Dear Clairita and Allison,

As discussed during my evidence today I enclose the Government Actuary's advice to the Lord Chancellor of 25 June 2019.

The point about the under compensation margin adjustment which I was making is summarised in the 2nd and 3rd bullet points of the Government Actuary's overview letter to the Lord Chancellor on p2 in this pdf. The point is then explained in greater detail on p6 which also includes the graph to which I referred. The Government Actuary refers to alternative deductions of either 0.25% or 0.75% to reduce the proportion of Plaintiffs who would likely be undercompensated. As I mentioned the Lord Chancellor decided to opt for the mid-point of a 0.5% deduction (as subsequently adopted in Scotland), which if you follow the green line (assumed 43 year loss period) on the graph then, on the GAD modelling of the English notional investment portfolio, would likely result in about 1/3 of Plaintiff's seeing their compensation run out early. Whilst the notional investment portfolio for Northern Ireland is different I would expect the effect to be broadly similar. So the question for the Assembly is whether they think that amounts to full compensation even for that 1/3? Naturally if the Assembly wanted to explore this point further then the best person to ask would be the Government Actuary.

I also attach what was the first in a six part series of articles concerning the discount rate which I wrote for the New Law Journal, starting back in September 2017. In that article I suggested that the biggest issue in this whole debate was what proportion of injured people is it acceptable to leave undercompensated whilst claiming to have a justice system providing full compensation. I referred to an earlier version of the GAD modelling and how that illustrated the risk of significant under compensation at the levels of discount rate being contemplated in England at that time. Please note the reference to the different purpose adjustment of 0.5%, for investment management charges and tax, was the GAD's then working assumption, which they subsequently adjusted upwards to 0.75%. It preceded the gathering of the FOCIS data set that demonstrates average investment management charges incurred by Plaintiffs are in excess of 1.5%.

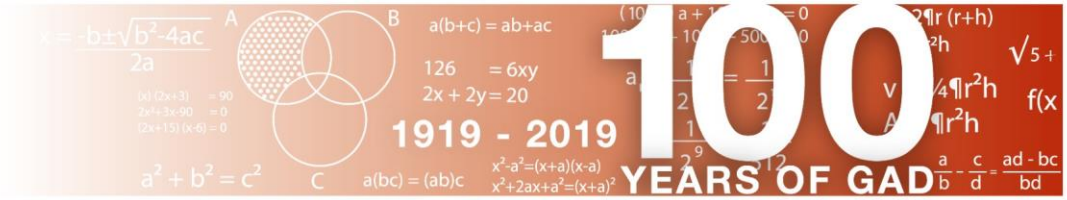
Please do not hesitate to contact me, or Oonagh, if we can be of any further assistance.

Best wishes

Julian Chamberlayne
Chairman of FOCIS
Forum of Complex Injury Solicitors

stewartslaw.com

Government Actuary's Department



Setting the Personal Injury Discount Rate

Government Actuary's advice to the Lord Chancellor

25 June 2019

Martin Clarke, Government Actuary

To: David Gauke

Lord Chancellor, Ministry of Justice

I am pleased to present my report to support your decisions on the Personal Injury Discount Rate (PI discount rate). This report is made in accordance with the requirements of the Civil Liability Act 2018 and in line with the terms of reference attached to your letter dated 7 April 2019. I understand that this report will be laid before Parliament alongside other documents relating to your determination of the PI discount rate.

My report:

- proposes that you consider a single PI discount rate based on a representative claimant profile whereby regular future damages costs are to be met over a 43-year period through the investment of a portfolio of assets constructed according to the mid-range portfolio of those suggested in responses to your Call for Evidence

- I expect this portfolio to produce an annual net return of CPI+0.25% pa over the period but, in practice, it may produce more or less than that with equal likelihood. If the PI discount rate were set at this level, there would be an even or "50:50" likelihood that the investment outcomes would be enough to meet all the needs in the future

- this balance might be moved more in favour of the claimants by adjusting downwards from this rate. For example:

- a deduction of 0.25% pa, which would result in a PI discount rate of CPI+0.0% pa, would correspond to broadly a 60% likelihood that the representative claimant's investment outcomes are enough to meet all the needs in the future, and around a 70% likelihood of the representative claimant being able to meet at least 90% of their needs

- a deduction of 0.75% pa, which would result in a PI discount rate of CPI-0.5% pa, would correspond to broadly a 70% likelihood that the representative claimant's investment outcomes are enough to meet all the needs in the future, and around a 85% likelihood of the representative claimant being able to meet at least 90% of their needs

- other such adjustments would result in a different balance to those illustrated

- the PI discount rate should be used to determine lump sum damages to cover needs that are assumed to be subject to inflation of CPI+1% pa

My report further notes that:

- adopting a dual PI discount rate is likely to more closely match the pattern of expected future investment returns which at the present time, are characterised by lower short-term investment returns but much higher long-term rates. As such a dual rate may lead to more equal outcomes between claimants investing over different periods, depending on how this is assessed

- there are many ways in which a multiple rate structure can be designed and set. For the purposes of this report and in view of the fact that a multiple rate structure would be a significant departure from current practice, I have confined my analysis and advice to assuming

a long-term PI discount rate of CPI+1.5% pa and a switching point from the short-term rate of 15 years

- as per the single rate, the short-term rate can be chosen to alter the balance of claimant outcomes. For example, assuming a long-term PI discount rate of CPI+1.5% pa and a switching point from the short-term rate of 15 years:
- a short-term rate of CPI-0.75% pa would correspond to broadly a 50% likelihood that the investment outcomes are enough to meet all the needs of the representative claimant in the future, and a 65% to 85% likelihood of claimants being able to meet at least 90% of their needs
- a short-term rate of CPI-1.25% pa would correspond to broadly a 60% likelihood that the investment outcomes are enough to meet all the needs of the representative claimant in the future, and a 75% to 90% likelihood of claimants being able to meet at least 90% of their needs
- a short-term rate of CPI-1.75% pa would correspond to broadly a 70% likelihood that the investment outcomes are enough to meet all the needs of the representative claimant in the future, and a 80% to 95% likelihood of claimants being able to meet at least 90% of their needs
- other adjustments to the short-term rate, or different choices of the long-term rate would, again, result in a different balance to those illustrated
- there are good technical reasons to adopt a dual rate structure, however I have not thoroughly considered wider implications of implementing such a rate and would recommend that the Government considers the impact and practicalities of such an approach should you consider its adoption

When using my analysis and report to set the PI discount rate, I would emphasise that it should not be relied upon as means of calibrating to a precise level or risk of claimant compensation. In particular the illustrative rates shown above are subject to interpretation and it is possible to make alternative assumptions that would lead to slightly different PI discount rates for the same risk of claimant compensation. Therefore, the analysis presented in this report and summarised above, should be used as an illustration and overall indication of the potential investment risks that claimants might face, to help your judgement in determining an appropriate PI discount rate.

Martin Clarke

Government Actuary

25 June 2019

Contents

At GAD, we seek to achieve a high standard in all our work. We are accredited under the Institute and Faculty of Actuaries' Quality Assurance Scheme. Our website describes **the standards** we apply.

Executive Summary

Background

Where damages for personal injury take the form of a lump sum, the settlement is determined using the Personal Injury Discount Rate ('PI discount rate').

The Civil Liability Act 2018 ('the Act') describes the way in which the PI discount rate is to be set in the future by the Lord Chancellor and sets out the requirement to consult the Government Actuary and HM Treasury as part of the first review. This report provides my advice together with the information and analysis underlying it.

To help inform my advice, a Call for Evidence was issued to gather evidence of matters that may influence the PI discount rate. The evidence submitted demonstrated that there is a very wide range of approaches adopted by claimants. Further details on evidence gathered from the Call for Evidence and the assumptions that they have influenced are set out in Section III of this report.

These assumptions can be summarised as:

- Claimant characteristics: purpose for, and time period over which a claimant invests
- Investment portfolio: level of risk adopted by claimants and the associated return profile
- Expenses and Tax: levels incurred over the term of the investment
- "Damage Inflation": rate at which a claimant's costs are expected to rise over time

Approach

My advice is based on the following analytical approach:

- **considering** the available evidence and choosing a set of assumptions for the factors listed above
- **deriving** the net expected return, which if used as the PI discount rate would give a 50% likelihood of the representative claimant having full compensation for their loss (hereinafter referred to as having "sufficient funds" to meet their needs)
- **quantifying** "claimant outcomes" for example claimants. For a given set of assumptions, characteristics and PI discount rates, I have quantified whether they are likely to have sufficient funds to meet their assessed needs. If not, I have quantified the extent of any excess or shortfall
- **repeating** the above analysis for a dual discount rate system whereby different rates are used for the first period of an award and thereafter

- **expressing** the PI discount rate(s) relative to CPI (ie CPI ± X% pa) as set out in my terms of reference, as opposed to the current method of expressing it relative to RPI. In practice users should continue to apply the real rate (ie ±X% pa) to determine the damages to cover needs that are assumed to be subject to inflation of CPI+1% pa

It should be noted that I have rounded the PI discount rate to the nearest 0.25% pa to avoid spurious accuracy.

To safeguard claimants from the likelihood of not being able meet their needs, it may be considered appropriate to set the PI discount rate lower than the net expected portfolio return. This would result in a higher expectation that the award will be enough to meet future needs. However, too low a PI discount rate may be considered unreasonable from the perspective of those responsible for meeting the claim, such as insurers and their policyholders or public sector bodies and these risks must be carefully balanced.

Single PI discount rate

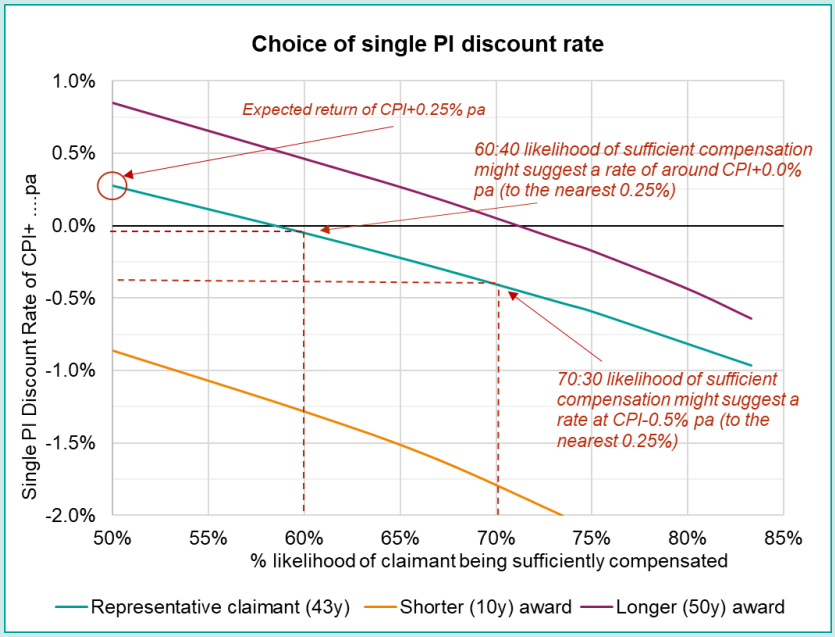
The key results of my analysis are as follows:

A single PI discount rate of CPI+0.25% pa corresponds to broadly a 50% likelihood of representative claimants having a settlement that proves sufficient to meet their needs and a 50% likelihood of having a settlement that proves insufficient.

CPI+0.25% pa represents my assessment of the median net return (after deductions for tax, expenses and damage inflation) available to the representative claimant investing in accordance with the requirements outlined in the Act.

It may be appropriate to adjust the PI discount rate downwards, to increase the aforementioned likelihood of claimants meeting their needs and the chart at the foot of this page considers this further.

In illustrating how much the PI discount rate could be adjusted, I have considered broad rules of thumb. **For example, a single PI discount rate might be set by reference to the level at which we would expect there to be around a 60% likelihood of representative claimants having a settlement that proves sufficient to meet their needs, and this might suggest a single PI discount rate in the region of CPI+0.0% pa. Alternatively, a single PI discount rate of around CPI-0.5% pa would expect to correspond to broadly a 70% likelihood of representative claimants being able to meet all their needs.**



Setting a lower PI discount rate increases the likelihood of a claimant being able to meet their damages needs.

The chart shows how the likelihood of claimants being sufficently compensated (on the horizontal axis) changes when the PI discount rate is varied (in excess of CPI on the vertical axis). Each line shows a claimant investing over different time periods.

For example, were we to consider a 60% likelihood of sufficient compensation for the representative claimant, we would read off on the vertical axis as shown and might set the PI discount rate at around CPI+0% pa (to the nearest 0.25% pa).

Other levels of mitigation for under-compensation of risk may be adopted, resulting in alternative PI discount rates. In addition, for those claimants that are unable to meet all of their needs, the degree of under-compensation is likely to vary significantly which I have quantified in my analysis. For example, under a PI discount rate of CPI+0.0% pa I expect that there is around a 70% likelihood of a representative claimant being able to meet at least 90% of their needs. Under a PI discount rate of CPI-0.5% pa the equivalent likelihood is around 85%.

Multiple PI discount rates

The chart on page 6 above also illustrates the impact of different PI discount rates on the outcomes of claimants investing with longer or shorter awards (50 or 10 years). These are markedly different from the representative claimant because of the way in which simulated investment returns vary over different time horizons. In particular, current investment conditions are unfavourable, but these may be expected to improve in the future. I have also assumed that claimants with shorter awards will take less investment risk.

The Act has provision for the Lord Chancellor to set multiple PI discount rates, such that different PI discount rates are applied for different settlement periods. Such an approach would act to reduce the disparity in the risk of not being able to meet all needs by setting a higher PI discount rate for longer-term settlements and a lower rate for shorter-term settlements.

There are many ways in which a multiple rate structure can be designed and set, and these are discussed in Chapter 3 along with the rationale for the approach focused on in this report.

The key results of my multiple rate analysis are as follows and are illustrated in the graph overleaf:

- **a dual PI discount rate consisting of a short-term rate of CPI-0.75% pa to be applied in the first 15 years, with a long-term rate of CP+1.5% pa to be applied thereafter results in around a 50% likelihood of both short term and representative claimants having settlements that prove sufficient to meet their needs**

- these rates broadly represent the median net returns (after deductions for tax, expenses and damage inflation) available across different investment horizons and reflect the assumed investment portfolio preferences over these periods

- I believe that splitting the award period further by using more than two discount rates is unlikely to lead to materially superior outcomes or improvements over a dual PI discount rate approach

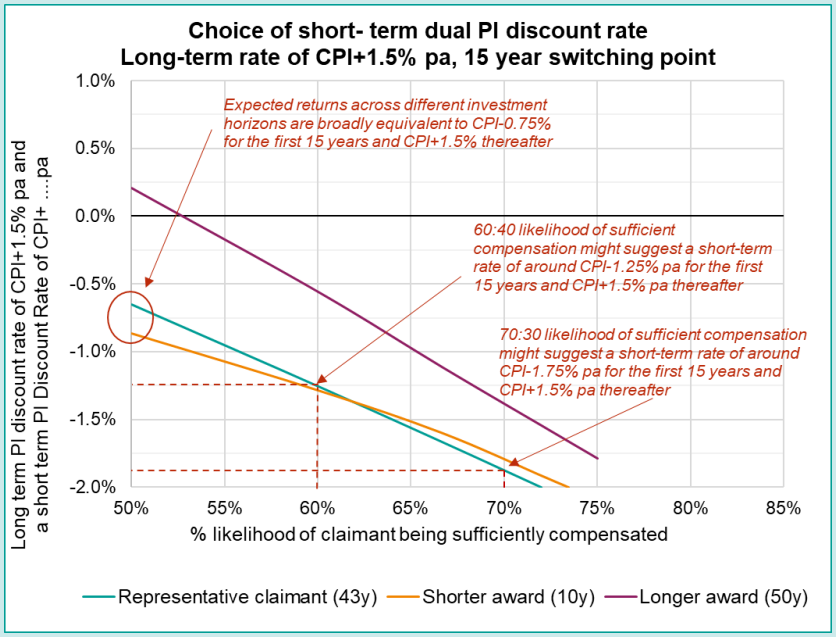
- **as with the single rate considerations, it may be appropriate to adjust the dual PI discount rate to increase the likelihood of claimants meeting their needs**. The chart overleaf considers this further, and again it might be used to consider broad rules of thumb. For example:

- **a dual PI discount rate consisting of a short-term rate of around CPI-1.25% pa to be applied to in the first 15 years, with a long-term rate of CPI+1.5% pa thereafter would lead to broadly a 60% likelihood that the investment outcomes are enough to meet all the needs in the future, and a 75% to 90% likelihood of claimants being able to meet at least 90% of their needs**

- **a dual PI discount rate consisting of a short-term rate of around CPI-1.75% pa to be applied to in the first 15 years, with a long-term rate of CPI+1.5% pa thereafter would lead to broadly a 70% likelihood that the investment outcomes are enough to meet all the needs in the future, and a 80% to 95% likelihood of claimants being able to meet at least 90% of their needs**

- **other levels of mitigation for under-compensation of risk may be adopted, resulting in alternative PI discount rates**

Since the adoption of a dual PI discount rate would represent a major change to the current system, it would in my opinion be prudent to consider and assess the impact and practicality of this approach including considerations as to whether a dual rate would be harder to understand or implement and any costs associated with transitioning processes. I have not considered these practicalities in my report.



The chart shows the short term PI discount rate (on the vertical axis) for different levels of likelihood in claimant outcomes (on the horizontal axis). Each line shows a claimant investing over different time periods.

Relative to choosing a single rate, the difference in claimant outcomes between claimants investing over the different periods is smaller – as shown by the fact that the lines are much closer together, particularly for the claimant with a shorter award.

Judgement in setting the PI discount rate

Under both single and dual PI discount rates, it should be noted that the setting of the rate requires a clear understanding of the uncertainty in the evidence, assumptions about the future, and a judgement regarding the balance of risk outlined above.

My recommendations above are based on an impartial review of the responses to the Call for Evidence. I consider the assumptions that I have made in relation to the representative claimant, their portfolio of assets and the future returns from those assets, to be neutral and without bias. The assumptions I have made are outlined in further detail in Section III of my report. It is possible to produce other assumptions that are similarly plausible based on the same evidence and, for this reason, I have undertaken a sensitivity analysis (Chapter 9) to quantify the effects of different assumptions.

I would however advise that the assumptions should be considered together in the round, as making assumptions that were systematically drawn from one extreme of the various ranges would produce an overall effect that I believe to be unrealistic and inconsistent with the requirements of the Act. I would consider it more reasonable to think of portfolio returns that may vary by no more than 0.5% pa in either direction from my neutral estimate.

Notwithstanding this, I am able to make the proposals above for both a single PI discount rate and an equivalent dual PI discount rates, based on my review of the evidence and my expert judgement. When using my analysis and report to set the PI discount rate, I would emphasise that it should not be relied upon as means of calibrating to a precise level or risk of claimant compensation. In particular the illustrative rates shown above are subject to interpretation and it is possible to make alternative assumptions that would lead to slightly different PI discount rates for the same risk of claimant compensation. Therefore, the analysis presented in this report and summarised above, should be used as an illustration and overall indication of the potential investment risks that claimants might face, to help the Lord Chancellor's judgement in determining an appropriate PI discount rate. I have used examples of adjustments to illustrate this process, but these should not be taken as indicative of any views or opinions that I may have.

Setting the Personal Injury Discount Rate

Government Actuary's advice to the Lord Chancellor

Section I: Background and approach

1 Background and approach

This Chapter of the report provides background information on how the PI discount rate is used together with details of legislative requirements relating to its determination. It also details the approach I have followed in formulating my advice.

How the PI discount rate is used

1.1 Awards of damages for claimants with serious and long-term injuries are intended to provide victims of life-changing events with full and fair financial compensation for all the expected losses and costs caused by their injuries.

1.2 Where a claim for future losses is settled as a single cash amount, the assessment of future losses and costs is converted into a lump sum allowing for:

- the period over which losses and costs are expected to be met
- the assumed investment return that a claimant expects to earn on the lump sum award

1.3 The assumed investment return is referred to as the Personal Injury Discount Rate ('PI discount rate') and is set by the Lord Chancellor.

Legislative requirements

1.4 Hitherto the Damages Act 1996 provided for the Lord Chancellor to set the PI discount rate, and this was done based on principles set out in case law, principally the decision of the House of Lords in Wells v Wells[1]. Under these principles the PI discount rate has been set with reference to average yields on Index-Linked Gilts – resulting in a current real PI discount rate of -0.75% pa[2].

1.5 On 20 December 2018, the Civil Liability Act 2018 received Royal Assent, thus introducing a change to the way that the PI discount rate is to be set in the future under the Damages Act 1996 ('the Act').

1.6 The Act provides for the Lord Chancellor to set the PI discount rate with reference to the return that a claimant would reasonably expect to achieve if they invested in a "low risk" diversified portfolio[3].

[1] [1999] 1 AC 345

[2] This rate is net of RPI inflation

[3] The legislation states that it should be assumed that the damages are invested using an approach than involves –

i. more risk than a very low level of risk, but ii. less risk than would ordinarily be accepted by a prudent and properly advised individual who has different financial aims.

In doing so, the Lord Chancellor is to have regard to the following when setting the PI discount rate:

- the actual investments made by claimants
- the actual returns that are available to claimants and
- the appropriate allowance for tax, inflation and investment fees

A Call for Evidence[4] was made in order to gather information relating to the above and other matters that may influence the PI discount rate.

1.7 The Act also requires that the Lord Chancellor consults the Government Actuary and HM Treasury for the first review. This report provides the information and analysis underlying my advice as Government Actuary as part of this consultation.

Approach

1.8 In setting out the approach I have followed in formulating my advice, it is useful to first consider what factors influence the PI discount rate and how it in turn affects claimants.

1.9 When a claimant's lump sum settlement is received in advance of their need to draw down funds for expenditure, they are assumed to invest it and accrue a return. It is this return which the PI discount rate is aiming to compensate for.

1.10 It follows that if the PI discount rate is higher than the actual return achieved in practice, the claimant will prove to have been under-compensated, whereas if the PI discount rate is lower than the actual return achieved, the claimant will have been over-compensated, all other things being equal. Whilst the former would be considered unreasonable by claimants, the latter may be considered unreasonable from the perspective of those responsible for meeting the claim such as insurers and their policyholders or public sector bodies. It is important to consider this balance of risk.

1.11 To inform the Lord Chancellor's choice of PI discount rate, I have been asked to analyse the returns that may be achieved by claimants and compare these to a range of possible PI discount rates. I do this by first assessing the available evidence and making various assumptions (described in further detail in Section III of this report) to determine the return profile after deductions for tax, expenses and damage inflation.

1.12 I then go on to analyse "claimant outcomes" for different choices of PI discount rate determining whether or not a claimant is likely to have sufficient funds to meet their assessed needs and, if not, the extent of any excess or shortfall.

1.13 I do not consider what an appropriate level for the risk of under-compensation is, but I do provide illustrative PI discount rates at various levels for that risk.

[4] https://www.gov.uk/government/consultations/setting-the-personal-injury-discount-rate-call-for-evidence

1.14 Further details on my analytical approach were outlined in a Technical Memorandum[5] and are summarised in Appendix B. Comments received on the Technical Memorandum were broadly supportive of the approach I have taken.

Key assumptions

1.15 In order to analyse the profile of returns that may be achieved by claimants, I have as requested in my terms of reference made assumptions in a number of key areas. These have been based on the available evidence and are summarised below:

Factors affecting the investment profile

Claimant characteristics: depending on their individual circumstances, claimants are likely to be investing for different purposes and over different time periods. For example, an infant claimant investing over a very long period will face very different risks to an elderly claimant investing over a much shorter period.

Investment portfolio: depending on their individual circumstances, claimants are likely to choose portfolios with different levels of risk. A claimant investing in riskier investments might be expected to earn a greater return, but that return would be more uncertain.

Expenses and tax: claimants will incur costs and expenses from investing their lump sum. A claimant facing higher tax and running expenses will have less funds to be able to meet their needs**.**

Damage inflation: claimants' costs are expected to rise over time owing to inflationary pressures. A claimant who incurs costs that increase at a higher rate of inflation will be less likely to have enough funds for their needs.

1.16 Section III of my report describes how I have arrived at suitable assumptions for each of the above factors. For each factor, I have:

- considered the request from the terms of reference that outline my advice scope
- considered the output from the call and other relevant sources
- avoided any material bias in respect of prudence or optimism and
- outlined the impact of each assumption on the profile of investment returns or PI discount rate

1.17 Determining the PI discount rate relies on assumptions about the future which may or may not be borne out in practice. These assumptions are matters of judgement and there are other assumptions that could be equally appropriate. As such, setting the PI discount rate requires both a careful consideration and a clear understanding of the uncertainty in the

[5] https://www.gov.uk/government/publications/setting-the-personal-injury-discount-rate

evidence, and a judgement made on the balance of risk of over- or under-compensation that I have outlined above.

Other matters

1.18 Currently, a single PI discount rate applies to all settlements. The Act has provision for the Lord Chancellor to set multiple PI discount rates, such that different rates are applied for different settlements.

1.19 To help inform a decision as to whether the Lord Chancellor should adopt multiple rates, I have outlined how my advice would change if a dual PI discount rate was adopted, set according to the duration of the award, rather than a single rate irrespective of that duration. This is covered within Chapter 3.

1.20 In my terms of reference, the Lord Chancellor has also requested advice from me on the following:

- **Sensitivities** –There may be claimants whose circumstances do not match the scenarios or assumptions outlined above. As such, the Lord Chancellor also requested that I consider the sensitivity of the outcomes of these scenarios to the factors that may change from case to case
- **Assumptions** – Whether there are any further assumptions (beyond those specified in the Act) that the Lord Chancellor should make in the setting of the PI discount rate; and what the effect of those assumptions would be
- **Factors** – Whether there are any further factors (beyond those specified in the Act) by which the Lord Chancellor should be informed in setting the PI discount rate; and what the effect of those factors would be

1.21 All material factors that I consider to be relevant are set out in Section III, which describe the assumptions I have made throughout my report. Sensitivity analysis on these assumptions and some of the other relevant factors is presented in Chapter 9 .

Rest of this report

1.22 In the rest of this report:

- Section II summarises the results of my analysis – quantifying the simulated claimant outcomes. Within this Section:
- Chapter 2 shows claimant outcomes if a single PI discount rate were set
- Chapter 3 shows claimant outcomes if a dual PI discount rate were set
- Section III summarises the assumptions I have made in my analysis and the sensitivity of the analysis to these assumptions. Within this Section:
- Chapter 4 provides a summary of this Section and assumptions made
- Chapter 5 discusses assumptions on claimant characteristics
- Chapter 6 discusses assumptions on the investment portfolio

- Chapter 7 discusses assumptions on tax and expenses
- Chapter 8 discusses assumptions on inflation
- Chapter 9 contains my sensitivity analysis
- Section IV contains appendices.

Setting the Personal Injury Discount Rate

Government Actuary's advice to the Lord Chancellor

Section II: Claimant outcome analysis

2 Setting the PI discount rate: single rate analysis

This Chapter outlines the analysis that I have carried out to support the Lord Chancellor's decision on setting the PI discount rate.

Overview

2.1 I estimate that a representative claimant, investing in accordance with the requirements outlined in the Act, might currently expect to achieve net median returns on a low risk portfolio, after deductions for tax, expenses and damage inflation, of around CPI+0.25% pa. This is a neutral estimate without bias. In arriving at this position, it will be seen from Section III that I have considered a number of factors, including the investment approach and length of the investment horizon, on which the evidence was wide ranging. An analysis of the sensitivity of my findings to these assumptions is set out in Chapter 9.

2.2 Whilst it is possible to set the PI discount rate equal to this net median level of return, there is a 50/50 likelihood that a claimant experiences a rate of return that is lower than this. To safeguard claimants from the likelihood of not being able to meet their needs, it may be considered appropriate to set the PI discount rate at a lower level.

2.3 To inform the Lord Chancellor's judgement on setting the PI discount rate, I have analysed claimant outcomes under a range of different rates to quantify the risks of being under- or over-compensated. My analysis is based on 2,000 "Monte Carlo" simulations of possible future outcomes from investing the assumed portfolio of assets to meet the assumed profile of future damage needs

2.4 The results in this Chapter are based on the assumptions described further in Section III of this report ie a representative claimant investing over 43 years in the central low-risk portfolio that has a 42.5% allocation to growth assets, with damages inflating at CPI+1% pa and meeting annual tax and expenses of 0.75% of the fund value.

2.5 In my analysis, I formed a professional judgement, based on the evidence available and my own knowledge, of a neutral estimate of the future returns to be expected from this central low-risk portfolio of assets meeting the requirements of the Act. I have considered all relevant factors in the round. But there are a range of PI discount rates that could be described as equally plausible based on different judgements about the evidence or of the material factors. For example, a higher rate might be justified if the view were taken that it is more important to consider damages over the longer term, that a claimant's costs and needs are likely to inflate in line with CPI, or it is felt appropriate to set the rate closer to the median return and not include overly large margins.

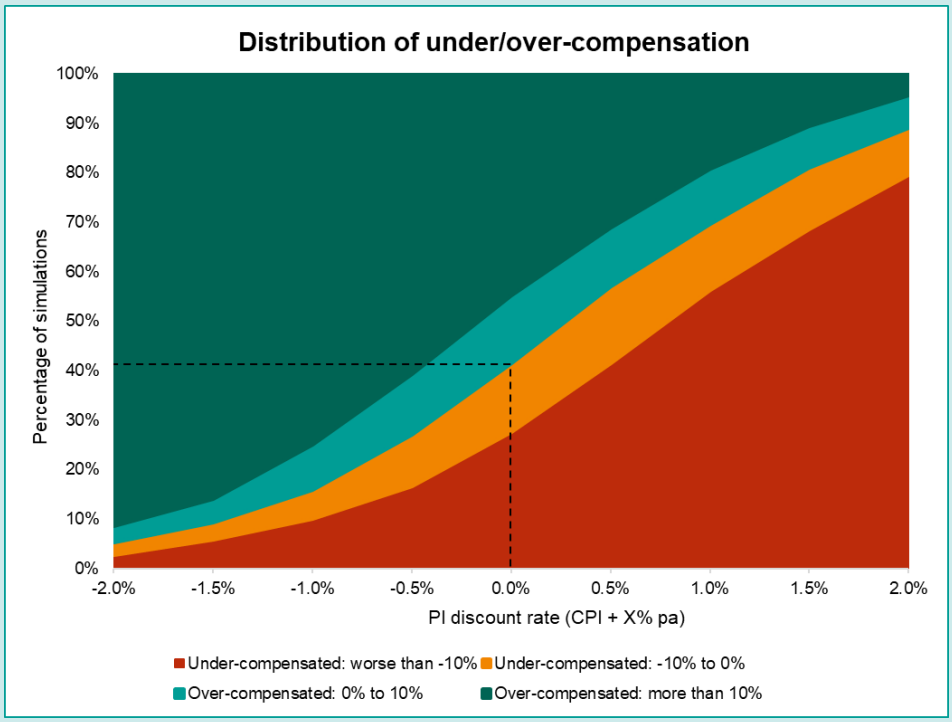
Risk of over-compensation vs under-compensation

2.6 Figure 1 below shows the percentage of simulations in which claimants are sufficiently compensated (represented in the two shades of green) or less than sufficiently

compensated (represented in red and orange) for different PI discount rates on the horizontal axis:

- **Higher levels of under-compensation:** red area shows the proportion of simulated scenarios in which the claimant has less than sufficient funds to meet their needs and is under-compensated by 10% or worse
- **Lower levels of under-compensation**: the orange area shows the proportion of simulated scenarios in which the claimant has enough funds to meet between 90% and 100% of their needs, or equivalently under-compensated by 10% or less
- **Sufficient compensation**: the dark and light green areas show the proportion of simulated scenarios in which the claimant has more than sufficient funds to meet their needs

Figure 1: Risk of over and under-compensation



Setting a lower PI discount rate reduces the chance of claimants being under-compensated (red and orange) and increases the chance of them being sufficiently compensated (light and dark green).

For example, setting the PI discount rate at CPI+0% pa would result in roughly a 60% likelihood of the representative claimant being able to meet their needs, and approximately a 70% likelihood that the representative claimant is able to meet at least 90% of their needs.

2.7 Table 1 below provides a more detailed breakdown of this information.

Table 1: percentage of simulations with over- and under-compensation[6]

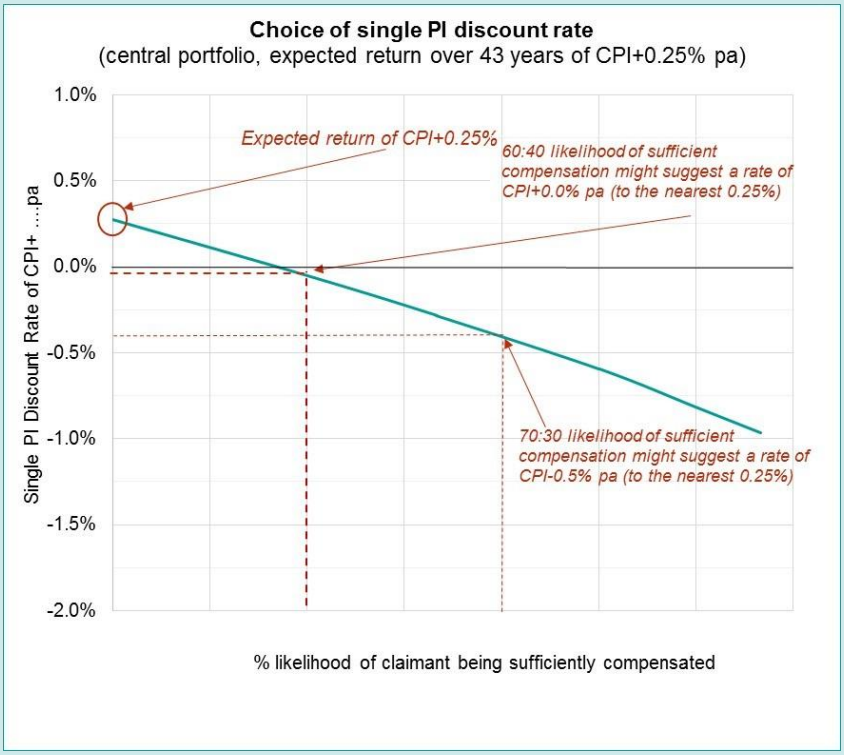
	PI discount rate (pa)			
	CPI-1.0%	CPI-0.5%	CPI+0%	CPI+0.5%
Higher levels of under-compensation (red)	10%	17%	28%	41%

[6] Figures do not sum to 100% due to rounding

Lower levels of under-compensation (orange)	6%	10%	14%	16%
Sufficient compensation (green)	84%	73%	59%	43%

2.8 An alternative representation, as shown in Figure 2 below, is to illustrate the likelihood of a claimant being able to meet their needs (horizontal / x-axis) under a range of different PI discount rates (vertical / y-axis).

Figure 2: Choice of PI discount rate



Setting a PI discount rate lower than the median return reduces the chance of claimants being under-compensated.

The chart shows how the likelihood of claimants being sufficently compensated changes when the PI discount rate is varied. The line shows the representative claimant investing over different periods.

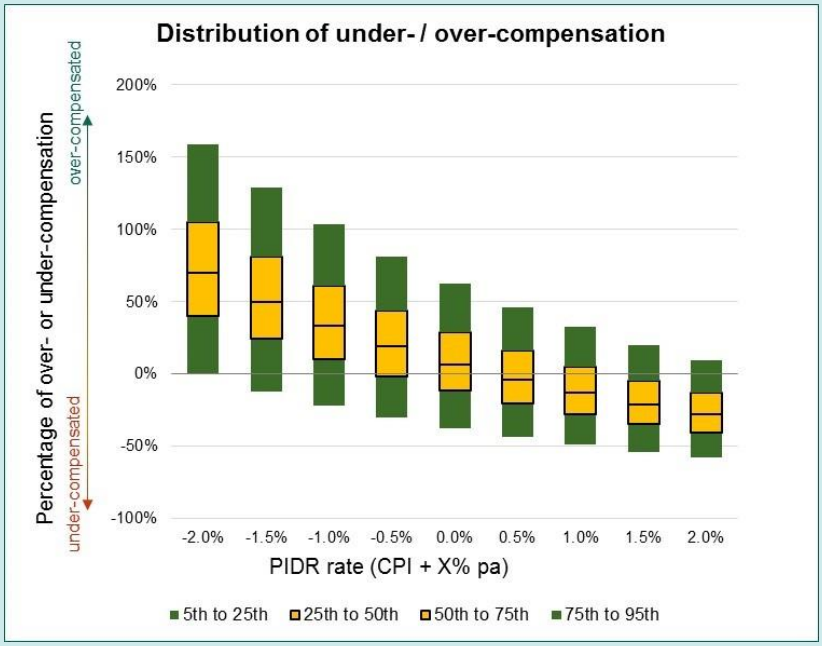
For example, were we to consider a 60:40 likelihood of sufficeint compensation for the representative claimant we would read off on the vertical axis as shown and might set the PI discount rate at around CPI+0% pa to the nearest 0.25%.

Spread of outcomes

2.9 Another way of considering the results of my analysis is shown in Figure 3. This illustrates the level of over- or under-compensation at different points of the simulated distribution (on the vertical / y-axis) for different PI discount rates (on the horizontal / x-axis).

- the line in the middle of the yellow box represents the level of over- or under-compensation for the median claimant
- 50% of claimants are expected to be compensated at levels covered by the yellow box. This means that 25% of claimants are compensated by levels above the top of the orange box and 25% of claimants are compensated by levels below the bottom of the yellow box
- 90% of claimants are expected to be compensated at levels covered by the green and yellow boxes. This means that 5% of claimants are compensated by levels above the top of the green box and 5% of claimants are compensated by levels below the bottom of the green box

Figure 3: Distribution of outcomes



The bars show the the range of compensation levels. The bottom of the bar shows the level of compensation for the lowest 5% of simulated outcomes and the top of the bar the level of compensation for the highest 5% of simulations.

Setting a lower PI discount rate increases the lump sum given to claimants and hence increases the overall levels of compensation - represented by the set of bars shifting upwards (into the area of over-compensation above the x-axis).

For example, setting the PI discount rate at CPI-0.5% pa would result in roughly a 75% likelihood of sufficient compensation for the representative claimant.

2.10 Table 2 below provides a summary of the level of over- and under-compensation at different parts of the distribution.

Table 2: simulated proportions of over- and under-compensation (shown as +ve and -ve percentages respectively)

	PI discount rate (pa)			
	CPI-1.0%	CPI-0.5%	CPI+0%	CPI+0.5%
Median level of compensation	33%	19%	6%	-4%
75th percentile (top of yellow box)	61%	43%	28%	16%
25th percentile (bottom of yellow box)	10%	-2%	-12%	-21%

Setting the PI discount rate

2.11 In forming a view on an appropriate PI discount rate, it might be useful to consider broad rules of thumb – for example to set the PI discount rate with reference to the level at which we would expect there to be roughly three claimants having sufficient compensation for every two claimants that might not. Assuming we pay most regard to a representative claimant:

- a single PI discount rate in the region of CPI+0.0% pa would correspond to broadly a 60% likelihood that the investment outcomes are enough to meet all the needs in the

future, and around a 75% likelihood of claimants being able to meet at least 90% of their needs

- a single PI discount rate of CPI-0.5% pa, would correspond to broadly a 70% likelihood that the investment outcomes are enough to meet all the needs in the future, and around a 85% likelihood of claimants being able to meet most at least 90% of their needs

2.12 There are other uncertainties and factors that a claimant might face that I have not included in my analysis. For example, the risk that the claimant lives longer than expected and longer, therefore, than the projected needs that the lump sum settlement is designed to provide. By making a cash settlement, rather than a periodic payment order, the claimant is implicitly accepting this risk. However, it is worth bearing in mind this and other uncertainties affecting claimant outcomes when using my analysis to inform an appropriate PI discount rate.

2.13 I would emphasise that my analysis should not be relied upon as means of calibrating to a precise level or risk of claimant compensation. Rather, the analysis presented in this report, should be used as an illustration and overall indication of the potential investment risks that claimants might face, to help the Lord Chancellor's judgement in determining an appropriate PI discount rate.

Sensitivity analysis and multiple PI discount rates

2.14 The outcomes above are shown for the baseline assumptions. Alternative views are plausible for all of the factors affecting the PI discount rate. Such alternative views will inevitably alter the spread of over- and under-compensation analysed and illustrated above.

2.15 For example, all the charts above assume that damage inflation is broadly half-way between earnings inflation and prices inflation and we assume that damages thus inflate at 1% pa above CPI. If we were to assume that damages inflate at CPI flat, then the appropriate PI discount rate determined from the analysis above can be uplifted by 1% pa. If on the other hand, we think that damages inflate in line with earnings then the appropriate PI discount rate determined from the analysis above should be reduced by 1% pa.

2.16 Sensitivity analysis showing the impact of adopting different assumptions is outlined in more detail in Chapter 9.

3 Setting the PI discount rate: dual rate analysis

The previous chapter provides analysis based on a single PI discount rate applying for all settlements. The Act includes provisions for the Lord

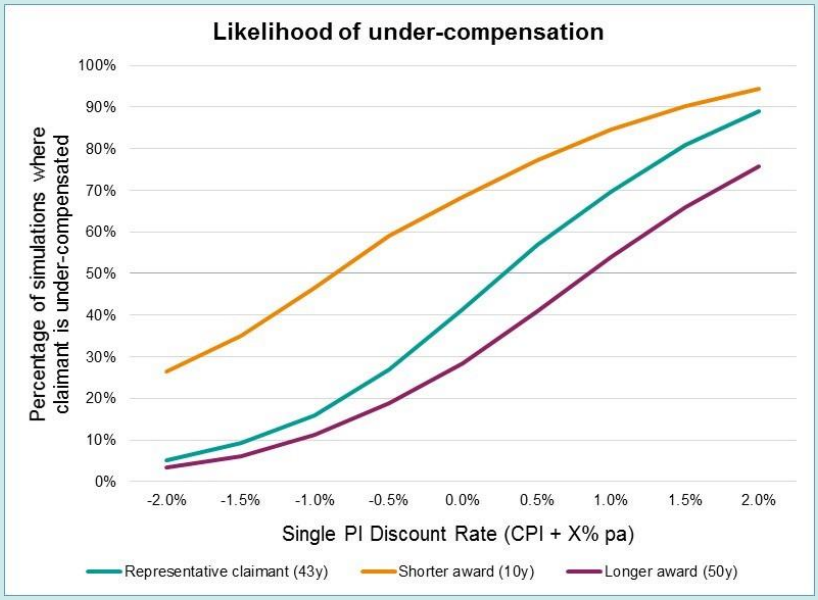
Chancellor to set multiple PI discount rates that apply to different parts of the settlement. This chapter outlines how the analysis presented in the previous chapter would alter should dual PI discount rates be set.

Background

3.1 In the previous chapter, my analysis was presented on the assumption that there would be a single PI discount rate applicable to all settlements. I based the analysis and recommendations on a representative claimant investing over 43 years. I also investigated the likelihood of over- and under-compensation by reference to the distribution of portfolio outcomes of that representative claimant.

3.2 However, as will be seen in Chapter 6, I expect the annualised investment returns for claimants investing over shorter periods to currently be much lower than for those investing over longer periods. This results in those claimants with a shorter investment horizon being proportionately more likely to experience under-compensation than the representative claimant, albeit that the degree of any possible under-compensation tends to be lower at shorter durations as there is less time for material investment under performance to occur. This feature is illustrated in the chart below:

Figure 4: Risk of over- and under-compensation for different terms of award



The chart shows the likelihood of claimants investing according to the representative portfolio being under-compensated for different single PI discount rates.

Each line represents a claimant investing over a different period:

- *orange: over 10 years*
- *green: over the average 43 years*
- *purple: over 50 years.*

The likelihood of under-compensation for a claimant investing over 10 years is significantly higher than claimants investing over longer periods.

3.3 A possible way to reduce this disparity would be to use a PI discount rate based on the duration of the award. This is because a higher PI discount rate can be used for longer settlements where expected returns are currently higher, and a lower PI discount rate can be used for shorter settlements where returns are currently expected to be lower.

3.4 From an actuarial perspective there are no significant complications introduced by using multiple PI discount rates. The determination of a claimant's settlement, and the "Ogden tables" that are used in this could be adjusted to reflect the application of multiple PI discount rates.

3.5 The legislation does not specify how many PI discount rates may be specified under a multiple PI discount rate approach. For example, it is possible to adopt a dual rate approach – specifying a short- and long-term rate – or an approach with three rates – specifying short-, medium- and long-term rates. Whilst it is clearly feasible to set more than two rates I consider that using three rates would not lead to materially superior outcomes or improvements and I believe it is reasonable to keep the claims settlement process as simple as possible. Accordingly, I have considered only a dual rate approach.

3.6 The remainder of this Chapter sets out the key considerations if a dual PI discount rate approach was adopted, the different ways in which dual PI discount rates can apply and the impact on the analysis.

Application of dual PI discount rates

3.7 Setting dual PI discount rates requires decisions on three factors: the rate to apply in the short term, the rate to apply in the long term and the rules for determining which of the two rates apply at any particular duration. Consideration of the short- and long-term rates and the switching point is covered in further detail below.

3.8 In terms of the way in which dual PI discount rates are applied, there are a number of approaches that could be made:

- the PI discount rate to be used may simply depend on the total period of damages being met. In this instance, if the total period stretched beyond the switching point, then *all* damages would be discounted at the long-term rate. Otherwise all the damages would be discounted at the short-term rate. For example, if the switching point were set to 15 years, a claimant with a 15-year award would have all of their damages discounted at the short-term rate, whereas a claimant with a 16-year award would have all their damages discounted at the long-term rate

- alternatively, all cashflows prior to the switching point could be discounted at the short-term PI discount rate and all cashflows after the switching point could be discounted at the long-term rate. Continuing the example above, a claimant with a 15-year award would continue to have their damages discounted at the short-term rate. However, the claimant with a 16-year award would have the first 15 years of their damages discounted at the short-term rate and then the cashflow in the final year discounted at the long-term rate

- finally, all periods before the switching point could be discounted at the short-term PI discount rate and any cashflows beyond this discounted further at the long-term rate, for each year after the switching point. For example, the claimant with a 16-year award would have the first 15 years of their damages discounted at the short-term rate and

  then the cashflow in the final 16th year discounted for 15 years at the short-term rate and one year at the long-term rate

3.9 In my advice and analysis below, I have assumed that a dual PI discount rate approach would adopt the final method whereby the first years are always discounted at the shortterm rate and any cashflows beyond the switching point are discounted further at the longterm rate. I believe that this approach is most appropriate as it reduces "cliff edges" in

terms of its impact and hence might reduce any possibility of behavioural biases. Further, I believe that it better reflects the difference in investment returns for those investing over the long and short term.

Considerations

Advantages of using multiple PI discount rates

3.10 The use of dual PI discount rates would (as described above and analysed below) reduce disparities in the risk of over- or under-compensation between claimants with different periods of damages. As such the main advantage of using dual rates is that it might be considered as a means of providing fairer compensation for claimants investing over different periods.

3.11 A further advantage may be in terms of the stability of the PI discount rate. Analysis in the previous Chapter of a single rate is heavily dependent on views on future investment returns that are calibrated to current market conditions. Clearly, one would expect the investment returns and hence PI discount rate to change under different economic conditions. Whilst a similar logic will apply to the short-term rate under a dual rate approach, I would expect that the long-term rate under this approach would be much more stable, because longer-term investment expectations are likely to be subject to less frequent revisions.

Disadvantages of using multiple PI discount rates

3.12 The main disadvantages of using multiple PI discount rate are:

- a dual rate system is more complex and hence might be harder to understand
- there may be an increased risk of complaints or challenge as a result of what may be seen as an arbitrary selection of component parameters for a dual rate approach
- whilst it is possible to produce actuarial tables based on multiple rates, there would be added complexity if the discount rates were used for direct calculations rather than in association with the actuarial tables

3.13 Since the adoption of a dual PI discount rate would represent a major change to the current system, it would in my opinion be prudent to assess the impact and practicality of this approach including considerations as to whether a dual rate would be harder to understand or implement and any costs associated with transitioning processes.

Other considerations

3.14 When considering the impact on claimants with different investment horizons, there is an argument that it is appropriate to use a different portfolio of investments for different periods of claim. This is because it is reasonable to expect that a claimant investing over longer periods may feel able to take more risk as they have more time over which to recover from any period of poor investment returns.

3.15 There was no evidence in response to the Call for Evidence on which to base portfolio assumptions that were dependent on the period of damages. In the interests of simplicity, therefore, I have assumed that the representative claimant with a shorter-term award invests in the cautious portfolio outlined in Chapter 6 and that the representative claimant with a longer-term award invests in the less-cautious portfolio. I have considered the sensitivity to this assumption further below.

Switching point

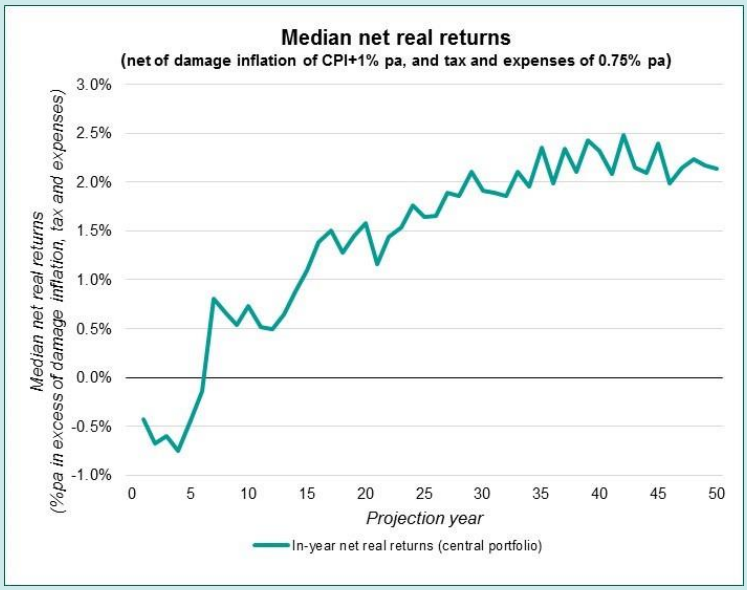
3.16 In determining the switching point, I believe it is reasonable to consider:

- typical length of economic cycles
- views of other commentators and economic forecasters
- the profile of investment returns underlying the analysis
- the approach adopted in other jurisdictions

3.17 Historically, economic cycles tend to last for around 5 years although there are economic cycles that last much longer than this. For example, there is general consensus that the current economic cycle started around 10 years ago in the aftermath of the global financial crisis. As a result, economic forecasters, such as the Office for Budget Responsibility or the Bank of England, tend to have short- and medium-term projections reflecting current economic conditions and tending towards long-term trends over the next 10 to 15 years.

3.18 The chart below shows the profile of simulated returns on the central portfolio and how investment returns vary over time. The chart shows that broadly speaking, the returns settle after around 15 to 25 years.

Figure 5: Median simulated returns



The chart shows the median net real return (across the 2,000 simulations) on the central portfolio.

The returns shown are in excess of CPI and are net of 0.75% pa for tax and expenses and a further 1% pa for assumed damage inflation being higher than CPI.

Generally speaking, returns are lower in the short-term before tending towards a long-term return of around CPI+2.0% to CPI+2.5% pa.

3.19 In other jurisdictions, switching points are:

- 15 years in Ontario
- 20 years in Jersey
- 5 and 10 years in Hong Kong (which has three rates)

3.20 Based on typical periods over which I would expect investment returns to converge towards long-term levels and on a consideration of economic cycles, I would recommend switching from using the short-term PI discount rate to the long-term rate at 15 years. In practice it is possible to set different switching points however I believe it is reasonable to keep the claims settlement process as simple as possible and I do not believe that alternative views would lead to significantly different outcomes.

Long-term PI discount rate

3.21 In choosing the long-term PI discount rate, I believe that it is important to consider:

- the rate at which net effective investment returns (after deductions for tax, expenses and damage inflation) settle over the long-term and in particular after the 15-year switching point
- the difference between expected net effective investment returns over the long-term and the short term. A particular profile of returns might provide a reasonable estimate of this difference and if the dual rates are set significantly different to this rate then this would not be as effective at achieving similar claimant outcomes for different claimants
- the extent to which the choice of the long-term rate influences the likelihood of claimants investing over different periods being able to meet their needs

3.22 Based on the analysis above of where the portfolio returns tend to settle and the difference between short- and long-term investment returns, I believe it is plausible to assume that, over the long term, claimants earn net effective investment returns, after deductions for tax, expenses and damage inflation, of between CPI+1% and CPI+2.5% pa depending on the investment approach, investment horizon considered and assumptions made.

3.23 As for the single PI discount rate, when determining an appropriate long-term rate, it is likely to be appropriate to adjust this level of expected net real return for an element of prudence that increases the chances of claimants having sufficient funds. I believe that it is appropriate not to include excessive margins for prudence in the long-term rate because:

- under the dual PI discount rate approach that I have assumed will apply, the fact that the short-term rate still applies to all claimants means that any element of prudence or caution included in setting the short-term rate will apply to long-term claimants as well
- further, to achieve the same level of certainty of investment returns, a smaller deduction for prudence is needed over longer investment periods in comparison to the equivalent deduction for shorter investment periods. This is because a claimant investing over longer periods has more time over which to recover from any period of poor investment returns
- finally, because a dual PI discount rate provides a better fit to the investment profile, in my opinion it is reasonable to argue for a smaller level of prudence than would otherwise be needed under a single rate system. For example, setting a PI discount rate based on a 60% likelihood of providing sufficient compensation under a single rate would result in different outcome risks for claimants investing over different periods, whereas a dual rate will provide a more even fit to this risk level

3.24 Based on the considerations above, and consideration of the sensitivity to this assumption that is discussed in further detail in Chapter 9, I have presented results assuming that a long-term PI discount rate of CPI+1.5% pa would apply. Whilst other long-term rates are plausible, I believe that CPI+1.5% pa would be a reasonable balanced estimate of the long-term return on a low risk portfolio and simplifies the residual options to simply choosing a short-term rate in order to achieve the desired outcomes.

3.25 To demonstrate the sensitivity to the choice of the long-term PI discount rate, I have discussed the sensitivity to alternative long-term rates in Section III of this report.

Short-term PI discount rate

3.26 Based on consideration of returns over shorter periods, I believe it is plausible to assume that claimants earn net effective investment returns, after deductions for tax, expenses and damage inflation, of between CPI-1% to CPI-0% pa depending on the investment approach and assumptions made.

3.27 This provides a starting point for consideration of the short-term PI discount rate but, as for the single rate, there is a wide range of possible returns and it may be appropriate to make

further deductions in order to increase the chances of claimants being able to meet their needs.

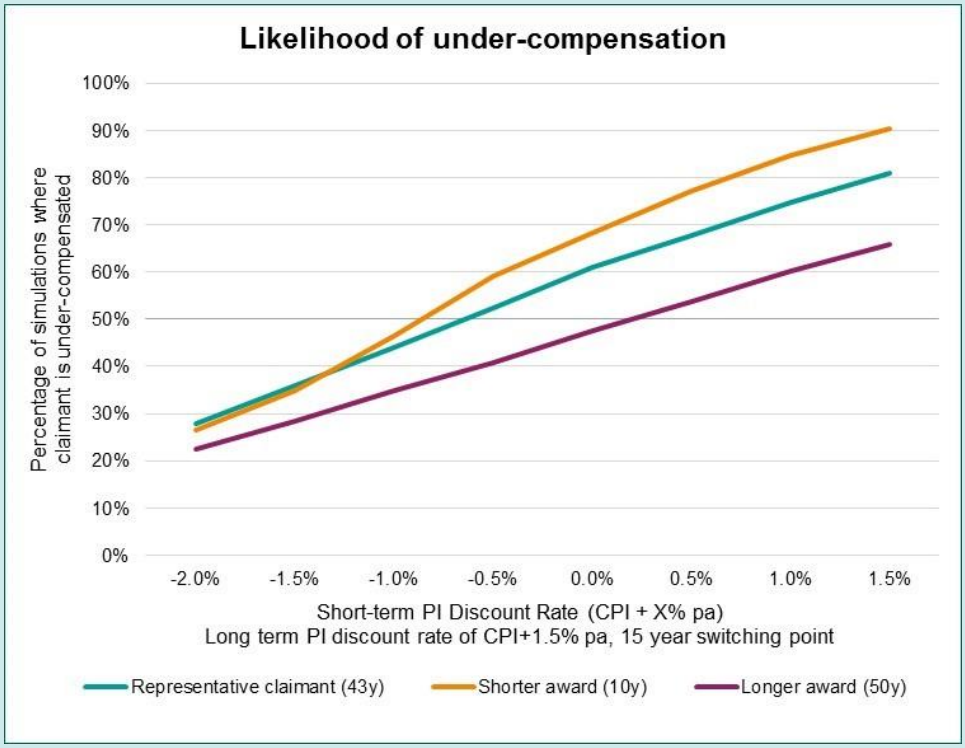
3.28 Further, as outlined above, the fact that the short-term PI discount rate applies to all claimants means that it is important to consider the impact that the choice of rate has on claimants investing over all investment horizons.

3.29 The analysis below provides a summary of how the short-term PI discount rate can be set for a given long-term rate of CPI+1.5% pa and a switching point of 15 years.

Claimant outcomes

3.30 The chart below replicates Figure 4 shown at the beginning of this chapter, but the analysis assumes that a dual PI discount rate is applied. In particular, the analysis assumes that the long-term rate is set at CPI+1.5% pa and the switching point is set to 15 years. The x-axis now shows different short-term PI discount rates.

Figure 6: Risk of over- and under-compensation – dual rates



The chart shows the likelihood of claimants being under-compensated for different dual PI discount rates. The long-term rate is CPI+1.5% and the short-term rate that shown on the horizontal / x-axis.

Each line represents a claimant investing over a different period:

- *orange: over 10 years*
- *green: over the average 43 years*
- *purple: over 50 years.*

3.31 Relative to Figure 4 for single PI discount rates, the chart above for a dual rate approach shows closer outcomes for different types of claimants. In particular:

- under a single PI discount rate, the likelihood of under-compensation for a claimant with a shorter award is significantly different from the likelihood for an average or longer award. For example, setting a PI discount rate of CPI+0% pa would give around a 40% likelihood of the representative claimant not having sufficient funds to meet their

needs, whereas the likelihood for claimants with short awards is around 70% and around 30% likelihood for claimants with long awards. This is because all claimants are given a settlement on the same basis, but the investment returns for a claimant with a shorter award are much lower

- under a dual PI discount rate, the likelihood of under-compensation for a claimant with a shorter award is much more similar to the likelihood for an average or longer award. For example, setting a short-term PI discount rate of CPI-1.25% pa alongside a longterm PI discount rate of CPI+1.5% pa would give around a 40% likelihood of the representative claimant not having sufficient funds to meet their needs, a similar 40% likelihood for claimants with short awards and around 30% likelihood for claimants with long awards. This is because the claimant with a shorter award is given a settlement on a lower discount rate which is much closer to the investment returns that they would expect to achieve

3.32 This analysis demonstrates that, if we focus on the likelihood of a claimant being able to meet all their needs, dual PI discount rates might be considered a means of providing similar levels of compensation for claimants investing over different periods.

3.33 For those claimants that are unable to meet all of their needs, I have also assessed the degree of under-compensation, which is likely to vary significantly. For my single rate analysis, Figure 1 and Table 1 considered the likelihood of a claimant being able to meet at least 90% of their needs. Table 3 below shows the likelihood of claimants meeting needs under both single and dual PI discount rates for claimants investing over different periods.

Table 3: likelihood of claimant meeting needs under single and dual PI discount rates

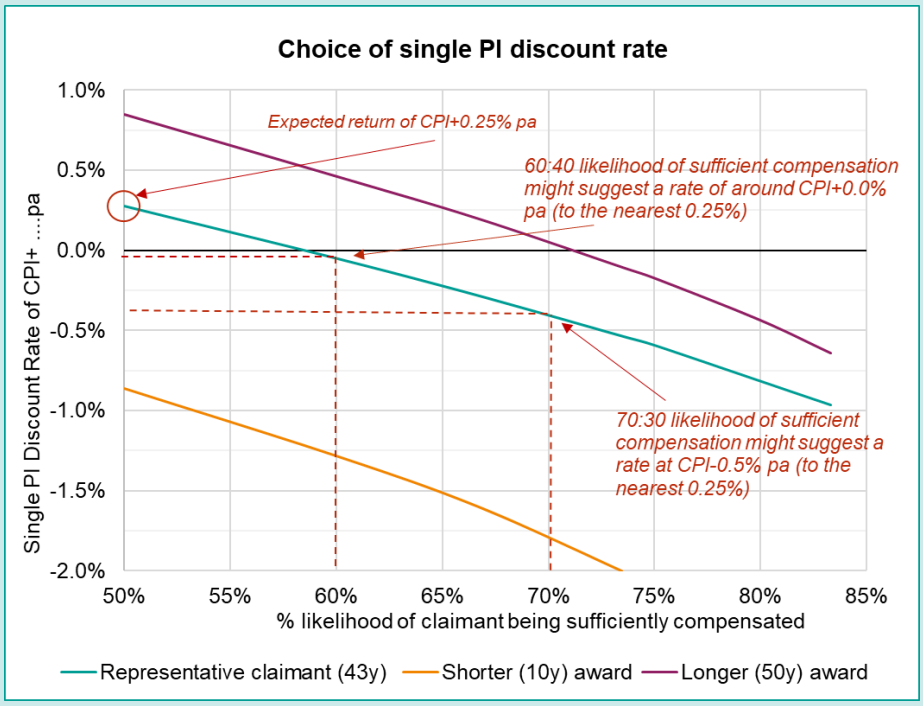
		Single PI discount rate		Dual PI discount rate	
		Likelihood of meeting…			
PI discount rate basis	Award period (years)	… all needs	… at least 90% of needs	… all needs	… at least 90% of needs
Broadly "50/50": Single rate = CPI+0.25% pa Dual rate = CPI-0.75% pa, CPI+1.5% pa thereafter	10	27%	71%	47%	86%
	43	51%	65%	52%	66%
	50	65%	75%	62%	73%
Broadly "60/40": Single rate = CPI+0% pa Dual rate = CPI-1.25% pa, CPI+1.5% pa thereafter	10	32%	75%	59%	91%
	43	59%	72%	60%	73%
	50	72%	80%	68%	78%
Broadly "70/30":	10	41%	83%	69%	94%

Single rate = CPI-0.5% pa	43	73%	83%	68%	79%
Dual rate = CPI-1.75% pa, CPI+1.5% pa thereafter	50	81%	87%	75%	82%

3.34 Although adopting a dual rate does provide more even likelihoods of claimants investing over different periods being able to meet all their needs, the impact on other measures of under-compensation risk do differ. This in part reflects the different profile of risks that claimants investing over different periods face, which is discussed further in Chapter 9. The way in which claimant outcomes are assessed may, therefore, impact on the relative attractiveness of different methods and levels of PI discount rates.

3.35 An alternative representation of Figure 6 above was introduced in the previous chapter that showed the resulting PI discount rate (vertical / y-axis) for different likelihoods of claimant's being able to meet their needs (horizontal / x-axis). This is repeated in Figure 7 below but also includes the analysis based on claimants with different lengths of award. The chart shows, under a single rate approach, that the resulting PI discount rate would be significantly different depending on whether more regard is given to claimants with shorter awards (orange line) or claimants with longer awards (green and purple lines).

Figure 7: Choice of PI discount rate – single rate



The chart shows how the likelihood of claimants being sufficiently compensated changes when the PI discount rate is varied.

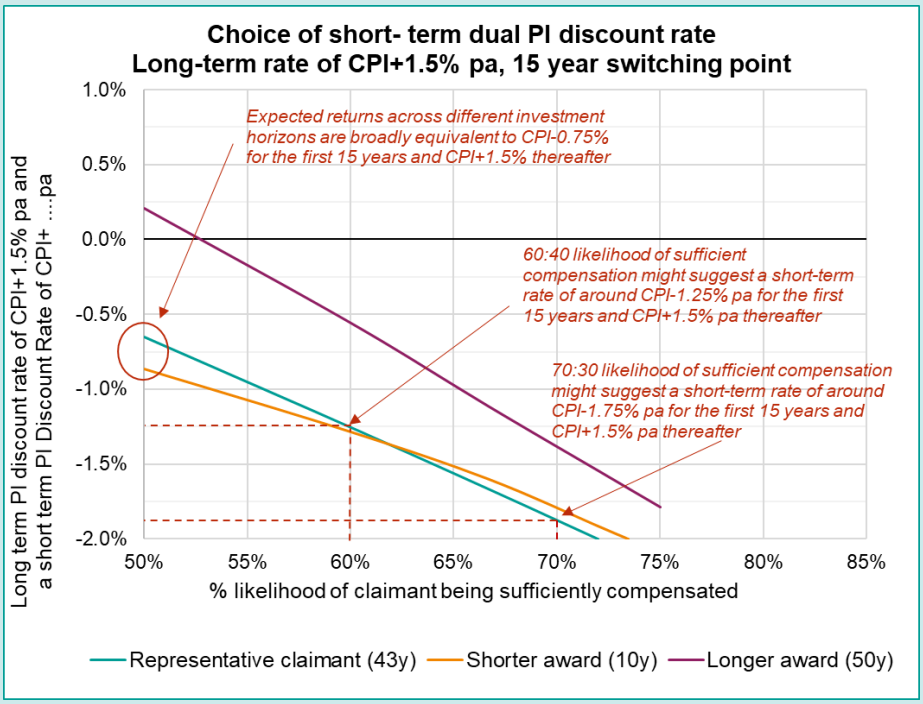
Each line represents a claimant investing over a different period.

For example, if we wanted to be broadly 60% confident of claimants being able to meet their needs then we would set the PI discount rate at around CPI+0% pa based on claimants with a representative or longer award, but around CPI-1.25% pa based on claimants with shorter awards.

3.36 The difference between the lines in the chart above illustrates the fact that a single PI discount rate can lead to quite different outcomes for different claimants.

3.37 The chart below repeats the analysis but under a dual PI discount rate approach. The analysis assumes a long-term rate of CPI+1.5% pa and a switching point of 15 years and so the resulting discount rate on the vertical / y-axis is the short-term rate.

Figure 8: Choice of PI discount rate – dual rates



The chart shows the short-term PI discount rate (on the vertical axis) for different levels of confidence in claimant outcomes (on the horizontal axis). This is assuming that a long-term PI discount rate of CPI+1.5% pa applies after 15 years.

Each line represents a claimant investing over a different period. A 60% likelihood of representative and short-term claimants being able to meet their needs would broadly correspond to a PI discount rate at around CPI-1.25% pa for the first 15 years and CPI+1.5% pa thereafter.

3.38 There is a much smaller difference between the lines in the chart above for claimants investing over shorter and average periods, illustrating the fact that a dual PI discount rate can be considered as a means of providing much more similar outcomes for claimants investing over different periods.

3.39 Whilst the lines for the short-term and representative claimant are much closer, there is still a similar difference to that shown in my single PI discount rate analysis between the lines shown for the representative and long-term claimant. The main reason for this is due to my assumption, outlined in paragraph 3.15 above and described further in Section III of this report, that the claimant with a longer award also invests in the less-cautious portfolio. Over the long-term I expect this portfolio to earn a higher return above the central portfolio, which improves the modelled outcomes for this claimant.

3.40 Whilst I have assumed that claimants with longer awards might be more able to take more risk in their investment approach and hence invest in the less-cautious portfolio, this is by no means certain and it is equally plausible that such claimants would invest in a portfolio better represented by the central portfolio. Making this assumption would bring the purple line much closer to the other two lines in the chart above and is shown in Chapter 9. As such, the chart above is showing the potential upside to claimants from investing in a riskier portfolio than is assumed in the PI discount rate over the long-term, rather than necessarily providing a conclusive case for setting a higher short-term PI discount rate.

3.41 As noted above, this analysis focuses on the likelihood of a claimant being able to meet all their needs. Using alternative methods to assess claimant outcomes and inform a decision on the PI discount rate may affect the relative attractiveness of different methods and levels of PI discount rates.

Choosing a PI discount rate

3.42 As outlined for single PI discount rates, whilst my analysis should support any decision on what an appropriate PI discount rate might be, I would emphasise the importance of considering all factors in the round - in particular in terms of the assumptions made, the uncertainties in the evidence and not relying on the analysis as means of calibrating to a precise level or risk of claimant compensation.

3.43 As with single PI discount rates, I believe it is useful to consider broad rules of thumb in setting the rates. For example:

- a short-term PI discount rate of around CPI-0.75% pa, a long-term PI discount rate of CPI+1.5% pa and a switching point of 15 years would correspond to broadly a 50% likelihood that the investment outcomes are enough to meet all the needs in the future, and a 65% to 85% likelihood of claimants being able to meet at least 90% of their needs

- a short-term PI discount rate of around CPI-1.25% pa, a long-term PI discount rate of CPI+1.5% pa and a switching point of 15 years would correspond to broadly a 60% likelihood that the investment outcomes are enough to meet all the needs in the future, and a 75% to 90% likelihood of claimants being able to meet at least 90% of their needs

- a short-term PI discount rate of around CPI-1.75% pa, a long-term PI discount rate of CPI+1.5% pa and a switching point of 15 years would correspond to broadly a 70% likelihood that the investment outcomes are enough to meet all the needs in the future, and a 80% to 95% likelihood of claimants being able to meet at least 90% of their needs

3.44 As my analysis has shown, under this model, the likelihood of claimants having sufficient compensation is more or less preserved across a wide range of award periods whereas under a single rate model there is much greater disparity in the likelihood of under-compensation at different periods of award.

Setting the Personal Injury Discount Rate

Government Actuary's advice to the Lord Chancellor

Section III: Assumptions and Sensitivities

4 Assumptions: summary

My analysis outlined in Section II is based on a number of key assumptions that influence the profile of investment returns and these are summarised in this chapter. The chapters that follow contain further detail and discussion on the evidence collated in the Call for Evidence and how this has been incorporated into the assumptions I have set.

Factors

4.1 There are a number of key factors that influence a claimant's investment return and their ability to meet their damages from their lump sum settlement. These depend on the claimant's individual circumstances and are summarised below.

- **Claimant characteristics:** purposes and period of investment
- **Investment portfolio**: levels of risk pursued and impact on expected returns
- **Expenses and tax**: costs incurred relating to investing their lump sum
- **Damage inflation**: rate at which claimants' costs are expected to rise over time owing to inflationary pressures

4.2 In order to carry out my analysis it has been necessary for me to make assumptions for each of these factors. In doing so, I have taken into account the responses to the Call for Evidence, which ranged widely in their views.

Claimant characteristics

4.3 The choice of investment period impacts directly on the rate of investment return that might be expected over that period and as a consequence on the resulting PI discount rate.

4.4 My terms of reference specified that my analysis considers claimants investing over both short and long terms and acknowledges that aggregation of circumstances may be required. I have therefore presented my advice based on fixed durations of 10 years and 50 years, which I believe to be illustrative of these periods, and have considered a suitable single representative period for analysis purposes.

4.5 The responses to the Call for Evidence suggest that an average duration for personal injury cases is between 40 and 45 years. As such, in my analysis I have assumed a representative claimant invests over a period of 43 years.

4.6 Currently, it is a feature for expected investment returns to be low in the short term but to increase to more normal levels over the longer term. This means that the expected outcomes for a claimant investing over the next 10 years are markedly different to a claimant investing over 50 years. As outlined in Chapter 3, adopting a dual PI discount rate approach to setting the PI discount rate is one way of making some allowance for these differences.

4.7 Chapter 5 discusses the assumptions I have made on claimant characteristics in further detail and Chapter 9 considers the sensitivity to these assumptions.

Investment portfolio

4.8 My terms of reference requests advice from me on the content of suitable diversified lowrisk portfolios for consideration in my analysis of the PI discount rate.

4.9 In considering the content of these portfolios, I have considered those put forward in response to the most recent Call for Evidence, the comments received as part of the previous consultations and the make-up of reference portfolios available in the market. In analysing the evidence, I have considered the appropriate mix between "growth assets" (which would be expected to generate higher returns over the longer term but with a higher risk) and "matching assets" (which would be expected to generate lower returns but with more certainty).

4.10 The Call for Evidence responses varied widely with the allocation to growth assets varying between 30% and 55%. This, coupled with the other considerations mentioned above led me to believe that a 42.5% allocation to growth assets, the average of 30% and 55% allocations, represents a plausible representative portfolio that claimants might invest in and which I would consider to be low risk according to the requirements of the Act.

4.11 I estimate the median rate of return, for a representative claimant investing in this central portfolio to be around CPI+2% pa[7].

Tax and expenses

4.12 The appropriate allowance for tax will be unique to each claimant and will depend critically upon individual circumstances and the tax structure that is in force at the time. Even for an individual claimant, this is unlikely to remain constant over the expected period of their damages.

4.13 Analysis of the tax drag under differing circumstances and claim sizes shows that under the current tax system and economic conditions, a reasonable adjustment for tax would be in the region 0.0% to 0.5% pa. Many responses to the Call for Evidence in respect of tax were of the view that tax effects are negligible, but that they can vary considerably depending on individual circumstances.

4.14 A number of different types of expenses are incurred by claimants and these also vary considerably depending on the investment approach taken. Respondents to the Call for Evidence suggested a wide range for the annual investment management costs from as little as 0.2% pa of the funds under management for a non-advised passive investment approach to as high as 2.0% pa, which I would expect to apply for a fully advised active approach on a relatively small portfolio.

4.15 There seems to be more consensus that a properly advised claimant, as required by my terms of reference, would have regular access to a regulated financial adviser who would

[7] Simulated returns of CPI+1.9% pa, as outlined in Table 15 in Appendix D

review the portfolio and the claimant's needs at regular intervals, recommending any adjustments to the investment approach if appropriate and providing much needed

reassurance about the claimant's financial position. Based on the responses to the Call for Evidence and my subsequent meetings with financial advisers, the costs for this component of advice would be around 0.25% to 0.5% pa.

4.16 It must be noted that the analysis and modelling of investment performance I have undertaken is based on (i) an asset allocation that remains constant throughout the entire period (ii) benchmark or passive returns under each asset class and (iii) an investment objective that remains unaltered throughout. I have not explicitly modelled enhancements to these returns from active management of each investment mandate, of the asset allocation or of the regular drawdown of funds, all of which might result from the employment, at a cost, of persons or firms that are skilled in providing advice in these areas.

4.17 To avoid the risk that my assumptions for expenses and the modelling of investment returns are not consistent with each other, I consider it appropriate to adopt an expense assumption that corresponds most closely to the basis of the investment returns being modelled, namely passive returns from a static asset allocation and with an unchanging investment objective. This would imply an expense assumption towards the lower end of the ranges referred to above, albeit on the basis that the more expensive advice arrangements would enable return enhancements to those I have modelled that should at the very least pay for themselves and offset the additional costs, including some costs associated with the financial advisers I have referred to.

4.18 Taking all these points and the responses to the Call for Evidence in the round, I believe that a 0.75% pa allowance for expenses and tax is reasonable and is consistent with the modelling approach I have adopted.

4.19 Because it is important for the allowance for expenses to be consistent with the modelled returns, I would recommend that were any significantly different views on expenses taken that the simulated returns are also reviewed to ensure consistency. However, if there was a plausible case why the allowance for tax and expenses should be different from my recommendation without any compensating adjustment to the investment return (for example, in the case of higher rates of tax or smaller lump sums), then the difference in expense and tax allowance assumed can be deducted directly from the PI discount rate. As an example, an allowance for tax and expenses of 1% pa would reduce expected returns by a further 0.25% pa.

Damage inflation

4.20 My terms of reference requested that I consider the effect on investment returns of claimants' damages inflating relative to CPI, and how this might vary against any other measure of inflation deemed appropriate to consider.

4.21 The difference between the rate at which a claimant's damages inflate and CPI could arise due to the goods or services being consumed or utilised by the claimant being different to those underlying the calculation of the CPI measure. For example, some costs, such as nursing or care costs would be expected to inflate in line with future earnings growth that I

would expect to be around 2% pa above CPI, over the long-term. It follows that the higher actual damage inflation is, the lower the claimant's effective investment return, net of damage inflation will be, and vice versa.

4.22 There was no evidence or clear consensus from the Call for Evidence as to the varying levels of inflation that apply to different award components or in what proportions. It is fair to say therefore that the assumed level of inflation remains open to judgement but that some aspects are likely to be linked to general consumer prices (ie CPI linked) and some aspects linked to movements in earnings.

4.23 In the absence of any firm evidence, I therefore believe it reasonable to assume that claimant's damages inflate at CPI+1% pa and have accordingly included this in my analysis.

Overview

4.24 Bringing together the factors outlined in this chapter, the table below shows the expected investment return for a representative claimant, before and after making appropriate deductions.

Table 4: expected returns and deductions

% pa above CPI	Representative claimant
Expected gross return before deductions	CPI+2.0% pa
Deduction for tax and expenses	0.75% pa
Deduction for damage inflation	1% pa
Expected net return	**CPI+0.25% pa**

4.25 Whilst it might be possible to set the PI discount rate equal to this median net portfolio return of CPI+0.25% pa, there is a 50/50 likelihood that a representative claimant experiences a rate of return that is lower than this level. To safeguard claimants from some of the effects of lower than expected investment performance, it may be considered appropriate to set the PI discount rate at a lower level than the expected portfolio return. Section II of this report provides further analysis in this regard.

Sensitivities

4.26 As with any analysis, the results are sensitive to the assumptions made and, as outlined in this chapter, there is a wide range of plausible views for each of these. Whilst the assumptions I have made are neutral, other equally plausible assumptions could have been made.

4.27 The impact of these alternative assumptions are summarised in Chapter 9.

5 Claimant characteristics

The term, profile, certainty and level of damages that a claimant must meet from their lump sum settlement are key factors that influence the assessment of the PI discount rate. This Chapter provides further details on what, why and how assumptions have been made surrounding these claimant characteristics.

Terms of Consultation

5.1 The Lord Chancellor acknowledged that the circumstances of claimant investors of relevant damages are likely to vary considerably, in particular in relation to the nature and duration of their injuries.

5.2 My terms of reference specified that my analysis consider claimants investing over both short and long terms and acknowledged that the setting of the PI discount rate requires a significant degree of aggregation of circumstances and approximation of outcomes; and that the possible characteristics and approaches of claimants will have to be considered in the round and assumptions made in this regard.

Background

5.3 Personal injury claims are made by people in very different circumstances. For example, one claimant might be compensated for loss of earnings due to an accident at work, whereas another claimant might be a new-born baby being compensated for severe care needs following birth complications. These claimants are likely to face very different challenges and circumstances that might influence the profile of claimant returns, and hence the choice of an appropriate PI discount rate.

5.4 In setting the PI discount rate, assumptions need to be made of the type of claimant that is considered representative. Some key considerations include:

- **Period** – over what time is the claimant investing
- **Profile** – are damages level, increasing, decreasing or linked to an index
- **Certainty** – are damages paid over a certain period or for the rest of the claimant's life
- **Level** – does the claimant rely entirely on the lump sum settlement to meet their needs or do they have other sources of income

In paragraphs 5.5 to 5.13 below I set out the derivation of each of these assumptions, together (where appropriate) with alternatives which I have considered as part of my sensitivity analysis.

Period of damages

5.5 In order to set a single PI discount rate applicable to all circumstances, it is necessary to make assumptions regarding the length of time over which damages are applicable and the representative claimant will be investing.

5.6 This is because return expectations can be different over different time periods – for example over the short term they might (as now) be lower than over a much longer term. Therefore, the choice of a PI discount rate for a claimant with a shorter damage profile (eg an elderly claimant) will be different to that for a claimant with a longer damage profile (eg an infant).

5.7 My terms of reference specified that my analysis consider claimants investing over both short and long terms and I have accordingly presented my advice based on fixed periods of 10 years and 50 years, which I believe to be reasonable illustrations of these periods. I have also considered what would be a suitable single representative period for analysis purposes.

5.8 In their responses to the Call for Evidence, investment managers and claimant lawyers tended to support a single representative period of 30 years. Whilst acknowledging that many claims are indeed for a longer period, 30 years was felt to provide some margin of protection to claimants with shorter time-horizons, who are more likely to face the risk of lower investment returns over these periods. On the other hand, insurers and the Institute and Faculty of Actuaries suggested that 30 years is too short a term, with their responses suggesting a period of around 40-45 years.

5.9 Taking the above into account, alongside the typical age profile of claimants, I believe it appropriate to assume that a representative claimant has an investment period of 43 years. The sensitivity of my findings to different periods (in particular periods of 10 and 50 years) is considered in Chapter 9.

Profile and certainty of damages

5.10 I have assumed that inflation-linked damages are payable for the fixed periods shown above with certainty. In my core modelling I have not considered the following:

- "**Longevity risk**" – of the claimant living longer or shorter than for the assumed period – although given the 50/50 likelihood of this occurring, I do consider the sensitivity of my findings to this in Chapter 9
- "**Needs risk**" – should the claimant's needs alter over time affecting the pace and level at which withdrawals are made from the award
- "**Unpredictable behaviours**" – for example the claimant may review their investment approach to reflect their own changing personal views. To allow for this would be on a subjective basis and open to criticism. It would also have little basis in evidence
- **Damages** met from sources that are not lump sums, in particular in the form of a periodic payment order

Level of damages

5.11 The level of damages, for example whether a claimant needs to meet £10,000 pa or £50,000 pa, affects a number of factors that influence a claimant's investment returns including:

- investment strategy adopted by the claimant – a claimant relying more heavily on the award might take a lower level of risk than one that has alternative sources of income
- tax liability – a larger claim is more likely to attract a larger tax liability • fees payable – a larger funds tend to attract lower expense percentages

To an extent these factors are difficult to quantify.

5.12 Arguably the investment strategy impact is already reflected in the range of responses I have taken into account from the Call for Evidence. I do not, therefore, propose to make any further explicit allowance in my analysis in this regard.

5.13 However, with regard to tax and fees, it is possible to consider the impact of the level of damages on them further and I do this in Chapter 7.

6 Investment portfolio and returns

Claimants invest in portfolios with a wide range of characteristics which influence their ability to meet their needs. For example, a claimant investing in riskier investments would be expected to earn a higher return but would also carry a greater risk that returns are poor. This chapter provides further details on the impact the investment portfolio has on claimants' investment returns, and hence choice of an appropriate PI discount rate.

Terms of Consultation

6.1 The Lord Chancellor has requested advice from me on the content of suitable diversified portfolios for consideration in the setting of the PI discount rate, specifying for each portfolio the types and mix of investments included. In doing so I am asked to have regard to factors including:

- the actual returns that are available to investors
- the actual investments made by investors of relevant damages

6.2 The Lord Chancellor has specified that these portfolios should illustrate the range of investment risk approaches permitted by the Act. In particular, those that involve more risk than a very low level of risk but less risk than would ordinarily be accepted by a prudent and properly advised individual investor who has different financial aims.

Background

6.3 Depending on their individual circumstances, claimants pursue different investment strategies and therefore invest in a range of portfolios, each with different levels of risk. All else equal, a claimant investing in riskier investments might be expected to earn a greater return, but that return would be much more uncertain.

6.4 In considering the content of suitable diversified portfolios, I have taken into consideration:

- Call for Evidence responses
- reference portfolios available in the market which could be deemed a suitable proxy

6.5 In analysing each of the above, I have considered the division of the portfolios into:

- "Growth assets" – which would be expected to generate higher returns over the longer term but at greater risk
- "Matching assets" – which would be expected to generate lower returns but with more certainty

Low-risk portfolio: Growth/Matching split

6.6 Information submitted in response to the Call for Evidence for a low risk portfolio demonstrated a wide mix of allocations between growth and matching assets, with some quoting more than one mix.

6.7 Analysis of the responses submitted by both financial planners and the insurance industry, shows that the range of low risk portfolios submitted fall broadly within the limits of:

- 30% allocation to growth assets at the cautious end of the spectrum
- 55% allocation to growth assets at the less-cautious end of the spectrum

6.8 Consideration of other reference portfolios give credence to the above allocations. In particular, the allocation of 30% is broadly consistent with low risk wealth portfolios and cautious Defined Contribution pension drawdown portfolios. Further, the 55% is broadly consistent with low to moderate risk wealth portfolios and balanced Defined Contribution pension drawdown portfolios.

6.9 Based on the above, I believe that a portfolio with a 42.5% allocation to growth assets, the average of the cautious and less-cautious low-risk allocations, is a plausible representative low risk portfolio that a representative claimant might invest in. To demonstrate the sensitivity of this assumption, I have also considered outcomes assuming a 30% allocation to growth assets and a 50% allocation to growth assets.

Low-risk portfolio: Asset Allocation

6.10 There are many different types of growth and matching assets. For example, growth assets might contain investments in equities or property, whilst matching assets might comprise investment in cash, government bonds ("Gilts") or corporate bonds. In forming a view on constituent parts of the matching and growth portfolios, I have followed a similar approach to that outlined above – considering the evidence submitted and cross referencing this against reference portfolios.

6.11 For the matching, lower risk part of the portfolio, evidence suggests that:

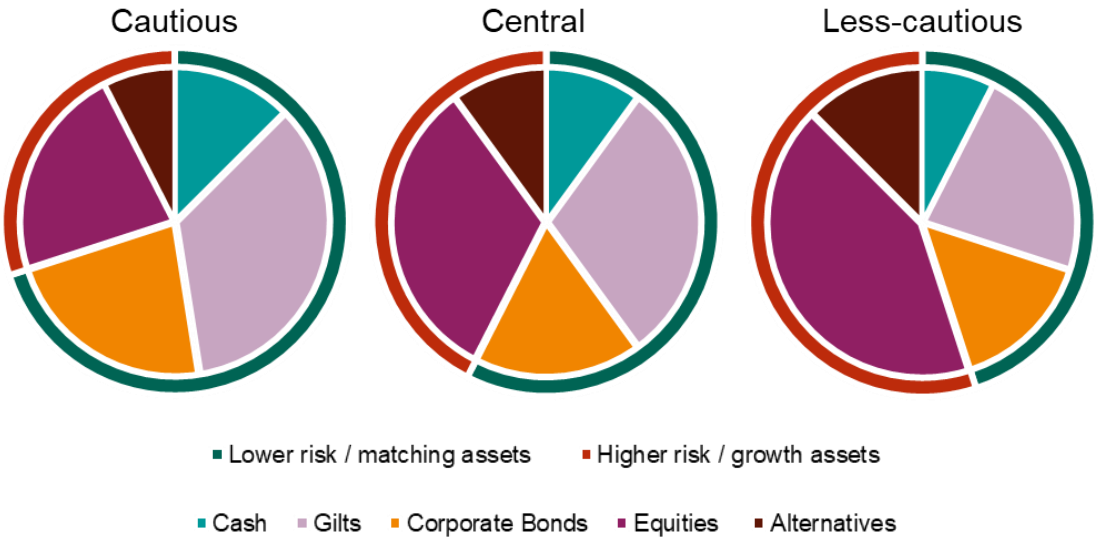
- between 10% and 30% of this part of the portfolio is invested in cash, with the remainder invested in bonds
- of the bonds in the portfolio, on average around 60% of these are invested in Gilts and the remaining 40% invested in corporate bonds

6.12 For the more risky, return seeking part of the portfolio there was a much larger spread of opinion apparent from the evidence. For example, most evidence suggested that an average allocation to property and alternatives was around 15% to 30% of the growth portfolio, but in some cases it was stated as being as much as 75%.

6.13 Taking the above into account, I have derived three low-risk portfolios which in my view reflect the different opinions on what a suitable portfolio may comprise.

Table 5: Low-risk portfolio allocation

Allocation	Cautious	Central	Less-cautious
Lower risk / matching Assets	70%	57.5%	45%
Cash	12.5%	10.0%	7.5%
Gilts	35.0%	30.0%	22.5%
Corporate bonds	22.5%	17.5%	15.0%
Higher risk / growth assets	30%	42.5%	55%
Equities	22.5%	32.5%	42.5%
Alternatives	7.5%	10.0%	12.5%



6.14 These portfolios are intended to be illustrative of the range of portfolios in which a low risk investor, as outlined by the Act, might invest. I have cross-checked their reasonableness against those submitted in the Call for Evidence and also checked that they could be considered efficient[8].

6.15 These portfolios depend on the reliability of the evidence collected through the Call for Evidence. In practice it is possible that claimants make investment decisions that are not represented by these portfolios. For example, some claimants may use their settlement to pay off mortgage or other expenditure not included within the evidence. However, I believe these portfolios to be suitable and consistent with the requirements of the Act.

[8] Broadly speaking, one expects riskier portfolios to earn a greater return. A portfolio can be considered "efficient" if there is no portfolio that achieves a greater return for the same level of risk, or the same return for a lower level of risk.

Low-risk portfolio – Time horizons

6.16 As introduced in Chapter 3, there exist views that claimant's investment portfolios will differ depending on the period of investment - both in terms of the allocation to the broad asset classes described above and their structural makeup.

6.17 In constructing the portfolios, I have therefore assumed that claimants will select assets that pay regard to the period of their investment. For example, I have assumed that claimants investing over longer periods invest in longer-dated bonds. Further details on this were outlined in the Technical Memorandum.

6.18 Further, I believe it reasonable to expect that a claimant investing over longer periods may feel able to take more risk as they have more time over which to recover from any period of poor investment returns.

6.19 There was no evidence in response to the Call for Evidence on which to base portfolio assumptions that were dependent on the period of damages. Therefore, in the interests of simplicity, I have assumed that the representative claimant with a shorter award invests in the more cautious low-risk portfolio outlined in Table 5 above and that the representative claimant with a longer award invests in the less-cautious low-risk portfolio. Sensitivity analysis to making alternative assumptions, whereby all claimants are assumed to invest in the central portfolio, is outlined in Chapter 9.

Low-risk portfolio - Returns

6.20 The expected returns on these portfolios will depend on a number of factors including the period for which the investments are held and on views about the outlook for investment returns in the future.

6.21 The table below shows the average (median) real returns (in relation to CPI) derived from a series of 2,000 random "Monte Carlo" simulations of future investment outcomes. Thus, there is a 50% likelihood that the claimant's returns in practice will be higher than these levels and a 50% likelihood that their returns will be lower. Appendix D outlines the simulated portfolio returns that have been used in my analysis and advice and demonstrates the risks associated with the three portfolios outlined above.

Table 6: simulated portfolio returns on various low-risk portfolios

	Claimant investing over…		
Median real portfolio returns pa above CPI	10 years	43 years	50 years
Cautious portfolio: 30% allocation to growth assets	0.7%	1.5%	1.7%
Central portfolio: 42.5% allocation to growth assets	1.2%	1.9%	2.1%
Less-cautious portfolio: 55% allocation to growth assets	1.6%	2.3%	2.5%

6.22 The expected median return across all portfolios, before any deductions for tax or expenses was between CPI+0.2% pa and CPI+2.5% pa[9]. The central, representative portfolio is expected to produce a median return of around CPI+2.0% pa over the average period of investment. However, claimants investing over a shorter period would be expected to produce a median return of only CPI+0.7% pa reflecting the fact that shortterm experience is likely to be influenced more by the current low levels of investment return available and that we assume that they invest in the cautious portfolio.

6.23 The wide range here reflects the different portfolios considered (broadly there is around a 1% pa difference in expected returns between the less-cautious and cautious portfolios outlined above) and the different periods of investment considered (broadly there is around a 1% to 1.5% pa difference for a claimant investing over 10 years and one investing over 50 years).

6.24 Although not shown in Table 6, portfolios with higher allocations to growth assets and hence higher expected returns also have higher risk. As a result, although an investor would expect to benefit from investing a higher expected return they are also increasing the probability of experiencing poor returns and hence incurring poor outcomes.

6.25 These returns can be considered as an appropriate starting point for setting the PI discount rate and from which deductions for other factors, such as inflation and expenses, can be made.

Other factors

6.26 Over the course of their damage profile, a claimant may regularly review their initial investment approach – for example to reflect updated views on return expectations or the rate at which they have made withdrawals from the fund. Such behaviours may improve the claimant's returns over those that I have modelled, for example because the claimant makes more informed investment decisions. Or they may reduce the claimant's returns compared to those that I have modelled, for example because the claimant reduces the level of risk in their portfolio over time.

6.27 I have not included such behaviours and decisions explicitly in my modelling and analysis. This is partly because there is such a wide range of decisions that could be made that developing assumptions to replicate all such decisions would be done with little or no evidence, would be quite subjective and could be easily criticised as effectively "gaming" the investment model I have adopted. Instead, as I describe more fully in Chapter 7, I have assumed a level of expenses towards the lower end of the range seen in responses to the Call for Evidence on the basis that the effect of more "active" strategies is somewhat offset by the charges they incur.

[9] See Table 15, Appendix D

7 Tax and expenses

The projected returns outlined in the previous Chapter are gross of investment fees, management charges, adviser fees and taxes. In practice investors need to meet such costs and thus if no allowance for them is included in the PI discount rate then the claimant would tend to be undercompensated by comparison. As a result, explicit deductions are required in respect of tax and expenses and these are considered in this Chapter.

Terms of Consultation

7.1 The Lord Chancellor acknowledges that different claimants will pay different amounts of taxation reflecting their individual financial circumstances. The Lord Chancellor has requested advice from me as to the best approach to take in making allowance for the effect of taxation in the setting of the PI discount rate and what the effect of taking that approach would be.

7.2 The Lord Chancellor also acknowledges that costs associated with investment management expenses and advice will differ depending on the investment management approach adopted. The Lord Chancellor has requested advice from me as to what the effect of adopting a passive approach would be, in the setting of the PI discount rate, and how sensitive this effect would be compared to adopting an active management approach.

Tax – Background

7.3 The precise effect of tax will be unique to each claimant and will depend critically upon both:

- individual circumstances – such as the size of their settlement, how this is invested, the interest and dividends earned on those investments and other sources of income
- the tax structure that is in force at the time – in terms of tax-free allowances, tax thresholds and marginal tax rates

7.4 Even for an individual claimant, the effect of tax is unlikely to remain constant over the expected period of their damages because:

- the size of the claimant's fund will reduce as they make withdrawals from the fund – reducing the claimant's income and hence tax liability
- the claimant's circumstances may change – for example their other sources of income may change as a result of retirement or a change in job
- investment conditions can change – for example higher interest rate environments may result in higher income from the fund

- tax regimes may change

Thus, any assumption that I make about the deduction for tax can only be broadly-based.

7.5 Many respondents to the Call for Evidence were of the view that, overall, tax effects are negligible, but that they can vary considerably by individual circumstances and are difficult to generalise. Other points raised by respondents with respect to tax were:

- larger rewards require more income and hence are more liable to tax
- lump sums reduce over lifetime and hence tax effects will reduce
- tax planning comes after investment strategy advice which should be the main focus.

7.6 To illustrate how the impact of tax on a claimant's effective returns can vary, I have calculated the approximate tax liability for a number of illustrative claimant profiles under the current tax system. The analysis should be treated as high level and illustrative, but I believe that it is sufficient to quantify a potential allowance. The profiles have been informed by the Call for Evidence responses and other sources.

7.7 The key assumptions and variables considered in this analysis are:

- whether claimants have other taxable income – which will reduce the level of income tax allowance that can be applied to investment income
- what investment strategy claimants adopt – as different assets attract different tax treatment – in particular, how this might crystallise gains for capital gains tax
- the assumed yields on the different investments

Tax – Derivation of Assumption

7.8 The table below outlines the key assumptions considered for different claimant profiles and the approximate tax charge.

Table 7: Illustrative tax drag on returns for different award amounts

		Claimant profile		
		A	B	C
Description		Small claim	Medium claim	Large claim
Award size (£)		100k	1m	3m
Other income (£ pa)		25k	10k	none
Investment Strategy / Assumed income yield	Cash	10% / 0.5% pa		
	Bonds	47.5% / 2% pa		

	Equity	42.5% / 3.5% pa		
Tax drag on return[10]		0.0% pa	0.2% pa	0.5% pa

Note: I have included an approximate allowance for capital gains tax on equities by assuming a proportion of the portfolio is sold each year and subject to capital gains tax on assumed capital growth.

7.9 I have consulted with HMRC who have provided assurance on the calculations that I have performed.

7.10 Based on the above, under the current tax system and economic conditions, **I believe that a reasonable adjustment for tax would be in the region 0.0% to 0.5% pa** with the responses to the Call for Evidence suggesting a figure very much towards the lower end of the range. Taking a view towards the lower end of this range is also supported by the fact that the tax adjustments above are based on the initial award size and as the size of the claimant's fund reduces as they make withdrawals from the fund, the tax liability illustrated above will reduce over time.

7.11 It should be noted that the impact of tax on some individuals may be higher (eg higher rate tax payers still in employment who use up tax-free allowances in earnings), however for the purposes of this analysis, I have not made any adjustments in respect of this.

7.12 I would recommend that this rate is kept under review – in particular the appropriate adjustment is likely to be higher in a higher interest rate environment. So, if the economic environment returns to "normal" with higher interest rates then a higher adjustment (or an adjustment towards the higher end of the range) might be appropriate.

Expenses – Background

7.13 The expenses incurred by claimants will reflect their individual circumstances and preferences and any assumptions that I make about their overall level for the purposes of my advice can only be a broad-brush approximation.

7.14 The relatively small number of respondents to this aspect of the Call for Evidence reflected this diversity through a wide range of possible expense levels. Some respondents proposed expenses in the range 1.5% to 2.0% pa of funds under management for an

advised strategy that was actively managed, though there were other suggestions that the allowance should be well below this range and one that it should be above.

7.15 A substantial cause of these differences in the levels of expenses is the different approaches to investment that are adopted. Broadly speaking, the more active or engaged investment approaches lead to higher expenses. However, I would expect these to be compensated by better returns – as otherwise such approaches would not be profitable and sustainable in a rational and competitive market.

[10] Tax liability expressed as a proportion of the claimant's fund size (per annum)

7.16 The analysis and modelling of investment performance I have undertaken is based on:

- an asset allocation that remains constant throughout the entire period
- benchmark or passive returns under each asset class
- an investment objective that remains unaltered throughout

7.17 I have not explicitly modelled enhanced returns which may be attributable to a more engaged or active investment approach. These may result from the employment, at a cost, of persons or firms that are skilled in providing advice in these areas.

For example, in respect of:

- actively managed investment funds – whereby the manager deviates stock selection from the benchmark allocation to achieve better performance
- active manager selection - whereby manager performance in monitored and changes made to them to achieve better performance
- active management of asset allocation – whereby adjustments are made over time to reflect changing circumstances
- active monitoring of and adjustment to the regular drawdown of funds

To ensure that my assumptions for expenses and those for the modelling of investment returns are consistent with each other**, I consider it appropriate to adopt an expense assumption that corresponds most closely to the basis of the investment returns being modelled as set out in Chapter 6 - namely passive returns from a static asset allocation and with an unchanging investment objective.**

Expenses – Derivation of Assumption

7.18 At a high level, expenses incurred by investors can be grouped as follows:

- financial adviser fees
- fund management fees
- other associated costs eg platform fees and transaction charges

7.19 Each of the three types of expenses incurred by claimants are discussed in more detail below, with a summary provided in Table 9 below. Information about the breakdowns of investment expenses by the different components above was provided by some respondents to the Call for Evidence – though not many and the evidence available is sparse. I have therefore also considered other relevant sources to inform my advice on the appropriate deduction for expenses.

Financial adviser fees

7.20 These fees are charged by Independent Financial Advisers for any advice provided on the investments/funds in which the claimant should invest and there was general agreement

in the Call for Evidence responses that such an investor needs this advice. It is also a requirement of the legislation that the claimant is assumed to be a 'properly advised' investor.

7.21 The services provided under this heading cover three main areas: initial investment advice based on an assessment of the claimant's objectives and risk profile; regular reviews of that advice; and monitoring of the portfolio.

7.22 Responses to the Call for Evidence suggested financial adviser fees ranged in the region of 0.25% to 0.5% pa (with no additional VAT payable), with many forming a consensus around 0.5% pa.

7.23 As mentioned in paragraph 7.17, I believe that some of these fees could be expected to be "value adding" and therefore inconsistent with the returns that I have modelled – as I have not factored into my modelling any gains to be made from active reviews and repositioning of the investment portfolio which would result from the ongoing attention of a financial adviser.

7.24 As such, with consistency in mind, I do not believe that the full 0.5% fee mentioned in paragraph 7.22 should be reflected in setting an expense allowance that is consistent with the returns I have modelled. Instead I believe that including an allowance for financial advice towards the lower end of the range informed by the Call for Evidence is consistent with the passive modelling approach I have modelled.

Fund management fees

7.25 These are the fees charged by the selected asset manager to cover its administrative expenses.

7.26 Responses to the Call for Evidence suggested that fund management charges could fall between 0.2% pa of funds under management (for "more static" funds) to around 1% pa (for "smaller" funds or for "more active" funds). Many respondents pointed out that these figures exclude VAT, which is payable in addition at 20%[11].

7.27 Annual management charges vary by different asset classes and investment styles – investing in property, for example, generally requires more management than replicating an index of equities. To supplement the evidence collected, I have considered the publicly available annual management charges from low cost passive fund managers, outlined in the table below.

Table 8: Annual fund management fees by asset class

Sector	Allocation in proposed portfolios	Ongoing Charge[12] pa (including VAT)
Developed market equities	22.5% to 42.5%	Around 0.05% to 0.25%

[11] Therefore the responses to the Call for Evidence are broadly equivalent to 0.25% pa to 1.2% pa including VAT
[12] Rates after VAT and not including additional platform and access fees (discussed below).

Developed / small cap equities		Around 0.25% to 0.35%
Fixed income	37.5% to 57.5%	Around 0.15% to 0.30%

7.28 Based on the above coupled with my assumptions for other asset class charges[13], I would expect the central portfolio invested in a low-cost passive approach to incur ongoing fund management charges of around 0.3% to 0.5% pa (including VAT). This range is not inconsistent with relevant responses from the Call for Evidence.

7.29 **Based on the responses to the Call for Evidence and consideration of other fees I therefore believe it reasonable to assume that a claimant investing in the central portfolio will incur fund management fees of around 0.25% to 0.5% pa (including VAT).**

7.30 As noted earlier, fees for more active funds will, of course, be higher in anticipation of greater returns. Evidence from the Call suggests that such approaches might be as much as 0.5% to 1% pa higher. However, since my assumption for modelling purposes is that the greater returns and higher fees offset one another, I consider it appropriate to make no allowance for active management in setting the fund manager charges.

Other associated costs

7.31 Other associated costs include those relating to either access and administration eg custodian or platform fees or buying/selling the underlying securities eg bid/offer spreads, commission and dealing costs.

7.32 To supplement the evidence collected, I have considered publicly available annual platform fees from low cost passive fund managers. These are in the region of 0.15% pa of funds under management but are often tiered and/or capped and therefore reduce for larger investment amounts (and may be lower than 0.05% pa for much larger funds).

7.33 This was not out of line with those respondents to this aspect of the Call for Evidence:

- respondents were generally of the view that platform fees were up to 0.25% pa
- one respondent was of the view that "other fees" for a "passive approach" would be between 0.03% and 0.35% pa
- some only provided evidence applicable to more active or engaged investment approaches and suggested that "other fees" for these approaches could be towards 1% pa.

[13] In particular assuming charges of 1-1.5% pa for property and alternatives.

7.34 Based on the evidence collected from the Call for Evidence and other evidence considered, **I believe it to be reasonable to assume platform fees of around 0.1% to 0.2% pa** for a passive arrangement consistent with my modelling approach.

Overall Tax and Expenses Assumption

7.35 The table below brings together the conclusions of this chapter. It summarises the range of deductions to the projected returns that I believe to be reasonable for the different elements of tax and expenses.

Table 9: Deductions for tax and expenses

Sector	Ongoing Charge[14] pa	Notes
Tax	0.0% to 0.5%	Based on the initial award
Adviser fee	*0.25% to 0.5%*	*Part Active*
Fund manager fee	0.25% to 0.5%	Passive
Platform fee	0.1% to 0.2%	Passive

7.36 Based on the evidence provided and other relevant sources considered, I believe it reasonable to assume that claimants would incur expenses and tax charges of between 0.6% to 1.7% pa including *all* the adviser fees.

7.37 **I believe that a 0.75% pa allowance for expenses and tax is reasonable and is consistent with the modelling approach I have adopted.** Note**:**

- I have not sought to set assumptions for each individual component of the claimant's tax and expenses, rather consider the overall allowance in the round and in the interests of avoiding spuriously accuracy, and as is consistent elsewhere in my report, quoted an assumption to the nearest 0.25% pa
- I believe it to be appropriate to set the allowance for expenses and tax towards the lower end of the range suggested by the evidence because:
- this most closely reflects the level of expenses that I would expect for the investment returns that I have modelled – namely passive returns from a static asset allocation and with an unchanging investment objective
- I do not believe that the full 0.5% adviser fee should be reflected in setting an expense allowance as this is to some extent providing an active approach that I have not included in my modelling – in particular such advice would likely recommend regular changes to the portfolio throughout the drawdown of the award to better reflect the claimant's needs that I have not modelled

[14] Rates before VAT and not including additional platform and access fees (discussed below).

- the impact of tax illustrated above is based on the claimant's tax position when they initially receive their award. As they make withdrawals from the fund, I would expect

  the claimant's tax liability to reduce and so the tax obligation over the lifetime of the award will be lower than those shown above

- it is reasonable to assume that claimants act as rational consumers and will compare charges and services provided by potential funds and, for two funds that provide the same service, choose the fund with the lowest fees, or only choose funds with higher fees if they provide additional value and/or returns.

7.38 As noted in responses to the Call for Evidence, the level of tax and expenses incurred by different claimants varies considerably by individual circumstances and is difficult to generalise. As such, whilst I believe 0.75% pa to be a reasonable allowance for tax and expenses, there may be some claimants who face different tax and/or expense positions to those that I have implicitly assumed which may support a slightly different assumption to the one that I have made. For example, some claimants might face higher tax charges, because they have alternative sources of income. Alternatively, some claimants may face higher expense loadings because they are investing a smaller lump sum for which proportionately higher fees often apply. The sensitivity to my assumption is discussed further in Chapter 9.

7.39 As referred to in my terms of reference, should an active approach be adopted, it would be appropriate to make adjustment to both the allowance for expenses **and** the simulated returns. In particular, I would expect a claimant adopting an active approach to earn higher gross returns (before expenses) – otherwise they would be making choices that would not be considered optimal or efficient.

7.40 There is no firm evidence on how returns might be adjusted for an active approach and it is possible to construct arguments that would result in active net returns (after expenses) being higher or lower than passive net returns.

7.41 Indeed, one respondent to the Call for Evidence remarked that "active funds have higher charges but over the long-time horizon, net returns between active and passive are similar". Another who suggested an overall allowance for tax and expenses of 1.0% pa suggested that such an approach was consistent with a nominal return (ie before adjusting for inflation) of between 4.5% and 5.0% pa which is comfortably in excess of the median returns I have modelled.

7.42 As such, I consider it appropriate to model passive returns and adopt charges towards the lower end of the range outlined above, rather than the somewhat spurious modelling of active returns associated with the higher charges.

8 Inflation

The rate at which a claimant's damages inflate over time influences the sufficiency of their settlement to meet their needs. This chapter considers this issue further.

Terms of consultation

8.1 The Lord Chancellor has requested that when providing my advice that returns on investments, and hence the PI discount rate, are expressed relative to the Consumer Price Index (CPI)

8.2 The Lord Chancellor has also requested that I consider the effect on investment returns of claimants' damages inflating relative to CPI, and how this might vary against any other measure of inflation deemed appropriate to consider.

Impact on the investment profile and PI discount rate

8.3 Whilst a claimant may have a fair degree of certainty on the level and cost of damages in the near-term, over time these would be expected to increase owing to the effect of inflation.

8.4 Within my analysis, I have had to make an assumption regarding the annual increases in damage costs that over time the claimant will experience – I call this damage inflation and as requested in my terms of reference, I have framed it relative to CPI. To the extent that the actual cost increases turn out to be higher or lower than this assumption, then the claimant will either lose or benefit due to this deviation.

8.5 It follows that the higher that actual damage inflation is, the lower the claimant's effective investment return, net of damage inflation will be. For example, a claimant that has damages that inflate 1% pa higher than CPI will achieve effective returns that are 1% pa lower to those shown in Table 6[15]. As such, the impact of inflation needs to be understood and allowed for in setting the PI discount rate.

8.6 The difference between the rate at which a claimant's damages inflate and CPI could arise due to the goods or services being consumed or utilised by the claimant being different to those underlying the calculation of the CPI measure. For example, some costs, such as nursing or care costs may be more aligned to a different index such as earnings inflation. It is likely that different levels of inflation apply to different components of the award.

Evidence

8.7 There was no specific evidence collected from the Call for Evidence on what level of damage inflation most claimants are subject to. However, most respondents expressed an opinion:

- CPI was supported by a minority of respondents including some defendants
- earnings inflation was supported by a minority of respondents
- RPI, which I expect to fall between CPI and earnings inflation, was supported by the majority of respondents including insurers

[15] Ignoring tax and expenses.

Given that claimants have financial independence after their settlement and there is no data or reporting on how their needs and investments evolve, there is very little independent evidence that can be used as a cross reference.

8.8 As a result, therefore, determining any allowance or adjustment for inflation is very much a judgement. The arguments in favour of different measures are summarised below: **Table 10: inflation considerations**

Measure	Reasons in favour	Reasons against
CPI	• Headline level of inflation • Representative of "cost of living" • Some care costs may be linked to this • Appropriate if we believe that claimant only has limited needs that inflate with earnings	• Other care costs, including nursing, may be expected to inflate at a higher level (earnings)
Measures between CPI and earnings	• It might reflect an average level of claimant inflation costs (some earnings linked, some CPI linked) • More consistent with current assumed inflation (RPI)	• Differing views on where to set the PI discount rate between CPI and earnings
Earnings	• Some care costs, including nursing, and loss of earnings likely to be linked to this • Appropriate if we believe that most of claimants' needs inflate with earnings • Would be consistent with the approach taken in Periodical Payment Orders	• Will overstate inflation for "core" consumption needs and other care costs

8.9 In the absence of any clear evidence, I believe it is reasonable to make an assumption for damage inflation in the middle of this range of CPI+1% pa. When determining the claimant's effective net return, this assumption therefore has the effect of reducing the returns outlined in Table 6 by 1% pa. In other words, an investment return of CPI+X% pa after expenses, is equivalent to an effective net real return of X-1% pa after expenses and damage inflation.

8.10 My assumption implies that a claimant's needs would include some aspects which are linked to general consumer prices (ie CPI linked) and some aspects which are linked to movements in earnings (for example care costs), which I assume inflate at 2% pa above CPI. The appropriate level of inflation to assume is likely to vary significantly between claimants and between different components of their awards, depending on their needs. As such, alternative views are plausible and the decision on damages inflation should be taken in the round with other factors.

8.11 In arriving at my view on annual earnings inflation, I have considered long-term empirical evidence dating back to 1970. However, it should be noted that within this long-term time frame, there are periods in which earnings have been higher and also lower, which could produce quite different assumptions – for example, real earnings growth has generally been lower in more recent periods.

8.12 It should be noted that my assumption that earnings will exceed CPI by 2% pa is therefore intended to be a neutral assumption over the long-term. Making assumptions over shorter periods, which may be appropriate for claimants investing over shorter periods, would likely result in a lower earnings assumption, given current economic conditions.

Expressing and using the PI discount rate

8.13 The current PI discount rate is expressed relative to RPI (as RPI-0.75% pa). I understand that, in practice when claims are settled, this rate is applied in real terms (as -0.75% pa) to discount the damage needs expressed in today's prices[16]. Under the current arrangements, therefore, damages are implicitly assumed to inflate at the rate of RPI.

8.14 I have been asked to express all rates in my review, including the PI discount rate, relative to CPI (ie CPI ± X% pa) and to also consider the appropriate rate of inflation to use for damages inflation. It follows, therefore, that, whilst users continue to use the real rate (ie ±X% pa) to discount the damage needs expressed in today's prices, they must also be aware of and reflect the damage inflation assumption of CPI+1% pa in their calculations.

8.15 When determining the PI discount rate, there is no formal convention for whether rounding should be applied, however, I believe it to be sensible to incorporate this given the areas of judgment that are required in setting the rate. I have therefore rounded to the nearest 0.25%, which I believe is a sensible level of granularity, with anything smaller resulting in spurious accuracy.

9 Sensitivities and uncertainties

The analysis shown in Section II is based on a number of assumptions. There are plausible alternative views for all of the factors affecting the investment profile, which would inevitably alter the PI discount rate chosen. These are considered further in this chapter.

Terms of consultation

9.1 The Lord Chancellor has requested advice on the sensitivity of my analysis to the assumptions I have made and whether there are further factors that should be considered in setting the PI discount rate.

[16] Rather than damages being assessed in nominal terms being separately inflated by an inflation assumption and then discounted at a nominal discount rate.

Introduction

9.2 The table below re-caps on the key factors that influence the investment returns that a claimant might earn and hence the choice of PI discount rate. It sets out the assumptions made in the analysis outlined thus far and summarises the alternative sensitivities that are considered in turn in this chapter.

Table 11: sensitivities considered

Factor	Assumption for a representative claimant	Alternative assumption	
		Decreases return	Increases return
Investment period	Investment period of 43 years	Shorter investment period of 10 years	Longer investment period of 50 years
Investment approach	Central portfolio assuming 42.5% allocation to growth assets	Cautious portfolio with a 30% allocation to growth assets	Less-cautious portfolio assuming 55% allocation to growth assets
Tax and expenses	-0.75% pa	-1% pa, reflecting taking of more advice / higher tax liability / higher fees.	-0.5% pa, reflecting taking of less advice / negligible tax liability / lower fees.
Damage inflation	CPI+1% pa representing a mix of CPI and earnings inflation	CPI+2% pa in line with earnings inflation	CPI+0% pa in line with CPI
Economic assumptions	Projections based on simulations from two third party providers, calibrated to conditions as at December 2018	Simulations from the provider with lower expected returns.	Simulations from the provider with higher expected returns or calibrated to expected future conditions.

Investment period

9.3 The period over which a claimant invests is likely to have a number of impacts:

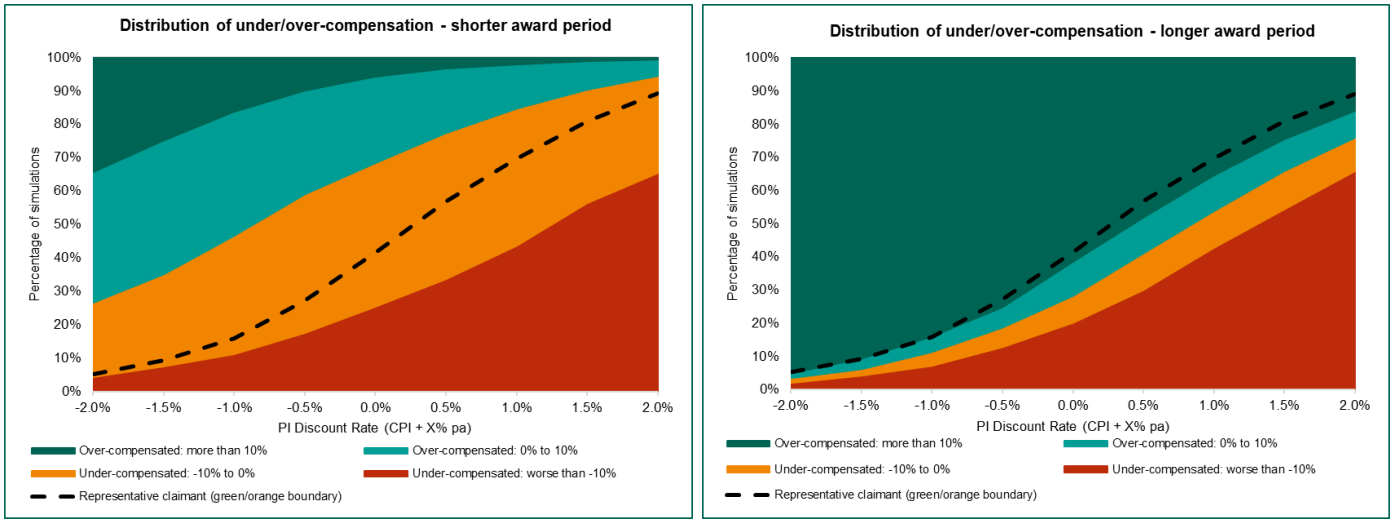
- it alters the level of risks that a claimant faces – in that we can normally be more confident about economic conditions over than next 5 years than we can over the next 50 years. That said, a claimant investing over a shorter time period will not have as long to recover from any losses
- it has an impact on the level of returns because return expectations are currently lower over the short-term

9.4 The investment period may also alter the level of risk that a claimant adopts in their portfolio, though I have not considered this further below.

Level of risk

9.5 The effect of the award period on the risk profile is best illustrated by revisiting the analysis in Section II. The charts below show the effect on the likelihood of claimants being over- or under-compensated for claimants investing over a shorter award period (10 years) on the left and a longer award period (50 years) on the right. As described in Chapter 6, they assume that the claimant with a shorter award invests in the cautious portfolio and the claimant with a longer award invests in the less-cautious portfolio.

Figure 9: Likelihood of over- and under-compensation by award period



9.6 It can be seen that:

- for a given PI discount rate it is more likely that a claimant investing over a shorter period will be under-compensated (shown by the red and orange sections), but
- there is a broader range of outcomes for claimants investing over longer award periods. This is shown by the smaller orange and light green sections for the claimant investing over longer periods

Effect on returns

9.7 Figure 9 shows that the choice of period of damages for the representative claimant is a material assumption under a single PI discount rate structure; such a structure tends to result in disparities in under- and over-compensation risk between shorter and longer periods that cannot be resolved easily.

9.8 These features are caused by two factors:

- the general profile of year-on-year investment returns which are currently expected to be at relatively low levels in the near-term but are generally expected to rise to more normal levels over the longer term
- the compounding effect over time of variations in the year-on-year returns whereby the more extreme outcomes are more likely to occur over longer durations.

9.9 At a high level, claimants investing over shorter award periods (10 years) have expected returns that are around 0.75% to 1% pa lower than the expected returns for a representative claimant. A claimant investing over a longer award period (50 years) would be expected to achieve returns that are up to 0.25% pa higher than the expected returns for a representative claimant. The impacts here are not symmetrical because the representative claimant is usually investing over a relatively long period that is much closer to the 50-year period I have shown.

9.10 Therefore, making different assumptions on a representative claimant used to inform the PI discount rate might reduce the choice of the PI discount rate by 1% pa or increase it by 0.25% pa. As outlined in Chapter 3, adopting a dual PI discount rate does better allow for these differences.

Investment approach

Assumed portfolio

9.11 The analysis included in previous sections assumes that claimants invest in the central portfolio with a 42.5% allocation to growth assets.

9.12 The impact of investing in alternative portfolios can be summarised as follows:

- Cautious portfolio: a 30% allocation to growth assets results in expected returns that are around 0.4% pa to 0.5% pa lower than the expected returns for a representative claimant investing in the central portfolio
- Less-cautious portfolio: a 55% allocation to growth results in expected returns that are around 0.4% pa to 0.5% pa higher than the expected returns for a representative claimant investing in the central portfolio

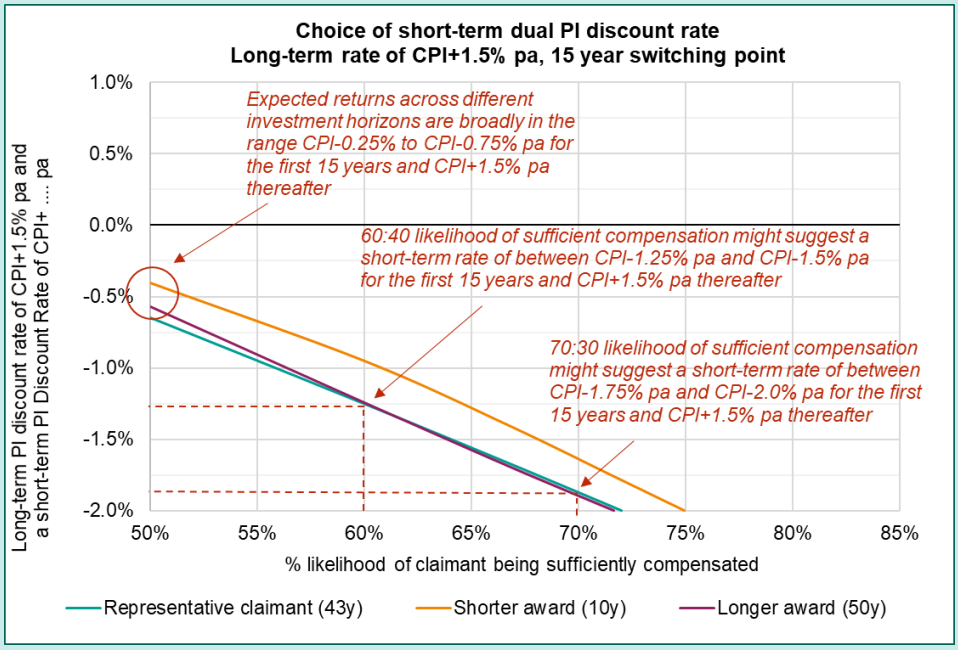
9.13 Therefore, making different assumptions on how the claimant invests might plausibly increase or decrease the expected returns, and hence PI discount rate chosen, by 0.5% pa.

Differing investment approach by period of investment

9.14 In my analysis I have assumed that claimants investing over shorter or longer periods take less risk or more risk respectively than the representative claimant. Whilst this assumption is reasonable, there was no evidence collected from the Call for Evidence to this effect. It is plausible therefore that claimants investing over the shorter or longer periods would invest in a portfolio better represented by the central portfolio.

9.15 The chart below shows sensitivity to the dual PI discount rate analysis outlined in Chapter 3 if we were to assume that a claimant with the shorter and longer award periods invest in the central portfolio.

Figure 10: Choice of dual PI discount rate – alternative investment approach



Assuming that claimants with shorter and longer awards invest in the central portfolio means that their portfolios are expected to earn much more similar returns.

Therefore the short-term PI discount rate implied from consideration of the claimant with a longer award is much closer to the PI discount rate implied from consideration of the representative claimant.

9.16 Relative to Figure 8:

- the lines for the claimant investing over the longer period and the representative claimant are much closer – reflecting that in Figure 10 they are assumed to be investing in the same central portfolio over similar investment horizons, whereas in Figure 8 the claimant investing over the longer period was assumed to earn a higher return as a result of investing in the less-cautious portfolio
- the line for the claimant investing over the shorter period is higher and so would imply a higher short-term PI discount rate might be set. This is because they are assumed to be investing in the central portfolio which is projected to earn a higher return than he cautious-portfolio assumed in Figure 8

Tax and expenses

9.17 The analysis included in previous sections assumes that claimants need to meet expenses of 0.75% pa.

9.18 As I outlined in Chapter 7, I believe that it is important for the allowance for expenses to be consistent with the modelled returns. Hence, I would recommend that were any significantly different views on expenses taken that the simulated returns are also reviewed to ensure consistency.

9.19 However, there may be plausible arguments that it is reasonable to make small adjustments for the allowance for tax and expenses. Some claimants might face higher tax charges (for example because they have alternative sources of income). Alternatively, some claimants may face higher expense loadings because they are investing a smaller lump sum for which proportionately higher fees often apply.

9.20 As a broad rule of thumb, lower or higher assumed levels of expenses can be added or deducted directly from the PI discount rate. For example, an allowance of 1% pa, representing an additional 0.25% pa in comparison to what I have included in my analysis, would reduce expected returns by a further 0.25% pa.

Damage inflation

9.21 The analysis included in previous sections assumes that claimants' damages inflate at a rate of CPI+1% pa, based on their needs being a mix of general consumption and elements linked to earnings growth (such as care costs).

9.22 At a high level, if we were to assume that claimants' damages inflation is better represented by CPI then the claimant effective net returns, and hence appropriate PI discount rate, would be around 1% pa higher. On the other hand, if we were to assume that claimants' damages inflation is better represented by earnings then the claimant effective net returns, and hence appropriate PI discount rate, would be around 1% pa lower.

Economic assumptions

9.23 The analysis included in previous sections is dependent on the choice of economic simulation model the underlying parameters. To mitigate model error, I have generated scenarios employed from two proprietary third party models (Economic Scenario Generators). The results from using both simulations in this way are broadly consistent with the GAD house view of future investment returns.

9.24 However, it is possible to take alternative views on the expected returns for different asset classes. In particular choosing one or other of the third-party scenario models (rather than using both of them) would increase or decrease the simulated investment return, and hence choice of PI discount rate, by up to 0.5% pa.

9.25 A further economic assumption is the date at which the simulations are calibrated and in my analysis I have used scenarios calibrated to economic conditions as at 31 December 2018. I believe the calibrations are appropriate to use for the purpose of setting the PI discount rate and I do not expect market movements since 31 December 2018 to have a material impact on my analysis.

9.26 The PI discount rate adopted following this review is likely to be in force for the next five years until the next review. Under the assumptions used in my modelling, a claimant settling towards the end of this five years would be expected to be investing in more

favourable economic conditions than a claimant investing in the next year. As such, it might be argued that a slightly higher PI discount rate would better reflect the possible investment conditions over the whole period until the next review.

9.27 To estimate the potential effect of this, I have repeated my analysis, but with projections starting in five years' time. Broadly speaking, simulated returns calibrated to potential economic conditions in five years' time are around 0.5% to 1% pa higher than return simulations calibrated to December 2018.

9.28 Assuming that claimants settle evenly throughout the next five years it might be possible to argue that the PI discount rate should be set around 0.5% pa higher than outlined throughout my report. However, this is dependent on the assumption that investment and economic conditions revert back to normal which is not guaranteed; and the short-term outlook remains highly uncertain given events such as Brexit and persistent lowproductivity. Furthermore, the Act includes a provision for the PI discount rate to be reviewed before the end of the five year review period and I believe that this is a better mechanism for the Government to review and update the PI discount rate should economic circumstances change materially.

Certainty of damages / longevity risk

9.29 My terms of reference asked me to provide advice on the returns that are available to claimant investors. To advise on and illustrate these returns I have analysed returns over a fixed period of damages. In practice a majority of claimants are likely to have to meet some damages that are not defined over a fixed period – for example a claimant may need to meet damages in relation to care costs for the rest of their life or a claimant's needs might change. As such, my assumption that the period of damages is fixed and certain is a simplifying assumption that is likely to have a material impact on whether a claimant is sufficiently or under-compensated.

9.30 Therefore whilst a PI discount rate might be set based on my analysis of achieving a particular likelihood of meeting needs over a fixed period which corresponds to their expected lifespan, it is possible that the claimant lives much longer than this period and exhausts the capacity of the investments to meet their damage needs over their whole life.

9.31 Broadly speaking, the impacts of this risk are likely to be greater for claimants with shorter life expectancies. Their award is only intended to cover a relatively short period of time over which:

- expected returns are currently lower, as discussed in Chapter 6
- there is limited time over which to recover from any poor investment returns and
- there is also limited time over which to build up excess funds from good investment returns.

9.32 As an example, and assuming that a single PI discount rate of CPI+0.0% pa is set, should a claimant with a 10-year life expectancy survive for 15 years my analysis suggests that it is almost certain that the claimant will not have sufficient funds to meet all their needs. On the other hand, should a claimant with a 30-year life expectancy survive for 35 years then my analysis suggests there to still be a 30% likelihood that the claimant has sufficient funds to meet all their needs.

9.33 Since my terms of reference asked me to focus on the returns that claimants might achieve, I have not considered this "longevity risk" in my baseline results. However, that the longevity risk can have a material impact on claimant outcomes is a relevant factor to consider when setting the PI discount rate. In particular:

- this longevity risk is likely to mean that the actual range of outcomes and risks faced by claimants are inevitably different to those that I have shown in Section II. This reinforces the fact that my analysis is intended provide a guide in setting the rate not a formula for it, and I would warn of the risk of over-fitting to the results of my analysis when setting the rate

- it should be observed that in making a cash settlement, rather than a periodic payment order, the claimant might be considered to be implicitly accepting this risk

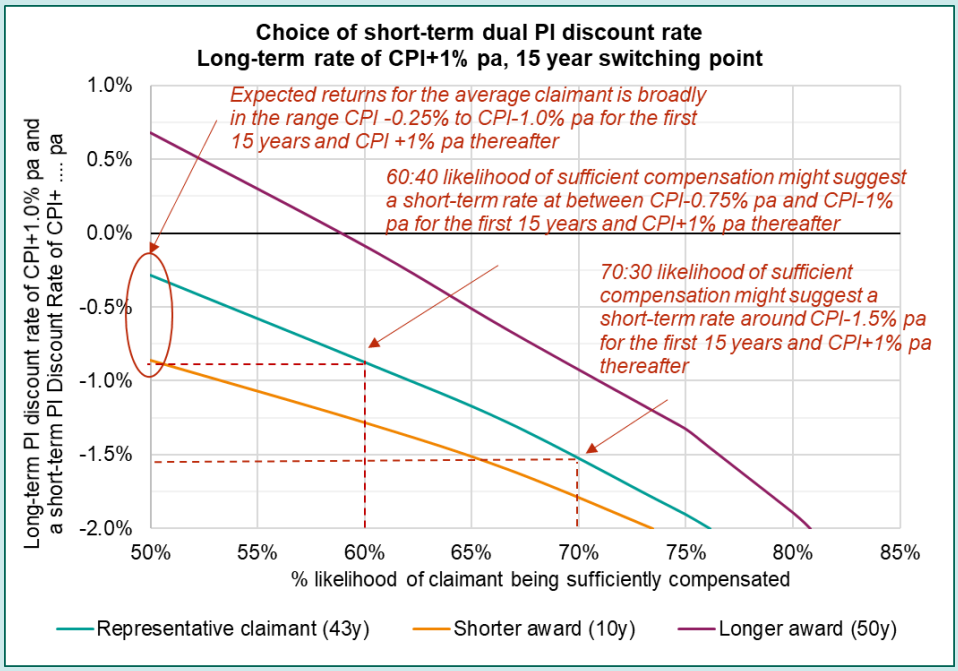
- the longevity risk may also provide further support for a dual PI discount rate as, all other things equal, it provides larger settlements to claimants with shorter awards for whom the longevity risk is greatest

Dual PI discount rate: long-term rate

9.34 My analysis in Chapter 3 on dual PI discount rates was based on the assumption that the long-term PI discount rate would be set at CPI+1.5% pa. Whilst I believe, as outlined in that chapter, that a long-term rate of CPI+1.5% pa to be appropriate, alternative long-term rates could be set and considered reasonable.

9.35 The chart below repeats the analysis presented in the previous section but assuming that a long-term rate of CPI+1% pa is set.

Figure 11: Choice of dual PI discount rate – alternative long-term rate



Assuming that we were to set a long-term PI discount rate of CPI+1% pa and we wanted to be broadly 60% confident of the representative claimant being able to meet their needs, then we would set the short-term PI discount rate at around CPI-0.75% pa to CPI-1% pa.

However we might set a lower short-term rate if we were to consider claimants with shorter awards and a higher short-term rate if we were to consider claimant with longer awards.

9.36 Figure 11 shows:

- compared to the single rate analysis in Figure 7 in Chapter 3, there is a smaller difference between the lines for claimants investing over shorter and average periods. Thus a dual PI discount rate may be considered as a means of providing much more similar outcomes for claimants investing over different periods

- compared to the dual rate analysis based on a long-term rate of CPI+1.5% pa in Figure 8 in Chapter 3, there is a larger difference between the lines for claimants investing over shorter and average periods. Thus a long-term rate of CPI+1.0% pa might result in more disparity of outcomes for claimants investing over different periods, in comparison to a long-term rate of CPI+1.5% pa

9.37 The wider disparity of risk between claimants investing over different periods under different long-term rates, such as CPI+1.0% pa, is one of the reasons that I consider it reasonable to assume a long-term rate of CPI+1.5% pa.

9.38 Setting a lower long-term PI discount rate means that a higher short-term rate must be set to achieve equivalent outcomes. For example, focusing on the representative claimant:

- If the PI discount rate were set with respect to the expected net real return and give a 50% likelihood of claimant meeting their needs, then the following dual rate structures are broadly equivalent:
- CPI-0.75% pa for the first 15 years and CPI+1.5% pa thereafter
- CPI-0.25% pa for the first 15 years and CPI+1% pa thereafter
- If the PI discount rate were set to give a 60% likelihood of claimants meeting their needs, then the following dual rate structures are broadly equivalent: • CPI-1.25% pa for the first 15 years and CPI+1.5% pa thereafter
- CPI -0.75% pa for the first 15 years and CPI+1% pa thereafter

9.39 As a result, and as a broad rule of thumb, reducing the long-term PI discount rate by 0.5% pa requires increasing the short-term PI discount rate by 0.5% pa to maintain equivalence. Although not shown in this report, I can easily and quickly provide further advice on different long-term PI discount rates, should the Lord Chancellor require further analysis of the impact of choosing different dual PI discount rates.

9.40 Setting a lower long-term PI discount rate is unlikely to provide as close a match to the pattern of expected future investment returns. As a result, there is likely to be more disparity in the outcomes between claimants investing over different periods, relative to setting a higher long-term PI discount rate. This is demonstrated by the larger differences between the lines in the chart above for a long-term PI discount rate of CPI+1% pa.

Dual PI discount rate switching point

9.41 My analysis in Chapter 3 on dual PI discount rates was based on switching from using the short-term rate to the long-term rate at 15 years. As outlined in that chapter, whilst I

believe that 15 years is an appropriate switching point, alternative switching points could be set and considered reasonable.

9.42 Setting a longer switching point means that the short-term rate applies for longer and so higher rates must be set in either the short or long term to achieve equivalent outcomes

for claimants investing over longer periods. For example, focusing on the representative claimant:

- if the PI discount rate were set with respect to the expected net real return and give a 50% likelihood of claimant meeting their needs, then the following dual rate structures are broadly equivalent:
- CPI-0.75% pa for the first 15 years and CPI+1.5% pa thereafter
- CPI-0.25% pa for the first 20 years and CPI+1.5% pa thereafter.
- if the PI discount rate were set to give a 60% likelihood of claimants meeting their needs, then the following dual rate structures are broadly equivalent:
- CPI-1.25% pa for the first 15 years and CPI+1.5% pa thereafter
- CPI -0.75% pa for the first 20 years and CPI+1.5% pa thereafter.

9.43 As a result, and as a broad rule of thumb, increasing the switching point by 5 years would necessitate an increase in the short-term PI discount rate of around 0.5% pa.

Summary

9.44 The table below (Table 12) provides a summary of the impact of making different assumptions. The table can be used a broad guide to the sensitivity of the claimant investment return to the assumptions I have made. Broadly speaking, the sensitivities can also be used as a basis to inform a choice of a single PI discount rate based on alternative assumptions to those I have made. For example, if I were to assume that the representative claimant invests in the cautious portfolio then I would reduce the resulting PI discount rate from Chapter 2 by 0.5% pa.

9.45 The sensitivities can also be used as a basis to inform a choice of a dual PI discount rate based on alternative assumptions to those I have made. In this case it is possible to either:

- adjust both the short- and long-term PI discount rates by the same amount. For example, assuming that expected returns are 0.5% pa higher would increase both the short- and long-term PI discount rates by 0.5% pa
- maintain the long-term PI discount rate of CPI+1.5% pa and adjust the short-term PI discount rate by twice the level shown above. For example, assuming that expected returns are 0.5% pa higher would increase the short-term PI discount rate by 1% pa and the long-term PI discount rate is left at CPI+1.5% pa

9.46 Whether it is appropriate to adjust both short- and long-term PI discount rates or just the short-term PI discount rate depends on which sensitivity is considered and the basis for making the adjustment. For example, taking different views on returns over all periods would support making adjustments to both short- and long-term PI discount rates.

However, taking a different view on returns over the short-term would support only adjusting the short-term PI discount rate.

9.47 I would stress and advise that the assumptions should all be considered together in the round and that, for example, making assumptions that were systematically drawn from one extreme of the ranges illustrated would produce an overall effect that I believe to be unrealistic and inconsistent with the requirements of the Act. I would consider it more reasonable to consider all assumptions influencing portfolio returns together in the round and as such that portfolio returns that may vary by no more than 0.5% pa in either direction from my neutral estimate

Table 12: Summary of sensitivities

Factor	Impact on claimant investment returns
Assumed claimant profile: I have presented my analysis assuming that the claimant needs to meet damages over the next 43 years. In practice, claimants might need to meet damages over shorter or longer periods depending on their life expectancy and needs.	Around -1% to +0.25% pa
Assumed portfolio: no consensus was reached from the Call for Evidence on how claimants invest. Assuming that claimants invest in different portfolios will have an impact on the returns that they would expect to achieve.	+/- 0.5% pa
Damage inflation: no evidence was collected from the Call for Evidence on how claimants' needs inflate. Broadly we would expect this to fall somewhere between general consumer prices (ie CPI) and earnings. Alternative views might be to assume damages inflated in line entirely with CPI or earnings.	+/- 1% pa
Tax and expenses: I have assumed taxes and expenses of 0.75% pa in order for consistency with my modelling approach. I would recommend that were any significantly different views on expenses taken that the simulated returns are also reviewed to ensure consistency. However, some claimants might face higher or lower tax obligations and/or face higher or lower expenses as a result of investing a smaller or larger lump sum.	+/- 0.25% pa
Views on expected returns: future returns on investment are uncertain and alternative views are plausible. Further, views on returns are calibrated to conditions as at December 2018, whereas the PI discount rate that will be set will be in force for 5 years, by which time investment conditions are expected to be more favourable.	+/- 0.5% pa
Dual PI discount rates - long-term rate: it is possible that alternative long-term rates could be set, other than CPI+1.5% pa. Assuming that we focus on the impact on the representative claimant, reducing the long-term rate by 0.5% pa broadly requires increasing the short-term rate by 0.5% pa to maintain equivalence	
Dual PI discount rates – switching point: it is possible that alternative switching points could be set, other than 15 years. Assuming that we focus on the impact on the representative claimant, increasing the switching point by 5 years would require increasing the short-term rate by 0.5% pa to maintain equivalence	

Setting the Personal Injury Discount Rate

Government Actuary's advice to the Lord Chancellor

Section IV: Appendices

Appendix A: Limitations and professional compliance

A1. The analysis outlined in this report has been carried out in accordance with the applicable Technical Actuarial Standard: TAS 100 issued by the Financial Reporting Council (FRC). The FRC sets technical standards for actuarial work in the UK.

A2. This report has been prepared for the use of the Lord Chancellor and the Ministry of Justice and must not be reproduced, distributed or communicated in whole or in part to any other person without GAD's prior written permission.

A3. Other than the Lord Chancellor, the Ministry of Justice and HM Treasury who have received a copy of my report, no person or third party is entitled to place any reliance on the contents of this report, except to any extent explicitly stated herein, and GAD has no liability to any person or third party for any act or omission, taken either in whole or part on the basis of this report.

A4. This report must be considered in its entirety, as individual sections, if considered in isolation, may be misleading, and conclusions reached by review of some sections on their own may be incorrect.

Martin Clarke

Government Actuary, Fellow of the Institute of Actuaries

Appendix B: Analytical approach

This section provides a brief summary my analytical approach, further details of which were outlined in a Technical Memorandum.

Fundamental approach

B1. My fundamental modelling approach is to focus on quantifying "claimant outcomes" – in terms of whether or not the claimant has sufficient funds to meet their assessed needs and, where the funds do not exactly meet these needs, quantifying the extent of any excess or shortfall.

B2. My analysis is built up in two stages. First, I determine the profile of returns that claimants might be expected to earn, based on the available evidence, and then I analyse the uncertainty in claimant outcomes to inform the Lord Chancellor's decision. Broadly speaking, a claimant is more likely to be able to meet their assessed needs if a larger lump sum is awarded – which claimants would receive if a lower PI discount rate is set.

B3. Claimant outcomes will depend critically on a number of factors and decisions made by the claimant outlined and described in further detail in the main body of my report. My modelling makes a number of assumptions on each of these factors to produce simulations of a representative claimant's investment returns under Monte Carlo (or 'stochastic') simulations for future asset returns and inflation.

B4. Monte Carlo simulations are a way of calculating or forecasting possible results and assessing risk by running a large number of simulations which allows me to:

- show the range of potential outcomes;
- estimate a distribution of outcomes and different percentiles of this distribution; and
- estimate the probability of outcomes being worse or better than a given level.

B5. My analytical approach focuses on the risk of a representative claimant's net investment returns being worse than the PI discount rate that is set and hence resulting in the claimant not having sufficient fuds to meet their needs.

Outline of calculations

B6. The analysis projects a representative individual claimant's fund (award) over a defined time period over 2,000 economic scenarios. In particular:

- I have used two proprietary third-party Economic Scenario Generators (ESGs) [17] to generate 2,000 simulations of future investment returns and rates of inflation. More details on these assumptions are given in Appendix C
- the fund is projected into the future under 2,000 economic scenarios, such that its value at the end of each year in each economic scenario will be determined with regard to:
- The fund value at the beginning of the year in that scenario
- Increases to allow for the simulated returns18 (in that scenario/year) on the investments held
- Reductions for withdrawals made from the fund to meet damages (which are inflated in line with projected inflation in the economic scenario)
- the claimant's initial fund value is determined based on an assumed pattern and level of damages and an assumed PI discount rate

[17] An economic scenario generator (ESG) is a computer-based model of an economic environment that is used to produce simulations of the joint behaviour of financial market values and economic variables.

- I compare this initial fund (award) value given to the claimant against the amount required for them to run out of income exactly at the end of their award. If the amount awarded in practice is larger than the amount required, then the claimant will have surplus funds and is described as "over-compensated". On the other hand, if the amount is less than required than the claimant will have a shortfall and is described as "undercompensated". This comparison will be calculated for each scenario, meaning that a distribution of outcomes is derived.

B7. These simulations can then be analysed to consider the returns the claimant is expected to achieve and the risks that they are over or under-compensated.

B8. Further details and an illustration of the approach are outlined in a Technical Memorandum.

[18] In this context, returns includes both capital growth (ie changes in price) and income (eg dividends or coupons).

Appendix C: Economic scenarios assumptions

Some of the main assumptions that determine the simulated claimant returns and outcomes outlined in this report are the economic scenario assumptions. I have relied on economic scenarios generated from proprietary third-party Economic Scenario Generators. This appendix outlines further details on the assumptions underlying my analysis.

Background

C1. An ESG is a computer-based model of an economic environment. It can be used to generate possible future paths of economic and financial variables allowing for any interdependencies that exist between each variable. In this case I have used the ESG to generate the possible future rates of inflation and investment returns that may be achieved from different asset classes.

C2. To mitigate model error, I have generated 2,000 scenarios employed from two proprietary third party models (Economic Scenario Generators). The result of the simulations using both simulations is not inconsistent with the GAD house view of future investment returns. The simulations of future investment returns start from a recent and appropriate calibration date based on market conditions as at 31 December 2018.

C3. These simulations provide a distribution of the possible outcomes for each variable that is required for the analysis and which are outlined in further details below.

Inflation

C4. One key assumption required is the assumed rate at which a claimant's damage needs inflate in future. This will affect the level of the claimant's needs and hence the ability of the fund to meet these costs. As discussed in Chapter 8, my advice considers the impact of using different rates of inflation. To inform these I have considered possible different inflation indices of CPI and earnings inflation over the term of the investment period.

C5. The table below shows the median[19] level of CPI and earnings inflation which have been used as a basis to inflate damages in the analysis.

Table 13: Median inflation simulations

Rate of inflation over the period[20] % pa	5 years	10 years	15 years	20 years	30 years	40 years	50 years
CPI	2.0%	1.9%	2.0%	1.9%	1.9%	1.9%	1.9%
Earnings	3.8%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%

[19] The median value of a set of numbers is the middle value of the possible outcomes when considered in order of size.

[20] Note that the table records the rate of CPI over the period shown and not the rate of CPI inflation in the year shown.

Source: Economic Scenario Generator calibrated at 31 December 2018

C6. Over the long-run, I would expect CPI to be around 2% pa, in line with the Bank of England inflation target, hence simulated CPI is slightly below my long-term expectation. However, I believe that it is reasonable to use.

Asset returns

C7. Making regular withdrawals from a fund can have a significant impact on the effective returns achieved – for example, making a significant withdrawal from the fund following an early fall in asset values will hinder an investment manager's ability to recover the fund in subsequent periods.

C8. In technical terms – this is essentially the difference between Time-Weighted Rates of Return (which ignore withdrawals from the fund) and Money-Weighted Rates of Return (which are affected by withdrawals and additions to the fund).

C9. We are assuming that the assumed claimant included in this analysis has to finance regular withdrawals from the fund in order to meet their needs. As a result, the risk of withdrawals following a period of low returns is a significant risk.

C10. As such, references to projected returns in this report allow for the specified assumed withdrawals from the fund and the table below shows the median annualised effective real return achieved on key asset classes that will be modelled. These returns are real (in excess of CPI) and assume that regular withdrawals are made from a fund that is solely invested in a representative broad index for each asset class.

Table 14: Median asset class return simulations (in excess of CPI)

Median money weighted real return % pa in excess of CPI	5 years	10 years	15 years	20 years	30 years	40 years	50 years
Nominal gilts	-2.8%	-2.2%	-1.9%	-1.5%	-0.9%	-0.4%	-0.1%

Index-linked gilts	-3.3%	-3.2%	-2.7%	-2.2%	-1.3%	-0.8%	-0.4%
Investment grade credit	-0.1%	-0.4%	-0.2%	0.0%	0.4%	0.8%	1.1%
UK equities	2.2%	2.6%	2.8%	2.9%	3.0%	3.0%	3.1%
Overseas equities	2.6%	2.9%	3.0%	3.1%	3.2%	3.3%	3.4%
Cash	-1.2%	-0.9%	-0.6%	-0.4%	0.0%	0.2%	0.4%

C11. For example, if the entire fund were invested in UK equities and used to provide regular CPI-linked damages over a 30 year period then the median effective real return is CPI+3.0% pa. Or equivalently, a PI discount rate of CPI+3.0% pa with an assumed investment strategy of 100% UK equities would result in the median level of over/undercompensation of 0%[18] .

C12. Assets with higher returns also have higher risk. As a result, although a claimant would expect to benefit from investing in an asset with a higher expected return they are also increasing the probability of experiencing poor returns and hence incurring poor outcomes.

[18] Ignoring other risks and ignoring any allowance for expenses and tax.

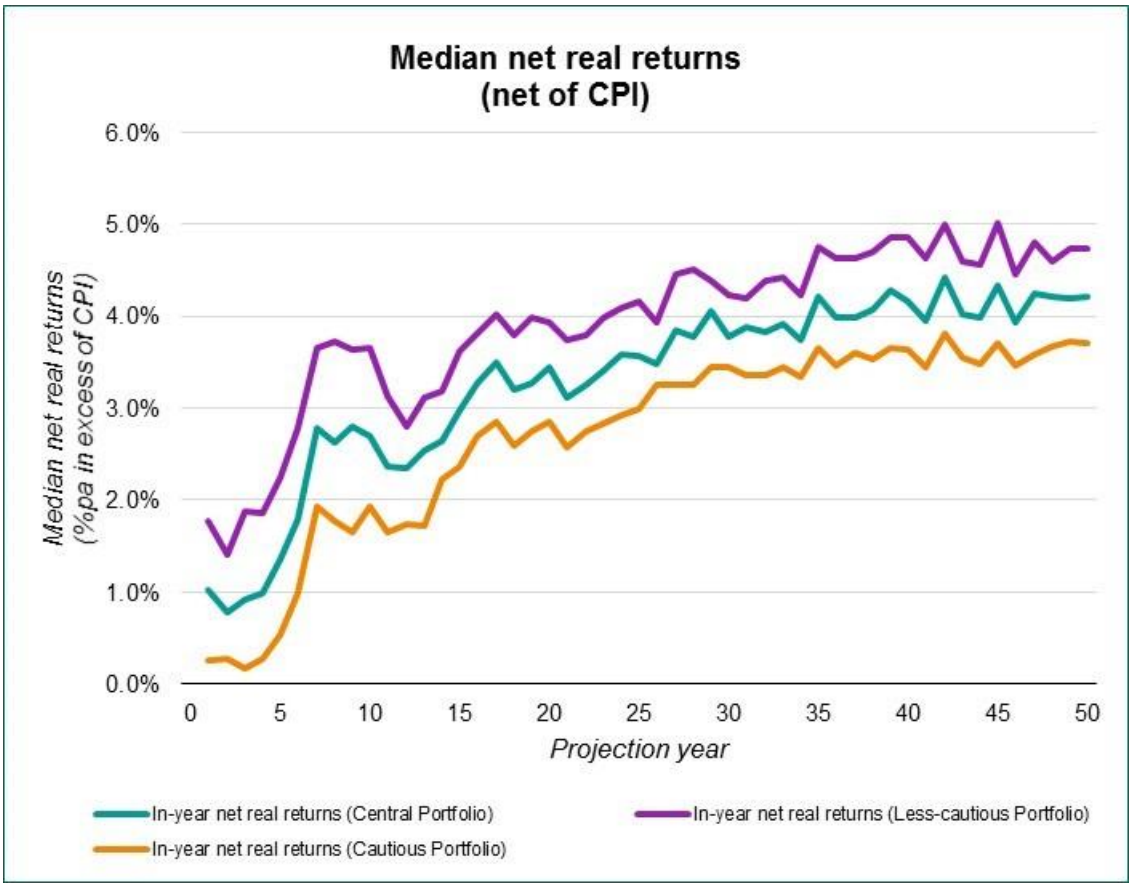
Appendix D: Portfolio simulated returns

This appendix outlines further details of the simulated portfolio returns

Median returns

D1. Based on the assumed asset allocations outlined in Chapter 6 above and the assumed asset returns outlined in Appendix C, the chart below shows the median real returns on the different portfolios.

Figure 12: Median simulated returns



D2. The table bellows shows the median annualised real returns (in relation to CPI) for each of the portfolios for the various terms of damages that are considered. The table hence shows the rates of return over the shown period, whereas the chart above shows the returns in a particular year.

Table 15: Simulated portfolio returns

Median real portfolio money weighted returns (pa above CPI)	10 year	20 years	30 years	40 years	50 years	

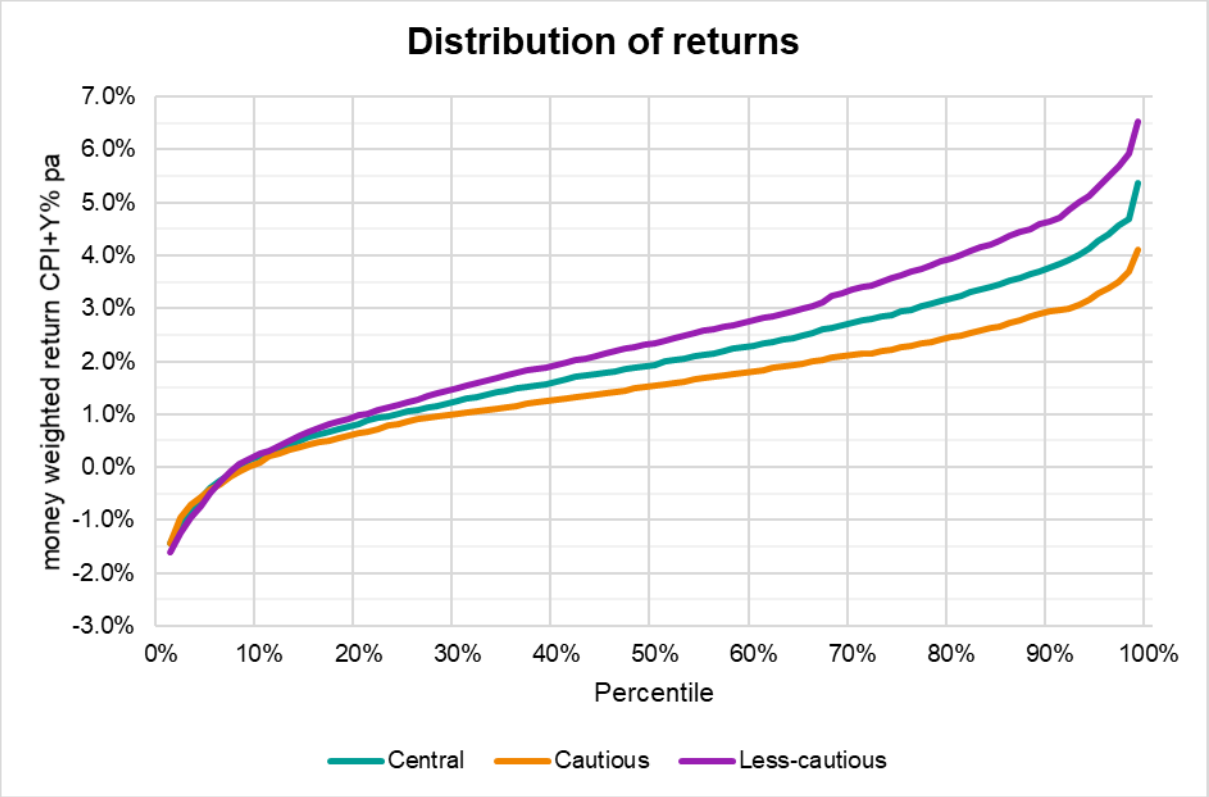
Claimant award	Investment portfolio						Over award period
Short award (10Y)	Cautious portfolio	0.7%					**0.7%**
	Central portfolio	1.2%					**1.2%**
	Less-cautious portfolio	1.6%					**1.6%**
Average award (43Y)	Cautious portfolio	0.2%	0.8%	1.2%	1.5%		**1.5%**
	Central portfolio	0.8%	1.3%	1.7%	1.9%		**1.9%**
	Less-cautious portfolio	1.4%	1.8%	2.1%	2.3%		**2.3%**
Long award (50Y)	Cautious portfolio	0.2%	0.8%	1.2%	1.5%	1.7%	**1.7%**
	Central portfolio	0.7%	1.4%	1.7%	1.9%	2.1%	**2.1%**
	Less-cautious portfolio	1.3%	1.9%	2.2%	2.4%	2.5%	**2.5%**

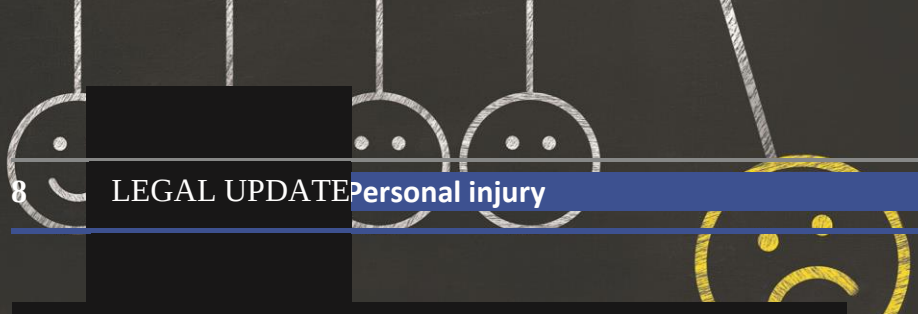
D3. Note that the returns over shorter periods are different for claimants with different award periods because I assume that they invest in different types of bonds. In particular, I assume that claimants with shorter awards invest in shorter bonds and claimants with longer awards invest in longer bonds. Shorter and longer bonds have a different profile of returns.

Distribution of returns

D4. There is a significant risk that the claimant does not achieve the median returns shown above. The chart below shows the distribution of returns on the different portfolios. The xaxis shows the level of returns at different percentiles of the distribution and different lines show different portfolios.

Figure 13: distribution of returns over 43 years


Distribution of returns
7.0%
6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%
-1.0%
-2.0%
-3.0%
money weighted return CPI+Y% pa
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percentile
Central
Cautious
Less-cautious



Full compensation & the discount rate (Pt 1)

With a further shift expected to the discount rate, **julian Chamberlayne** questions how much under compensation is considered full compensation?

IN BRIEF

← What percentage of injured people is it acceptable to leave undercompensated when claiming to have a justice system providing 100% compensation?

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After 16 years of manifest under-compensation using the 2.5% discount rate, which came into effect in March 2017, will soon be replaced.

Setting the discount rate has prompted commentary over several years process. What I will be focusing on in this article is what sums are under compensated, while still claiming to maintain a framework of laws that provide for discuss the ←←inflation over their period of loss will ought to be considered by the Lord Chancellor when setting the new discount rate.

The Ministry of Justice's (MoJ's) papers accompanying the draft legislation (echoing a point made in the preceding consultation) 'The discount rate proposals will not underlying principle of the law of which is that claimants should be compensated in full for the losses they have by the paper by the Government Actuary (GAD), which accompanies the support a 100% compensation award so that legislation (*Personal Injury Discount Rate Analysis*, 19 July 2017). The GAD loss caused by the wrongful injuries neither nor less.'

There has been noisy rhetoric from lobby that the *Wells v Wells* 0.75% discount Liz expected when the award was granted). That could only ever conceptually be true if emphasises that its analysis the law concerned itself with how claimants necessary reduction spend and invest damages after they receive investment them. Time and again the courts have refused adjustment such an approach, for good reason. It involves unwarranted intrusion into the lives of the claimants long after their litigation has finished. If you go down this route it becomes inherent that every seriously injured claimant will either be 'over-compensated' or 'under-

←←virtually all claimants will live longer or shorter than the life expectancy prediction;

←←numerous assumptions about their future needs, what they will cost and when expenditure will occur, will prove to be of either an over or under-estimate. ←←their investment may perform better projected, often simply of seriously injured claimants should we when those as a society be prepared to accept will be through the timing of investments are made and when withdrawn in the cycle of the financial markets; full compensation. In Pt 2 I will inflation over their period of loss will factors beyond investment risk that differ from that projected.

If the law is to change to force seriously injured claimants to take investment risk, the debate needs to look at the flip-side of alleged over-compensation: what proportion of said: claimants do we consider it fair to potentially affect the go 'under-compensated'. This fundamental damages, question does not get a mention in the MoJ's paper. suffered because of the injury caused Some insight into this can be found in defendant. The objective of applying the the Department draft Rate Analysis, acknowledges at 3.4 of its paper that as it more exclusively focuses on investment risk its analysis ignores the other significant risks the insurance faced by the claimant (eg mortality risk, methodology and the minus inflation risk and the risk that funds are rate set by the former Lord Chancellor, required in a different manner than was Truss, would result in 'over-compensation'. has not yet factored in the of about 0.5% for tax and management charges. Once this

is made to the GAD's graphs showing the distribution of over/under-compensation at figure 1 (page 3) the following observations can be made:

←←if the Lord Chancellor were to set the rate at 0% then about 26% of claimants would be under-compensated;

←←at a discount rate of 0.5%, the rate of those under-compensated would be about 41%.

Unfortunately, the GAD analysis, at the MoJ's request, only provides for predictions of a gross return of RPI plus 1%. So, we cannot see what the rate of under-compensation would be for a net RPI plus 1% after the 0.5% adjustment. However, I suspect that that it would be over 50%.

Similar modelling and evidence relating to low risk portfolios were carefully considered by the Supreme Court in Bermuda in *Thomson v Thomson et al* [2015] SC (Bda) 44 Civ, in which the defendants had advanced evidence from a Canadian actuary, Peter Gorham.

At paragraph 93 of the Supreme Court's judgment, it was observed that Mr Gorham: '… conceded under cross-examination by Mr Harshaw that on his investment model between 50 and 33% of plaintiffs would not have sufficient funds. He viewed his approach as fair to both claimants and defendants'. In Chief Justice Kawaley's opinion: '…[Mr. Gorham's] approach [was] a stunning dilution of the prevailing legal policy preference, in the future loss discount rate calculation context, for a hypothetical investment in an instrument likely to generate a risk-free rate of return.'

The Bermuda Court of Appeal agreed, and Bell JA endorsed the critique of this approach by the claimant's actuary, Christopher Daykin: '… if one were to test a model proposed in place of the *Wells* mechanism (as advocated by Mr Gorham), then there would have to be a demonstration that the payments were sufficient for the claimants in at least 90 to 95% of cases in order to come close to providing full compensation.'

It is crucial that the draft legislation is amended to require the Lord Chancellor to actively consider the proportion of claimants who would be under-compensated by the rate he sets and give reasons for all aspects of his decision-making.

It would make a mockery of our claim to have a civil justice system providing full compensation, if one of the key principles by which damages are assessed, the discount rate, were set on a premise that inherently resulted in any more than 5%-10% of those claimants going undercompensated. **NLJ**

Julian Chamberlayne, partner & head of International Injury at Stewarts (*www. stewartslaw.com*) & chairman of the Forum of Complex Injury Solicitors.