



## **GMP EQUALISATION WORKING GROUP** **Guidance on Data**

Equalising for the Effects of Guaranteed Minimum Pensions

July 2020



## GMP Equalisation - Data Guidance

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Akash Rooprai (Chair)	ITS Ltd
Steve Nicholson (Deputy Chair)	Equiniti
Brendan Doherty	Intellica
Daniel Baker	Mercer
Fiona McCartney	Aviva
John Doherty	XPS
Liz Shanks	XPS Administration
Lucy Cresswell	Barnett Waddingham
Paul Henly	Willis Towers Watson
Robert Burnett	Lloyds Banking Group

## SUMMARY

As mentioned above, this guidance document contains a great deal of information on the data aspects of GMPE and is quite technical in places. This section is designed to provide a non-technical overview of the key aspects of GMPE which relate to data.

- 1. Data required and Data availability.** GMPE exercises require the gathering of data to enable calculations to be carried out. Appendix 1 sets out the potential data required. Inevitably some of the data required won't be readily available and some may not be available at all (e.g. the contracted-out earnings history for a pensioner may not be on the admin system, but would be available on the DWP's online GMP checker). Or the original member record may be missing a dependant's pension figure. In some cases, some of the data may be available on back files or from other sources such as microfiche, but the effort and expense required to obtain it may be disproportionately high in the context of the benefit uplift amounts. Trustees will need to consider what data is readily available, what could be available at some additional expense and effort, and what's unlikely to ever be available. They need to consider the impact of the missing data and weigh up the costs of obtaining it against the impact and risk of not
- 2. Member groupings.** It's possible not all members will be dealt with at the same time (e.g. actives might only be dealt with once accrual ceases, and for all members it might be easy to identify those not impacted, those impacted a little and those impacted materially). Trustees could decide to deal with data issues for those with a material impact sooner. Alternatively, they may decide it's most cost-effective to obtain all data at once
- 3. Adviser input.** Trustees will need to consult all relevant advisers on the data required, the impact of making assumptions or approximations and availability of resource, as many schemes will be tackling similar issues at similar times. This is likely to include the legal adviser, actuary, administrator, and potentially others. Trustees need to decide which party will carry out the data related work. It could be the administrator, a separate consultant, or a combination. If more than one party is involved there needs to be good communication between them. The process of cleansing needs to be decided on. For example, will the data need to be cleansed, will it be extracted from the system, worked on and reloaded after completion, or carried out using routines on the live system?
- 4. Consistency and efficiency.** Trustees should consider the potential need for GMPE decisions, in relation to data, to be consistent with other similar decisions. For example, in relation to general Barber equalisation and GMP reconciliation and rectification projects. As part of this they should also consider how the data requirements for GMPE may dovetail with data needs for any other forthcoming projects. This could include data work still to do for GMP reconciliation and rectification projects, potentially these be completed more cost-effectively as one exercise
- 5. Calculation options.** There's a need to calculate the post 16 May 1990 GMP (and non-GMP) elements for the opposite sex. There are different ways to do this and the option chosen will depend on the data available, the benefit structure and the profile of the affected members. The decision on which option to use will therefore be scheme specific.

These will be decisions for Trustees, sometimes in conjunction with the employer, and in most cases requiring input from their advisers.

## Navigating this Guidance

Whilst this Guidance is best read as the complete document, you may choose to use it in different ways at different times. For example, if you're entirely focused on the data required, you may wish to consider the Data Requirements Schedule in Appendix 1 first. The notes at the start of Appendix 1 highlight how the schedule works.

Some of the Guidance is quite technical and these sections may not suit all readers. The technical sections are necessary and can help Trustees pick out issues for their scheme and guide them in discussions with their advisers. There's a glossary of the technical terms and a summary before the introduction for those who don't want or need to delve too much into the technical detail.

Section C is designed to help you work through the possibility all the data ideally required isn't available, either cost effectively or at all. This section will give you some thoughts and suggestions on possible workarounds you could use in a few different situations, although any decisions will need to be specific to your scheme.

Throughout this document the need to equalise benefits for the effects of GMP Equalisation is referred to as GMPE.

## Section A - Introduction

This Guidance considers the data aspects of a GMPE project and is intended to help Trustees discuss the steps they can take now to get data into a suitable state of readiness for equalisation with their advisers and administrators.

The points in this note on data apply regardless of whether a year-by-year comparison ('better of') or conversion approach to GMPE is taken. If converting GMPs then it may well be decided to convert all members with GMP, not just those with post 16 May 1990 GMP, in which case you'll need data for a larger population.

### Our Objective

In order to work through the GMPE project, a scheme will need to be able to first establish the affected members and then their relevant pension figures. The affected members will include any member who had GMP accrued between 17 May 1990 and 05 April 1997 (when GMP accrual ceased), including GMP transferred in, in respect of this period), who have a liability in the scheme (see the point on 'no liability members' at the end of this paragraph). Dependants whose pensions arose from a member who had any such GMP are also affected members. Clearly for any active members there'll be no pension amounts to split, and data would be expected to be readily available when required. However, if there are any data matters requiring extra work for active members (e.g. pension splits on divorce), this should be included in the data gathering project at the same time as the non-actives to ensure it's available when required. We haven't explicitly covered 'no liability members' - these are usually members who have transferred out, died (without any further dependant pension due) or taken a full commutation of benefits. It's possible some of these members (and/or their dependants) have lost out due to unequal benefits having been paid in the past. These members may or may not be in scope, depending on a number of factors and advice should be sought. For any which are in scope, data may be particularly difficult to obtain and this should be considered in the data gathering planning process.

For each affected member, the pension will need to be split into its constituent parts<sup>1</sup> for the period 17 May 1990 to 05 April 1997 (and as far back as 06 April 1978, or possibly from earlier date of joining) for a conversion if considering all pension (e.g. if converting all GMP including any transferred-in GMP). The range of data requirements is covered in Appendix 1.

In an ideal world, all the data you may need to **accurately** determine whether a GMPE adjustment is due and to calculate the GMPE adjustment and accumulation of arrears would be readily available for every affected member. In practice, this is unlikely. As a result, each scheme will need to consider:

- What data is readily available

<sup>1</sup> For pensioners and dependant pensions in payment, different Calculation Solutions (see Section B) tackle this objective in different ways

- What other data might be required and how it can be obtained, including the potential cost of doing so
- What data no longer exists or might be impossible or impracticable to obtain
- Whether the data obtained needs to vary by sub-group of members. For example the additional data requirements for those with anti-franking considerations
- The risks of not obtaining full data
- The validity and accuracy of any such data e.g. there may be existing issues or concerns

Much of this Guidance focuses on practical approaches schemes can adopt to data gathering including work-arounds and assumptions.

Most schemes will have gathered and perhaps cleansed some data for GMP reconciliation and rectification work. This could be helpful in the data work required for GMPE projects. For schemes which haven't yet cleansed for reconciliation and rectification, consideration should be given to doing the data work for both at the same time. This could create efficiencies, consistency and potentially cost-savings. There's more on Reconciliation and Rectification in the [When to Rectify](#) paper published by the Reconciliation & Rectification sub-group in March 2020.

### **What Is Covered In this Guidance?**

In this Guidance, we identify the concept of Calculation Solutions for pensioners and dependants because the Calculation Solution chosen and the data to be used will be mutually dependent. The data available may constrain the approach taken to the calculations and the specific approach to the calculations will determine the data required. The Calculation Solution is the technique chosen to determine the comparator's current pension. i.e. the pension currently in payment adjusted, where appropriate, for the effect of opposite sex GMP (before any conversion) and any arrears to date, as distinct from Judgment Method i.e. the methods identified in the Lloyds GMP Equalisation case - e.g. C2, D2. As mentioned above, different Calculation Solutions have different data demands. This is important because understanding data quality starts with defining the minimum data required and for whom, and noting this may vary between member sub-groups. We also examine different approaches to obtaining opposite sex (post 90) GMP including a worked example (Appendix 2), which is a key input to the Calculation Solution.

We then consider a number of potential areas where the desired data may not be available and some potential pragmatic solutions. This is designed to illustrate some of the potential issues and isn't an exhaustive list of all the difficulties which could arise.

Appendix 1 contains a schedule to help you identify all the data you might possibly require and the practical most likely minimum data requirements. You should liaise with the adviser undertaking your GMPE calculations and, if different, your administrator to determine the definitive list for your scheme.

## Related Reference Material

- [PASA Guidance on data](#)
- [GMP EWG Call to Action Paper](#)
- [Methodology Guidance](#)
- [When to Rectify Guidance](#)

## Acknowledging Different Ways of Working

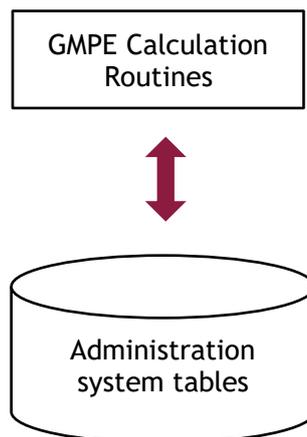
This Guidance sometimes presupposes a sequential running order of data work followed by calculation work. But it's equally possible some schemes will wish to undertake these concurrently, say, if the GMPE calculation routines exist and sit directly with the source data. For example:

- The administrator may be undertaking the GMPE calculations with direct access to the administration database
- The relevant tables from the administration database may have been requested instead of a bespoke data requirement
- Resources trained in both disciplines may be available

Arguably, resolving data issues in conjunction with the calculations can be more efficient because not all data issues can be identified until bulk calculations are performed. This gives the potential for problem cases to be resolved in a single sitting rather than multiple interactions between data and calculation teams. Furthermore, any data obtained during calculation work needs to find its way back onto the administration system for audit purposes and possible future use. The following diagrams acknowledge these different ways of working with data:

### A - Integrated GMPE Calculations

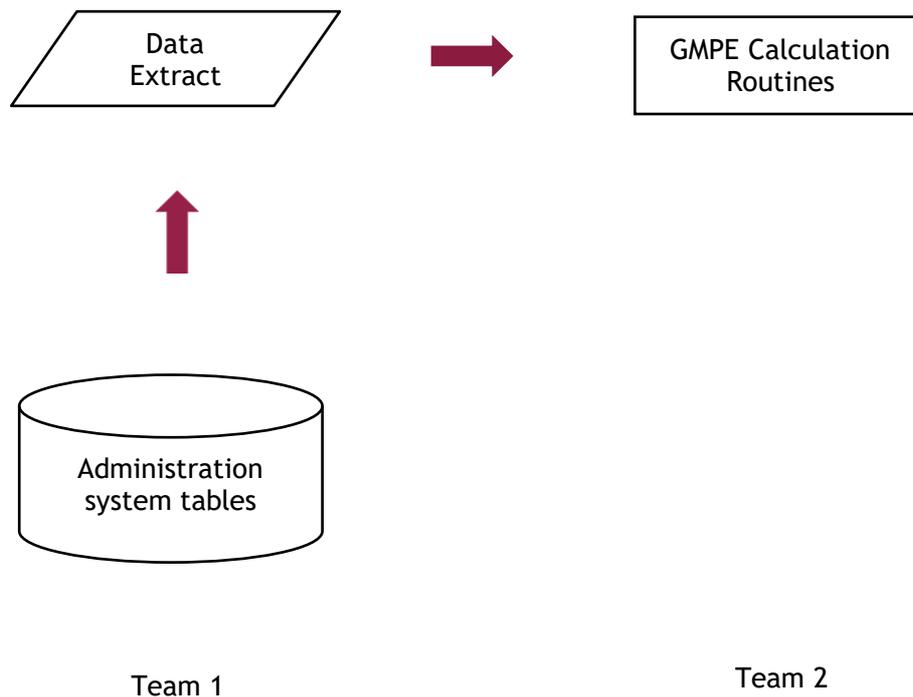
Calculations sit directly with the system data tables.



This gives the potential for data issues to be reviewed in the context of the calculation and issues resolved in a single sitting.

## B - Remote GMPE Calculations

Calculations use a bespoke extract of data from the administration system tables.



Different approaches may apply for different segments of the population and, of course, it may be appropriate to apply a different approach to different groups or sub-categories of members based on the availability of data and the requirements/complexities of the sub-group. For example, active members may not be dealt with until cessation of their pensionable service e.g. leaving or retirement. This may impact **when** data is required but shouldn't impact on **identifying** the data required and the **planning** of how to obtain it. A similar principle applies to those who've transferred out. There's some uncertainty on transfers pending the outcome of the next instalment of the Lloyds Bank case, which has been heard but the Judgment is due later in the year. This will clearly affect any planning on detailed work for members who transferred out but shouldn't prevent identifying potential data requirements and the sources of such data, nor impact on other groups of members. Clearly part of the planning process will likely ensure you don't work on members with no liability when it could ultimately not be needed. So, it's sensible to consider data needs and availability, but not spend time and money extracting data at this stage.

It's not the intention of this Guidance to favour any one particular way of working to strike the balance between accuracy and pragmatism/time/cost. This is a Trustee (and possibly employer) decision for each situation to consider the costs, risks and benefits of any given approach.

### HMRC data and the GMP online checker

HMRC has acknowledged there can be issues for schemes hoping to complete GMP projects due to the fact the online GMP checker calculates GMPs at the time of the request, whereas the final GMP data cut supplied by HMRC is at a fixed point in time. This means there are three data sets to reference - scheme data, HMRC data and GMP checker data. This needs to be factored into the data collection

process and this will also impact how schemes are dealing with GMP reconciliation and rectification (see the link to the ‘When to Rectify’ guidance earlier in this section).

### **Approximations and Assumptions**

As a starting point, since the impact for an individual member in a GMPE exercise can be sensitive to the data used, it’s suggested approximations and assumptions should ideally only be made where necessary e.g. where there are data limitations. Or where the impact is not expected to be material. However, it’s recognised, in many cases, all the data needed won’t be available. Trustees will therefore have to consider the need for approximations and assumptions when implementing GMPE.

A log of decisions should be kept relating to approximations and assumptions, either systematic or relating to individual cases. The log could record an estimate of the typical quantum and an estimate of the number of members affected. This would help with understanding and transparency and provide an audit trail for future reference. In making decisions relating to any approximations and assumptions, due consideration should be given to any precedents from similar decisions in the past.

This Guidance assumes past benefits have been correctly calculated. If during data work, obvious discrepancies or mistakes are noticed, then these should be separately referred to the scheme’s trustees, outside of the GMPE project work.

### **Arrears**

Arrears are not covered in detail in this Guidance. Essentially the additional pension (monthly/weekly/other frequency) required is determined using the Calculation Solution. Irrespective of which Calculation Solution is adopted, the payment in respect of any arrears due is determined by comparing the gross pension the member should have been entitled to, with the amount of gross pension actually paid for the same period. The approach is therefore as follows;

- Obtain the equivalent for each month (or relevant period) the pension has been in payment, allowing for increases and any other applicable adjustments
- Accumulate these amounts (sum them).
- Allow for interest as applicable and as appropriate

Simplifications of this approach may be possible and appropriate to avoid having to compare potentially millions of payments in a large scheme, and any approximations should be appropriate.

### **Methodology Guidance**

There’s an inevitable overlap between the data work and GMP equalisation methodology, which is covered in a separate Methodology Guidance. This Data Guidance is intended to complement the Methodology Guidance and only refers to Methodology where necessary for a clear understanding of the position. If there’s any inconsistency between the content of this and the Methodology Guidance in relation to methodology matters, the Methodology Guidance will over-ride.

## Legal and Actuarial Advice

It's expected discussions with all advisers and relevant parties will be an ongoing part of any GMPE project - particularly the legal adviser and Scheme Actuary. Advice will clearly be required at the outset, but also during the project. For example, about the use of any approximations and assumptions being considered.

## Other Practical Points

Trustees should be speaking to their administrators and other advisers early on to assess the data requirements for GMPE, and how much of this data is readily available, both in terms of existence and quality/reliability. If the required data isn't readily available in a suitable electronic format or there are known/suspected issues, then Trustees will need to consider the following:

- Can members be grouped so any additional data work required is targeted? E.g. members which require final pensionable salary data, due to later earnings addition considerations, could be identified from their date of leaving pensionable service and the date attained age 60
- The level of work effort involved in inspecting and keying essential data from member images for the affected members and how cost-effective is this?
- If essential member data is thought to be available from physical media such as paper member files, fiche or roll film, what is the work effort in making these available for inspection and essential data keying?
- Can any historical data be audited as safe to use? If new data is being keyed remotely from the calculations can it be verified to pick up keying errors?
- Is the contracting out data validated during the GMP reconciliation project readily available? Even if the GMP reconciliation project is complete, whilst GMP figures would have been updated on the administration system, the contracting out data may not yet have been loaded, particularly for pensioners and dependants. There's reference to this point in the When to Rectify Guidance (see link earlier in this guidance) for schemes where reconciliation isn't complete, and this feeds into the planning process for both reconciliation and equalisation. This contracting out data could include base data such as start dates, termination dates, contracted out earnings, details of transferred GMPs and the 'first life' (original member's) national insurance numbers for dependants
- The option, if there are significant gaps in essential historical data, to contact past holders of member data e.g. previous administrators. Though it's likely they will no longer hold data, unless the transfer of administration was recent
- The data requirements of the proposed communication strategy, so any data required for inclusion in member letters is captured during the data gathering process
- The need for any address tracing, for example if converting.

Trustees should be mindful of the potential for their administrators and advisers to be receiving requests for a large amount of data (and other GMPE) work for many schemes at the same time. This will impact on resourcing, timescales and cost. Advanced planning and early engagement with all relevant parties can help manage this risk.

Part of the planning for a GMPE project could include a 'dummy run' with sample testing or first pass calculation runs. This will enable more issues to be resolved prior to the project going live. This is particularly important where the data may come from multiple sources and/or scanned/paper records, where the process to obtain the data will be more cumbersome.

Whilst beyond the scope of this Guidance, it's useful to consider the format of the data after the GMPE exercise is complete. Whichever Judgment Method is chosen (e.g. C2, D2) there will be administration implications which could require new data fields and/or multiple records for the same members (which will need to be linked). Part of the consideration for the project should be the readiness of the administrator/system to implement at the required time and the mapping back any data items obtained/calculated during the GMPE project e.g. top up, ongoing dual (or more) records, etc.

## Section B - Calculation Solutions

This section deals with the concept of Calculation Solutions for the purpose of obtaining opposite sex GMP in relation to pensioners and pensions in payment only. It's not relevant to actives and deferred members because their pension is not yet in payment.

The impact on the data requirements will depend on how the past payments are being obtained - individual periodic payments or rolling backwards/forwards.

Consideration needs to be given to the detail to be provided to members in relation to their arrears and the information which may be needed should members raise tax queries following receipt. For example, they may require a breakdown of the arrears by tax year.

For each Judgement Method there'll be different Calculation Solutions (see Introduction/B - Remote GMPE Calculations above). As we discussed, the choice of Calculation Solution should be made with care. Reconstruction of the benefits as described below should in theory produce a correct outcome, but it can also incur a disproportionate cost relative to the impact on member benefits. We've therefore set out some potentially more cost-effective Calculation Solutions. Depending on the specific scheme circumstances, compared to reconstruction, these alternative Calculation Solutions can produce:

- The same results
- Sufficiently similar member outcomes to be reasonably justified on practical or cost grounds
- Materially different outcomes for members or new or increased sex discriminations

As one example of considering the degree of approximation, during GMP reconciliation some schemes employed tolerances in order to avoid disturbing pensions in payment for small differences. Now those tolerances may be comparable to the equality differences emerging in GMPE exercises for some members. Other considerations are scheme complexities such as underpins or GMP only members, which may mean groups need to be isolated and dealt with separately. Dealing with commutation, and the data available, should be considered, if someone commuted their pension at retirement and rollback is being used, it may be necessary to recreate the full pension at retirement to 'unwind' revaluations.

The impact of adopting different Calculation Solutions will vary significantly from scheme to scheme, and in some cases from member to member. Trustees should work with their advisers to understand which of the Calculation Solution is right for their circumstances based on the chosen Judgement Method, benefits in the scheme, the availability of data and both the cost and member impact of any approximations.

There are different ways to obtain the comparator's (opposite sex) pension in payment at the current date for a pensioner or dependent. Some of these are described below, in decreasing order of data demands. This isn't an exhaustive list and there may be variations of each approach:

1. **Reconstruction:** this would involve reconstructing the original administration calculations from when the individual left pensionable service using a full suite of data. This is then repeated using the comparator's opposite sex GMP and non-GMP pensions for the relevant period. This is described as reconstruction because the existing true sex pension is recreated in order to verify the data and current pension - and thereby avoids working from erroneous figures.

There are variations of the reconstruction solution. A full reconstruction would start with a member's final pensionable salary and service history. A partial reconstruction would start with the deferred pension at date of leaving or, possibly, their initial pension if there was no deferred period, depending on what data was available.

This solution requires the greatest amount of data and would be the ideal route if sufficient data is readily available and the costs (relative to the benefit) are acceptable.

2. **Rollback:** The current pension in payment and the associated GMPs are rolled back, potentially in a number of stages, to when the individual left pensionable service, whether on retirement, or earlier, in order to estimate their pension elements at date of leaving. That pension is then re-split using the comparator's opposite sex GMP and then projected forward to the current date, again potentially in a number of stages. When rolling back the adjustment needs to factor in any step up provided at GMP payment age (60F/65M). There are variations of this solution.

This solution requires less data but, in particular, a clear understanding is required of relevant data at each step in the rollback, in order to make appropriate assumptions where necessary.

3. **Formulaic or Forms:** Discrete formulae are used to calculate directly the adjustment to a pension allowing for the effect of opposite sex GMP. Like rollback, the starting point is the current pension in payment. The solution swaps out the member's post 90 GMP for the comparator's opposite sex post 90 GMP using cumulative factors to allow for all four sources of difference (increases in payment, revaluation, step-ups, and the later earnings additions), with consequent adjustments to the non-GMP elements.

This solution relies largely on contracting out data for the majority of members. It requires a number of assumptions which may not be appropriate in some situations in which case reconstruction may be necessary for those specific cases.

4. **Broad-brush:** Where data is insufficient to use any of the above solutions, a broad-brush adjustment based on the GMPE adjustments known to apply to an equivalent population could be the only Calculation Solution which can be used. This solution can be refined e.g. basing the percentage on post 90 GMP and using average uplifts separately for males and females. Clearly a broad-brush solution is likely to lead to materially incorrect outcomes for members compared to more accurate solutions. It's therefore an approach of last resort where no other alternative is possible. It's included for completeness.

To the extent it affects portions of the membership, additional data will be needed to allow for anti-franking. The extent and nature of anti-franking might constrain the Calculation Solution used.

In choosing between the Calculation Solutions, questions Trustees could ask their advisers include:

- Could a simpler Calculation Solution produce the same member outcomes as reconstruction but at lower cost?
- How does the scheme benefit structure and the actual administration practices in relation to GMPs impact on GMP related equalities and therefore the choice of Calculation Solution?
- Could the preferred Calculation Solution increase any GMP inequalities, or systematically favour one sex over the other?
- Are there any groups of members where more detailed data work will have a material impact on member outcomes?
- What differences in member outcomes due to the choice of Calculation Solution can be reasonably justified on practical cost grounds?
- What approximations can reasonably be made to reduce implementation costs?
- Should different approaches be adopted for different groups of members?
- The availability (gaps) and quality (reliability) of data
- Anti-franking impacts
- Any complexities (e.g. pension increase underpins (better of two or more formulae))

As mentioned previously, the selected Calculation Solution will influence the actual data requirements. It's quite possible different Calculation Solutions will be appropriate for different segments of the member population - e.g. those with anti-franking impacts, those with complex pension increases, etc.

It's possible/likely there may only be a small proportion of members with anti-franking impacts, but the impacts could be large for this group. In such case those with large impacts should be identified as a separate group and approached in the most appropriate way. This may differ to the approach used for other groups of members, just as there may be other sub-divisions of membership. Schemes may choose to deal with different groups of members at different times, and Trustees may need to seek additional advice in relation to the group with material anti-franking impacts. However, this shouldn't stop progressing with the majority of members. There will be a subsequent Guidance to cover the complexities related to anti-franking in more detail, in due course.

It's vital to have prior knowledge of the availability and quality of the data before agreeing an appropriate Calculation Solution.

The level of data collection and cost associated with this should be proportionate to the impact it has on member outcomes in relation to GMPE. In many cases, intensive data collection will have little to no impact on outcomes and may therefore be a disproportionate activity, unless there are other reasons to collect it - e.g. such as a planned member option or bulk annuity exercise.

The adviser carrying out the calculations may be different to the holder of the data. If so, it's important Trustees ensure there's early discussions between the two to help with the planning process for all to understand how the availability of data will impact the process.

As a reminder, it's important to seek advice on the use of approximations and assumptions - in particular actuarial advice, and also potentially advice from the legal adviser, the administrator, and the party carrying out the calculations (if this isn't the administrator).

## Section C1 - Potential Issues and Workarounds

The purpose of this section is to describe some potential GMPE data issues and some related possible workarounds which could be used, subject to advice as appropriate. This list is designed to be illustrative only and not intended to be exhaustive - each scheme will need to consider its own situation and the possible workarounds applicable to their own situation.

As discussed previously, there are a range of Calculation Solutions, with each requiring different levels of data and assumptions. We suspect it may sometimes be necessary to make use of more than one Calculation Solution to accommodate data limitations. For example, for different segments of the membership, as long as Trustees are mindful of maintaining non-discrimination against members. Calculation Solutions and data availability and quality are inextricably linked.

Trustees need to consider, and be proportionate in their position on the costs to deliver data and calculations in relation to any benefit uplift. As a consequence, appropriately high levels of automation will often be desirable (for all but the smallest of population segments) to avoid disproportionate manual intervention if at all possible. Any cost constraint may well make it important to consider simplifying assumptions and limitations in many cases, though each scheme and situation will have its own 'cost-benefit' balance.

Whilst each scheme will find their own resolution, the examples listed in this section are designed to provide some ideas which may help. Any workaround will have implications, and these will need to be considered and evaluated, if appropriate, with some sample calculations relevant to the scheme/section being dealt with. Any such implications will either need to be accepted or an acceptable alternative route found.

Below in Section C2, we consider some member data issues. In Section C3, we consider issues relating to obtaining true and opposite sex post 90 GMP. In Section C4, we consider further issues relating to Calculation Solutions and anti-franking.

# Section C2 - Member Data Issues

## Member Data - Using Validated Contracting Out Base Data To Fill Gaps And Sense Check Dates

Validated contracting out base data may be used to fill data gaps and act as a sense check on dates. By validated, we mean the contracting out base data relevant to the record in question and used to calculate the scheme GMP.

The potential pitfalls with certain member dates and possible workarounds are set out in the table below:

Member Data: Dates	Potential Pitfall	Possible Workaround or solution
Date of leaving service (DOLS)	DOLS is missing or has been overwritten (e.g. by the date of retirement). DOLS is likely to be an essential data item for all GMPE Calculation Solutions.	Try the employer if still in existence. Use the 'date of termination' from validated contracting out base data where the termination date was before FRY. For dependants, this will relate to the first life.
Date of joining scheme (DOJS)	DOJS may be missing or has been overwritten (e.g. by DOLS) DOJS may be required e.g. for partial statutory revaluation (leavers between 1986 and 1990), for minimum benefit tests on normal/late retirement or for some NPA equalisation provisions.	Use the 'start date' from validated contracting out base data where no transfers-in. Often DOJS isn't actually required for precise and accurate GMPE calculations depending on the Calculation Solution employed.

## Member Data - Dependants

Calculations for dependants in receipt of pension require the dependant's record to be linked up to the original member's record in order to make accurate GMPE calculations i.e. the GMP will have arisen due to the death of a former member of the scheme and therefore the data used to calculate the GMP will have been in relation to the member. Hence, it's important to establish a link to the original member whose comparator would have had a different GMP.

Care will be required for the rare cases where the dependant may have been a member of the same scheme in their own right and also a dependant as a result of the death of their spouse. It may be a dependant doesn't have a GMP (e.g. non spouse), but the member still had inequalities in their GMP (and pension as a result), and this may require an increase to the dependant's pension. This will depend on the member having had GMP in the relevant period (1990-1997) and the agreed protocol on how far back to go for previous deaths. Such cases will be difficult to identify. Ideally, all dependants should have valid first life member links. In the event there are links missing, this will impact the data requirements.

The potential pitfalls with certain dependant data and possible workarounds are set out in the table below:

Member Data: Dependants	Potential Pitfall	Possible Workaround
First Life Data	First life link is missing.	<p>Make use of links established during the GMP reconciliation exercise if this was undertaken outside of the day-to-day administration system. HMRC would supply the first life's NINO, Full Name, Start Date and Termination Date. Initially, this would have been classified as a 'Not on Admin' until the record was matched with the dependant record either by investigation or from a response to a NICO member query.</p> <p>If no GMP reconciliation has been undertaken, then the presence of post 88 GMP could be used to determine if the spouse/dependant is potentially in-scope. However, an accurate GMPE calculation will not be possible without first life data. In such cases, a broad-brush calculation solution may provide a potential solution.</p>

## Member Data - General

Data requirements vary by the status of the member (active, deferred or pensioner). For pensioners, it's more likely there will be missing data in relation to the pre-retirement items e.g. pension at leaving service, contracted-out data, transfer in data, etc. The following examples illustrate pitfalls and workarounds:

- With earnings data for members still in pensionable service
- Transfer-in data for members where GMPs are in payment (for non-pensioners it's much more likely at least some transfer-in data will be readily available)

Member Data	Potential Pitfall	Possible Workaround
Active members: Contracted Out Earnings Data (COEs)	Inconsistent or incorrect calculation of opposite sex GMP as a result of incorrect COEs on the administration system. COEs may be used to calculate true sex and opposite sex GMP from first principles.	Ensure the GMP Reconciliation agrees the COEs for active members that equate to the NISPI GMP (often supplied at 05/04/2016) and these are updated onto the administration system for future use. This allows greater accuracy than, for example, using the pro-rata approach.  The same point may be made for members who have left but the extent the verified COEs are available will depend on the approach taken within the GMP reconciliation.
Pensioners over GMP payment age and Dependants: Transferred in GMP	Collecting too much or too little data on transferred in GMP. Work may need to be revisited.  (For cases where GMP isn't yet in payment, ensuring complete and accurate data on the transferred GMP is essential. This should be apparent from TPR's Scheme Specific Data reports.)	At present, there's uncertainty on the approach for transfers (see recent GMPEWG Methodology Guidance, which can be accessed using the link in the reference section). It may be decided to proceed with these cases or to delay work on any case with a transferred GMP other than establishing there was a transfer with GMP accrual after 16 May 1990, if possible and acquiring data or having a plan to do so. Advice may be required.

## Section C3 - Obtaining true and opposite sex post 90 GMP

Obtaining the opposite sex GMP is arguably the most important data item in a GMPE project because all the equalisation calculations flow from this. This section discusses three different approaches available. For most members, one would expect all three approaches to give a similar and acceptable opposite sex GMP figure. However, the approaches have advantages, disadvantages and different degrees of availability and reliability.

There are two parts to accomplishing definition of opposite sex GMP:

- First, obtain the member's GMP accrued after 16 May 1990 (Post 90 GMP)
- Then, obtain the opposite sex (the comparator) Post 90 GMP

For some schemes, there may be constraints arising from previous decisions made in regard to pension age equalisation e.g. how deferred elements may already be tranced or how past claims have been calculated. It's also important for there to be consistency between the Calculation Solution used for total pension and that applied to the GMP. For example, in relation to part-timers and periods of non-pensionable service. The need for consistency might eliminate some of the possible approaches depending on the Calculation Solution being employed e.g. whether the Calculation Solution operates on Post 90 GMP only or the entire member's record.

For non-actives we treat opposite sex GMP as a static data item. This is derived data (calculated) under the first two approaches, below. However, for actives, opposite sex GMP isn't normally calculated until the date of leaving pensionable service.

### Approach One - Pro-Rata

The pro-rata approach is a well understood practical approach delivering an estimate of opposite sex GMP consistent to the true sex scheme GMP. It side-steps the significant pitfall in the earnings-based approaches of inconsistency i.e. unintentionally including non gender related differences.

It uses the agreed true sex Post 88 GMP and apportions this into pre-17 May 1990 and post 16 May 1990 using a pro-rata of the relevant period of contracted-out employment (e.g. in days) and contracting out dates. Some schemes may already hold post 90 GMP tranches because of pension age equalisation, e.g. on deferred element tables, in which case these could be used directly. Then the following adjustments are made to the post 16 May 1990 GMP amount to obtain an opposite sex post 16 May 1990 GMP at date of leaving:

- Working life ratio i.e. the post 88 GMP accrual rate)
- Period of GMP accrual for respective genders (remembering GMP ceased to accrue after 05 April 1997 for both sexes)
- Application (or disapplication) of male section 148 orders where accrual went past the 06 April prior to age 60, and

- Application (or disapplication) of female GMP late retirement factors and annual increases where accrual went past age 60 (and seven weeks in the case of late retirement factors)

Appendix 2 provides GMP conversion factors and a worked example. The main drawback of this approach is the pro-rata approach assumes GMP accrues uniformly over the period 1988 to 1997. Another way to describe this is the contracted-out earnings each tax year increase uniformly in line with section 148 orders. Hence, it can be inaccurate for:

- Members with service breaks
- Part timers with variable hours
- Members with variable earnings
- Members with transfer-in GMP from an earlier scheme (where the dates used in the pro-rata have impacted the apportionment, as a result of the transfer-in)

The potential pitfalls and the possible workarounds of the pro-rata approach are set out in the table below:

Member Data: Opposite Sex GMP	Potential Pitfall	Possible Workaround
Pro-Rata	Assumption 'uniform accrual' invalid.	Use alternative of First Principles or NISPI Dual Calculation Service if readily available. If no viable method, then acceptance of uniform accrual (which may be an approximation) may be the only route
	GMP includes transfer-in GMP.	For section 148 transfer-in, use an earnings-based approach (see below) to avoid collecting transfer data.  If a fixed rate transfer-in, then separate the transferred GMP from the main scheme GMP and pro-rata separately using their respective dates (i.e. the dates of main scheme GMP accrual and transferred-in accrual for each separately)
	For females with no Post 90 GMP (i.e. date of birth before 06/04/1931), there's no starting Post 90 GMP to adjust.	Expected to be very rare - check if any such females exist. Use extrapolation: estimate the Post 90 GMP based on what post 88 GMP accrued before 1990 exists. If only pre-88 GMP exists (i.e. date of birth before 06/04/29), then pre-88 GMP can be used but an adjustment factor of 0.8 for the change in GMP accrual rate would also be required (i.e. 80ths to 100ths)

**Approach Two - First Principles using Validated Contracting Out Earnings (COEs) and Dates**

The scheme may hold COEs within the administration system. It’s also possible to request NISPI COEs and contracting out dates from HMRC (currently only where the member/dependant is still alive) using the online tool GMP Checker. These COEs may have been used, refined and validated as part of the GMP reconciliation. This data may be used to calculate an opposite sex GMP directly.

The main pitfall is the COEs and dates may be inconsistent with the scheme GMP. This can occur if the GMP reconciliation led to Intended Mismatches - where Trustees decided not to update scheme records to match the NISPI data. It can also occur where the GMP reconciliation was not completed, stalemate situations occurred, or large tolerances were used. For example, a £2pw tolerance used in the GMP reconciliation, where scheme records were unchanged below the tolerance, could be much bigger than the effect of an opposite sex GMP if the GMPE calculations are not undertaken on a like for like basis i.e. only allowing for the difference of gender. For example, under GMP reconciliation and rectification a member may have had a GMP discrepancy of £100p.a. (within the £2pw tolerance) and figures have been left unchanged as a result. If the GMPE change is £25p.a., does it make sense to apply it? Would the decision vary if the errors were added, resulting in a £125pa increase which then breaches the £2pw tolerance? This is an individual scheme decision, but clearly requires consideration.

The potential pitfalls and the possible workarounds of the First Principles approach are set out in the table below:

Member Data: Opposite Sex GMP	Potential Pitfall	Possible Workaround
First Principles	Inconsistency between the implied true sex GMP and the scheme GMP	Perform a validation against scheme GMP - if cases are outside an agreed tolerance then use the pro-rata approach.  If the differences are within rounding tolerances (e.g. 5ppw at date of termination), then the GMPE calculation could incorporate a simple re-tranche of the true sex pension to avoid inaccurate GMPE outcomes. The point here is GMPE adjustments can be very small and be “drowned out” even by mere rounding tolerances

When validated COEs are available, then the reliability and consistency of the NISPI Dual Calculation Service GMP figure can be assessed using this calculation. Some pitfalls of Approach Three are also relevant to Approach Two because they are both earnings-based.

### Approach Three - NISPI Dual Calculation Service (aka GMP Checker)

NISPI offers a service to supply opposite sex GMP on request using the online tool GMP Checker. This service is intended to assist schemes equalising benefits for the effects of GMP. Data isn't yet available if the member (life) is deceased nor for dependants. Whilst the GMP Checker performs a live calculation using the most up to date data on an individual's NI record, occasionally, unexpected results can be produced. Where possible, it's therefore worth verifying the output of the GMP Checker against the first principle calculation. The data returned is only as good as the data input request e.g. if a revaluation rate or post April 2016 leaving date is specified and is incorrect then the data returned will be incorrect. Multiple periods of employment are specified in a single line consecutively. Any transferred-in GMP will combine with the scheme GMP into a single figure, which may not be appropriate. Use of the service creates a risk opposite sex GMP figures are misconstrued, creating artificial differences unless care is taken.

A number of data items are supplied including Total GMP, Post 88 GMP, Post 90 - true gender and Post 90 - opposite gender. This gives an opportunity to do a 'look back' on the GMP reconciliation work to check for late changes in HMRC's GMP if desired and easy to undertake (without intending to reopen the entire GMP reconciliation!).

There are potential pitfalls when using the GMP Checker service, including the HRMC data point noted in the Introduction. These, along with the possible workarounds are set out in the table below:

Member Data: Opposite Sex GMP	Potential Pitfall	Possible Workaround
NISPI Dual Calculation Service	Inconsistency between the NISPI True Sex GMP and the scheme GMP.	Grade the NISPI Dual Calculation and default to a pro-rata if unsafe to use.
	Deceased members, dependants, error cases.	Use an alternative approach.
	NISPI do not hold COEs for females with service after 06 April prior to age 60 (when before 06/04/97).	Use an alternative approach.
	Multiple or linked periods of employment.	Treat each period of employment separately. Pro-rata may allow higher automation.

Member Data: Opposite Sex GMP	Potential Pitfall	Possible Workaround
	Transfer-in GMP.	Check transfer revaluation - section 148 transfers-in are likely to be accurate but fixed rate transfers-in are likely to need intervention or an alternative approach.
	The NISPI calculation uses 06 April 1990 not 17 May 1990.	Whilst this overstates the opposite sex GMP by 41 days, the inaccuracy can be offset by using 06 April in the true sex calculation. However, the inaccuracy can be material as a percentage for members with short periods of service after 16 May 1990. If the resulting GMPE inaccuracy was deemed significant then an alternative approach could be used
	GMP are at different dates and therefore difficult to work with.	Request GMP at a consistent and, ideally, an unambiguous date e.g. date of leaving or at the same date as the GMP reconciliation was undertaken (for ceased schemes termed 'cessation date').
	Unexpected quirks: Consider a true sex female with figures requested at age 60, the opposite sex male GMP provided at age 60 can be one revaluation short because NISPI appear to use tax years not the normal 06 April.	This quirk can be picked up by reference to the 'Post 90 - true gender' figure. Request figures at date of leaving (and check this is consistent to NISPI's termination date). We would be wary of adjusting NISPI figures for quirks unless the base data was available in which case it would seem simpler to use First Principles.

### Conclusion: Obtaining Opposite Sex GMP

Three approaches have been identified and certain pitfalls highlighted with each. For some schemes, there may be constraints if the GMP has already have been tranching for pension age equalisation depending on the Calculation Solution. For example, if total pension has been tranching using service dates then using First Principles or the NISPI Dual Calculation Service may introduce inconsistencies. If there are no such constraints, in order to optimise accuracy and automation whilst minimising manual intervention, it may be most efficient if a highly automated approach is used which:

- Makes use of Approach One (Pro-rata) as a safe fall back approach

- Makes use of one of either Approach Two (First Principles) or Approach Three (NISPI Dual Calculation Service) where data is readily available and safe to use in order to improve accuracy where this can be achieved with minimal additional cost

The precise route will need to be determined by each scheme.

## Section C4 - Calculation and anti-franking issues

In this section, we deal with some calculation and anti-franking related pitfalls and show possible workarounds.

Calculation Solution/Component	Potential Pitfall	Possible Workaround
Reconstruction, Rollback Any Calculation Solution involving attempts to recreate current benefits or past benefits e.g. rolling back to scale pension at leaving.	GMPE morphing into a benefit audit. Disproportionate cost.	Use a model solution with simplifying assumptions e.g. differences based model which doesn't require recreation of past benefits or history. For example, a common simplification is to ignore commutation by assuming the amount commuted is unchanged by GMPE
Rollback, Forms Any Calculation Solution using approximations or partial data.	GMPE adjustments not dealing with anti-franking sufficiently. This could mean a significant source of sex discrimination remains for certain individuals.	Normally, a small proportion of members are affected by anti-franking considerations. The potentially affected members (of either sex) can be identified and additional data collected. Calculation Solutions may need bespoke work to deliver the desired anti-franking adjustments
Anti-franking: Opposite Sex Statutory Steps	GMPE morphing into a benefit audit. Disproportionate cost. True Sex Statutory Steps may not be identifiable or paid consistently.	Depends on scheme design. If statutory steps are commonplace e.g. single rate revaluation schemes with NRA60, the Calculation Solution needs to be robust to model true and opposite sex steps consistently. If statutory steps are rare, then potential cases can be ring-fenced and treated separately to avoid unnecessary data collection. The presence of a true sex step could be detected by queries on the payroll history table if steps are not held discreetly
Anti-franking: Opposite Sex Later Earnings Additions (LEAs)	GMPE morphing into a benefit audit. Disproportionate cost. True sex LEAs may not have been paid consistently or at all.	It's possible members with accrual past age 60 will be relatively small in number. Therefore, identify the potential LEA population and treat separately possibly with their own Calculation Solution and additional data collection. If the numbers are larger, an alternative solution will be required.

Calculation Solution/Component	Potential Pitfall	Possible Workaround
	Final Pensionable Earnings (FPE) at age 60 not readily available	LEA calculations require FPE at age 60. If this isn't readily available, then an assumption can be made on FPE progression between age 60 and leaving, for example (in order of increasing size of LEA adjustment) AWE, RPI, CPI or no increases

## Appendix 1 - Data requirements schedule

In this Appendix, we set out a summary of the data which could potentially be needed for a GMPE project and a summary of the minimum data likely to be required for most exercises. We haven't listed all data items individually line by line but provided a description of the data items:

- The minimum required data is denoted by an 'E' for 'Essential'
- Data whose need is likely to depend on the Calculation Solution (e.g. Reconstruction, Rollback, Forms/Formulaic etc.) and scenario is denoted by a 'CS'
- Data likely to be derived i.e. calculated from other data, is denoted by 'DD'
- Data not likely to be applicable is denoted 'N/A'.

The in-scope membership for a GMPE exercise includes all members with GMP accrued during the period 17/05/1990 - 05/04/1997 or would have had if they had been of the opposite gender. For dependants, it's the first life which is relevant. The membership in scope for conversion may be wider if GMP accrued before 17/5/1990 is being converted.

Member Data	Data Type	Active	Deferred	Pensioner	Spouse - 1st Life Data	Comments
Member ID	Member data	E	E	E	E	
Member National Insurance Number	Member data	E	E	E	E	Essential from NISPI. Also useful for linking 1st and 2nd life. Not always required for output. It can be replaced by Member ID.
Benefit Category	Member data	E	E	E	E	Schemes may have multiple benefit categories with different revaluation rates or pension escalation rates.
Sex	Member data	E	E	E	E	
Date of Birth	Member data	E	E	E	E	

Member Data	Data Type	Active	Deferred	Pensioner	Spouse - 1st Life Data	Comments
Date Joined Scheme	Member data	E	E	E	E	This would normally be when pension accrual started
Date of Leaving Pensionable Service	Member data	N/A	E	E	E	
Date Contracting Out Started	Member data	E	E	E	E	
Date Contracting Out Ended	Member data	E	E	E	E	
Retirement Date	Member data	N/A	N/A	E	E	
Normal Pension Date	Member data	E	E	E	E	Details of equalisation NPAs required.
Retirement status	Member data	N/A	N/A	CS	CS	Early, normal, late, ill health
Details of Pension Sharing Orders	Member data	CS	CS	CS	CS	Date of pension debit, percentage assigned to ex-spouse, status at time of award (active, deferred, pensioner), whether the debit's excluded or included within the pension figures provided.
Part time data - dates of part time service and hours / % of full-time service	Member data	CS	CS	CS	CS	
Service breaks	Member data	CS	CS	CS	CS	
Final Pensionable Salary (defn(s))	Earnings data	N/A	CS	CS	CS	Differences over the years/between categories etc.

Member Data	Data Type	Active	Deferred	Pensioner	Spouse - 1st Life Data	Comments
History of contracted out earnings and contributions	Earnings data	E	CS	CS	CS	
<b>Deferred Benefit tranches:</b>						
Pre 88 GMP at DOL	Pension at DOL	N/A	E	CS	CS	
Post 88 GMP at DOL	Pension at DOL	N/A	E	CS	CS	
Non-revaluing Pre 97 XS at DOL	Pension at DOL	N/A	E	CS	CS	A number of schemes will already hold 90-97 tranches due to pension age equalisation
Revaluing Pre 97 XS at DOL	Pension at DOL	N/A	E	CS	CS	
Total Pre 97 pension at DOL	Pension at DOL	N/A	E	CS	CS	
Total Pension at DOL	Pension at DOL	N/A	E	CS	CS	
Post 90 GMP at DOL	Pension at DOL	N/A	DD	DD	DD	A number of approaches are possible (pro-rata, first principles using validated COEs, NISPI Dual Calculation Service)
Opposite Gender Post 90 GMP at DOL	Pension at DOL	NA	DD	DD	DD	
<b>Current pension in payment splits:</b>						Exclude AVC annuitisation and other non-defined benefit pension amounts
Pre 88 GMP at current date	Current pension	N/A	N/A	E	E	
Post 88 GMP at current date	Current pension	N/A	N/A	E	E	
Pre 97 XS at current date	Current pension	N/A	N/A	E, DD	E, DD	

Member Data	Data Type	Active	Deferred	Pensioner	Spouse - 1st Life Data	Comments
Other Pre 97 pension elements at current date (i.e. AVCs included in Pre 97 pension)	Current pension	N/A	N/A	E, DD	E, DD	
Pension commuted on retirement for a PCLS	Member data	N/A	N/A	CS	CS	May be useful for anti-franking
PIE exercise - consideration will need to be given to this if members had options at retirement	Current pension	N/A	N/A	DD	DD	Depends on Trustee appetite to “unpick” past options
<b>Transfer (TV) in details shown separately if GMP revalues at different rate</b>						May not be necessary to have all transfer details if the transferred GMP contains no post 17/05/90 GMP
Date Joined Scheme TV originates from	TV-In data	E	CS	CS	CS	
Date Left Scheme TV in originates from	TV-In data	E	CS	CS	CS	
Pre 88 GMP accrued in previous scheme	TV-In data	E	CS	CS	CS	
Post88 GMP accrued in previous scheme	TV-In data	E	CS	CS	CS	
Rate of revaluation which applies for TV in GMP e.g.	TV-In data	E	E	E	E	Section 148 transfers can allow simplification*

Member Data	Data Type	Active	Deferred	Pensioner	Spouse - 1st Life Data	Comments
fixed from DOL previous scheme, or section 148 until leave current Scheme then fixed rate which applies at that date.						
Further transfer details (e.g. added years or fixed pension)	TV-In data	E	CS	CS	CS	

- If the transferred in GMP was brought in to revalue at S148 orders, then all the GMP revalues at the same rate from DOLS, making the calculations simpler

Scheme Specific Data	Data Type	Active	Deferred	Pensioner	Spouse - 1st Life Data	Comments
Equalisation Date	Scheme data	E	E	E	E	May be a number of dates e.g. for existing members, for new joiners, for different sections
Preserved Benefit Revaluation	Scheme data	N/A	E	E	E	Statutory or otherwise with benefit tranches and increases
GMP revaluation type (Fixed, Limited, S148)	Scheme data	N/A	E	E	E	
GMP revaluation prior to GMPPD	Scheme data	N/A	E	E	E	06 April, tax years, or not revalued until GMP payment age
<b>Anti-Frinking</b>						
Steps at GMP payment age for retirements before GMP age	Scheme data	N/A	N/A	CS	CS	Is house practice more generous than the statutory minimum? Has house practice been consistent? Often actual steps at GPA will not be held separately.
LEAs	Scheme data	N/A	CS	CS	CS	Has house practice included LEAs? Has house practice been consistent? Often LEAs will not be held separately.
Accrual rates	Scheme data	CS	N/A	N/A	N/A	This may support greater accuracy in establishing post 90 non GMP if accrual rates have varied
CPI/RPI reference month for pension increases in deferment	Scheme data	N/A	E	E	E	What reference period is used for the 'increase rate'?

Scheme Specific Data	Data Type	Active	Deferred	Pensioner	Spouse - 1st Life Data	Comments
Partial year revaluation applied?	Scheme data	N/A	E	E	E	Is deferred revaluation for full year only, or are partial years accounted for?
Guaranteed Increases in Payment on pre 97 non-GMP	Scheme data	N/A	N/A	E	E	History only needed from 1990
Discretionary pension increase history since 1990	Scheme data	N/A	N/A	E	E	
CPI/RPI reference month for pension increases in payment	Scheme data	N/A	N/A	E	E	
Full/partial first increase in payment	Scheme data	N/A	N/A	E	E	
Post 88 GMP increase in payment	Scheme data	N/A	N/A	E	E	Statutory increase or otherwise
Any benefit underpins to be considered?	Scheme data	N/A	CS	CS	CS	Either in deferment or in-payment
Commutation factors and history since 17/05/1990	Scheme data	N/A	N/A	CS	CS	
Early retirement factors and history since 17/05/1990 - applied to revalued benefit at NRD?	Scheme data	N/A	N/A	CS	CS	

Scheme Specific Data	Data Type	Active	Deferred	Pensioner	Spouse - 1st Life Data	Comments
Late retirement factors and history since 17/05/1990 and different NRA tranches	Scheme data	N/A	N/A	CS	CS	
Consideration may also need to be given to schemes where 'cash' is paid in addition and not by commutation.	Scheme data	N/A	N/A	CS	CS	Only relevant if a source of sex inequality
History of retirements without reduction - e.g. redundancy?	Scheme data	N/A	N/A	CS	CS	Consider ill health, serious ill health, etc.

Additional Spouse's Data	Data Type	Active	Deferred	Pensioner	Spouse - 1st Life Data	Comments
Linked 1st life record for spouse	Spouse data	N/A	N/A	N/A	E	
<b>Spouse pension definition</b>						
DAR definition	Spouse data	N/A	N/A	N/A	E	Pension Fraction and based on pre commutation or post commutation pension
DID definition	Spouse data	N/A	N/A	N/A	E	
DIS definition	Spouse data	N/A	N/A	N/A	E	

Conversion - Additional Data	Data Type	Active	Deferred	Pensioner	Spouse - 1st Life Data	Comments
Conversion membership scope	Membership	E	E	E	E	Membership scope to include all members to be converted e.g. including pre 17/5/1990 leavers with GMP accrual
GMP data - to include pre 17/5/1990 details	TV-In data	E	CS	CS	CS	Transfer details in respect of pre 17/5/1990 may be required for conversion of all GMP
Marital status	Spouse data	CS	CS	CS	E	
Spouse's date of birth	Spouse data	CS	CS	CS	E	

## Appendix 2 - Using the pro-rata approach to obtain the opposite sex GMP

A scheme can calculate an opposite sex GMP by applying a factor to the member's original GMP at date of leaving. The conversion factors set out below represent the working life ratio (i.e. the post 88 GMP accrual rate ratio). This is one of the four possible adjustments described earlier. The other three adjustments can apply if a member remains in service past 06 April prior to age 60.

### GMP Conversion Factors<sup>2</sup>

Date of birth between (inclusive)		Male to Female Factor	Female to Male Factor
Up to	05/04/1934	1.0000	1.0000
06/04/1934	05/04/1935	1.0500	0.9524
06/04/1935	05/04/1936	1.1000	0.9091
06/04/1936	05/04/1937	1.1500	0.8696
06/04/1937	05/04/1938	1.2000	0.8333
06/04/1938	05/04/1939	1.2500	0.8000
06/04/1939	05/04/1940	1.2381	0.8077
06/04/1940	05/04/1941	1.2273	0.8148
06/04/1941	05/04/1942	1.2174	0.8214
06/04/1942	05/04/1943	1.2083	0.8276
06/04/1943	05/04/1944	1.2000	0.8333
06/04/1944	05/04/1945	1.1923	0.8387
06/04/1945	05/04/1946	1.1852	0.8438

<sup>2</sup> Acknowledgement: PPF produced the same GMP Conversion Factor table on page 174 of their 'Statement on Equalisation for GMPs and the application of a Statutory Minimum to PPF Compensation for schemes in a PPF Assessment Period' [https://www.ppf.co.uk/sites/default/files/file-2018-10/gmp\\_statement\\_dec12.pdf](https://www.ppf.co.uk/sites/default/files/file-2018-10/gmp_statement_dec12.pdf)

06/04/1946	05/04/1947	1.1786	0.8485
06/04/1947	05/04/1948	1.1724	0.8529
06/04/1948	05/04/1949	1.1667	0.8571
06/04/1949	05/04/1950	1.1613	0.8611
06/04/1950	05/04/1951	1.1563	0.8649
06/04/1951	05/04/1952	1.1515	0.8684
06/04/1952	05/04/1953	1.1471	0.8718
06/04/1953	05/04/1954	1.1429	0.8750
06/04/1954	05/04/1955	1.1389	0.8780
06/04/1955	05/04/1956	1.1351	0.8810
06/04/1956	05/04/1957	1.1316	0.8837
06/04/1957	05/04/1958	1.1282	0.8864
06/04/1958	05/04/1959	1.1250	0.8889
06/04/1959	05/04/1960	1.1220	0.8913
06/04/1960	05/04/1961	1.1190	0.8936
06/04/1961	05/04/1962	1.1163	0.8958
06/04/1962	or later	1.1136	0.8980

### Worked Example

The following illustrates how the conversion factor can combine with the other three adjustments. Consider a true sex male GMP who left at age 65 and before 2002. If the pro-rata approach was used to derive the opposite sex female GMP at age 65, then all four adjustments would be needed as follows:

- the GMP conversion factor based on date of birth from the table above
- allowance for the shorter period of female GMP accrual
- removal of the last five male section 148 revaluations
- addition of female GMP late retirement factors to date of leaving (both the CPI up to 3% increases and 1/7% per week increments).

Date of birth (DOB) 27/10/1936

Date of joining scheme (DOJS) 9/3/1992 aged 55y 4m

Date of leaving scheme (DOLS) scheme 27/10/2001 aged 65

Using the pro-rata approach, an estimate of the opposite sex female GMP at DOLS can be obtained as follows:

Opposite sex female GMP =  $£3.22 * 1.1500 * 0.8030 / 1.251 * 1.5469 = £3.68pw$

Where:

- £3.22 is the male GMP per week accrued at DOLS (this has been obtained from the payroll system by winding back the current post 88 GMP in payment)
- 1.1500 is the male to female GMP conversion factor for DOB between 06/04/1936 and 05/04/1937
- 0.8030 is the ratio of female to male contracted out accrual periods

Where  $4.0767 / 5.0767 = 0.8030$

4.0767 is the opposite sex female contracting out service between 09/03/1992 (DOJS) and 05/04/1996 (because female GMP accrual ceases on 05 April before age 60)

5.0767 is the actual male contracting service between 09/03/1992 (DOJS) and 05/04/1997 (end of male GMP accrual)

- 1.251 is the cumulative section 148 orders from 06/04/1996 to 06/04/2000 inclusive  
where  $1.028 * 1.050 * 1.046 * 1.042 * 1.063 = 1.251$  where 2.8% is the section 148 order on 06/04/1996 aged 59, 5% is the section 148 order on 06/04/1997 etc.
- 1.5469 is the female post 88 GMP late retirement factors from female GMP payment age 60 to date of leaving at age 65  
where  $(1+260/700) * 1.021 * 1.03 * 1.03 * 1.011 * 1.03 = 1.3714 * 1.1280 = 1.5469$  where 2.1% is the post 88 GMP increase on 06/04/1997, 3% on 06/04/1998 etc.

The approximation in this pro-rata estimate is within the 0.8030 ratio because this assumes uniformly increasing contracted out earnings (in line with section 148) over the male contracting out period.

## Glossary

**Anti-franking.** The statutory requirement disallowing the offsetting of GMP revaluation against XS Pension (see Pension Schemes Act 1993, sections 87-91)

**AVCs.** Additional Voluntary Contributions

**AWE.** Average Weekly Earnings (in the UK, as produced by the Office of National Statistics)

**Calculation Solution.** The approach used to determine opposite sex GMP, as defined in Section B of this paper

**COE.** Contracted-out earnings (for the relevant tax year) - used to calculate GMP

**CPI.** Consumer Price Index - a measure of inflation

**DAR.** Death After Retirement

**DID.** Death in Deferment

**DIS.** Death in Service

**DOJS.** Date of Joining Scheme.

**DOLS or DOL.** Date of Leaving (Pensionable) Service.

**First life.** Original scheme member

**FPE.** Final Pensionable Earnings

**FRY.** Final Relevant Year for the purposed of GMP accrual

**GMP.** Guaranteed Minimum Pension (under contracting-out)

**GMPE.** GMP Equalisation

**GMPPD.** GMP Payment Date (age 65 for men and 60 for women)

**Intended Mismatches.** Where Trustees decided not to update records for discrepancies of GMP between scheme records and NISPI on the basis of materiality

**Judgment Method.** The Method from the Lloyds GMPE Court Case of October 2018 (e.g. C2, D1, etc.)

**LEA.** Later Earnings Addition - - an amount of additional pension payable to meet anti-franking requirements for members remaining in pensionable service after they ceased to be contracted-out

**NISPI Dual Calculation Service.** A service provided by HMRC to supply opposite sex GMP amounts

**NRA.** Normal Retirement Age

**NRD.** Normal Retirement Date

**PCLS.** Pension Commencement Lump Sum - an amount of cash taken in lieu of a portion of the original pension entitlement

**PIE.** Pension Increase Exchange - an exercise where pensioners are given the option to exchange some of the future increases in their pension (in excess of the statutory minimum) for a different pattern of increases, usually a lower rate and/or a simpler increase provision, of the same or similar value to the existing provision

**RPI.** Retail Price Index - a measure of inflation

**Section 148.** Section 148 Orders - a method of increasing GMP broadly in line with AWE increases but the actual increases are set annually by Government orders

**Uniform Accrual.** The earning of (a portion) of pension equally over the period it's earned. Often this is an assumption made in the absence of other information.

**XS.** Pension benefits in excess of GMP.



THE PENSIONS ADMINISTRATION STANDARDS ASSOCIATION

Get in touch:

[info@pasa-uk.com](mailto:info@pasa-uk.com)

[www.pasa-uk.com](http://www.pasa-uk.com)