up.

[18] The anti-franking requirements have not been rigorously applied and, in particular, the more complex test that applies where a member continues to accrue benefits within a pension scheme after ceasing to contract out has not been considered.

Amount B is the sum of the cash equivalent of the member’s second and third benefit segments and the opposite sex’s fourth and fifth benefit segments.

4. Conversion of benefits

The greater of Amount A and Amount B then forms a budget from which new benefits are costed to replace those benefits in which a GMP accrued.

The same cash equivalent basis is applied in reverse to generate a substitute deferred pension at date of leaving.