



HM TREASURY

Financial Reporting Advisory Board Paper

Discount rates update

Issue:	At the March meeting the Board agreed to the discount rate project plan. This paper provides an overview of the research undertaken by HM Treasury and presents a number of questions, conclusions and options for the Board to consider.
Impact on guidance:	No impact on the FReM. Any updated rates will continue to be published in the Public Expenditure System paper in early December.
IAS/IFRS adaptation?	No, this is a methodology paper on how to apply the existing discount rate requirements in the accounting standards.
Impact on WGA?	No impact at this stage, any changes to the methodology will be reflected in the following years' accounts.
IPSAS compliant?	To be determined – IPSASB do not currently have an active discount rate project.
Interpretation for the public sector context?	No
Impact on budgetary and Estimates regimes?	As per existing policy. Estimates would continue to show changes in balances derived from discount rate changes.
Alignment with National Accounts	No - National Accounts exclude provisions and unfunded defined benefit public sector pension obligations.
Recommendation:	HM Treasury welcome the Board's views on: <ol style="list-style-type: none">(1) The questions and conclusions presented in the paper.(2) The options identified and whether a combination of these may be a more accurate reflection of the IAS 37 requirement(3) The initial assessment of the options against the objectives agreed with the Board.(4) Views on next steps in advance of a formal consultation with departments and other relevant stakeholders over the summer.
Timing:	HM Treasury will use the steers from the Board to inform a consultation with preparers, users and other stakeholders on the discount rate methodology.

Introduction

1. At the March FRAB meeting the Treasury updated the Board on a project to review the discount rate methodology used to value liabilities on the balance sheet. The Board agreed to the overall objectives of the review and the approach set out by the Treasury. This review has gone back to first principles to identify the requirements of the accounting standards, our current interpretation of them and comparisons with other sectors. This paper provides an overview of the research and analysis undertaken and identifies options for the Board to consider. The key requirement is to objectively test our existing discount rate methodology to assess whether there are more suitable options.
2. The current methodology for provisions generates negative rates. This appears counter intuitive to the requirements of IAS 37 and feedback suggests this is confusing for readers and users of financial accounts. It may also indicate that the circumstances that drove the original methodology may have changed, therefore the review has sought to test these assumptions. Throughout the paper the Treasury has highlighted questions or conclusions for the Board to consider. The paper provides a range of options which will inform a consultation with departments, external stakeholders and account users over the summer.
3. The objectives of the review were agreed at the previous Board meeting as follows:

Objectives of the discount rates review
To review the extant discount rate methodology in consultation with the FRAB, aligned to IFRS as well as the public sector context.
To calculate a discount rate that is based on an appropriate assessment of a risk-free rate, reflecting the time value of money.
Understand the methodologies for setting discount rates used elsewhere in government and any links to the rates set by HMT Treasury to value liabilities e.g. options appraisal, compensation payments.
Objective consideration and assessment of all available options, ensuring proposal can be benchmarked against private sector approaches to ensure comparability and credibility.

Background

4. It is important to consider why we discount in the first place. There are a number of uses for discount rates in the public sector ranging from investment appraisals, valuing assets and liabilities on the balance sheet and calculating cash compensation payments to claimants through personal injury or negligence cases. Although they all have a slightly different purpose, there may be a read across in terms of the terminology or the interpretation of the requirement, e.g. what is really meant by a 'risk free rate'. All of these examples use discounting to arrive at some

form of current price or value for a liability or set of transactions. The focus of this review is on the provisions discount rate but will consider the read across to other areas to draw out relevant conclusions or questions.

Project Scope

5. The Treasury sets the discount rates for financial instruments, pensions and provisions.
6. The financial instruments discount rate is used to produce a measure of the cost to government of issuing loans to others. It is not intended to be a rate charged on loans issued by government, but rather to represent the government's long term cost of borrowing and is primarily used to capture the costs of loans issued by departments that are below the cost of borrowing rate, i.e. subsidised. The rate is representative of the costs of government's financing decisions (the maturities over which we choose to borrow) rather than the government's costs of capital over the specific maturity of the loans the government makes. It is represented as a single rate using a historic average over the last 10 years of the yield on a mean maturity of gilt stock. The rate is currently RPI +0.7%. It is linked to RPI as the most significant category of government loans to which this is applied is student loans, which are currently index linked to RPI.
7. The rate for post-employment benefit obligations is compliant with IAS 19 which requires that the rate used is determined by reference to market yields on high quality corporate bonds. In practice, the rate for unfunded schemes is derived from a 15 year spot rate on an AA corporate bond index with adjustments to reflect that public sector pensions are uprated by CPI rather than RPI. This methodology was developed with the agreement of the Government Actuaries Department (GAD).
8. The Treasury do not intend to review the pensions and financial instruments discount rate for the following reasons:
 - A significant level of analysis and research was undertaken to determine the new financial instrument discount rate.
 - The circumstances that led to RPI +0.7% remain applicable (interest rates and long term yields remain low).
 - The new financial instrument standard will be implemented in 2018-19 and this may affect the treatment of student loans. The financial instrument discounting methodology may need to be reviewed in light of any changes.
 - The pension rate discount methodology was developed in conjunction with the Government Actuaries Department. There is no evidence to suggest an alternative approach is necessary and the current methodology is consistent with the approach in the private sector.

Question 1: Do the Board agree with our approach to treat pensions and financial instruments as outside the scope of this review?

IAS 37 Requirements for Provisions

9. IAS 37 requires that the discount rate selected reflects a pre-tax rate, the current market assessments of the time value of money, and risks specific to the liability for which the cash flows have not been adjusted. In the public sector provisions are discounted using three rates to reflect short (less than five years), medium (five to ten years) and long-term (over ten years). It is assumed that all risks are incorporated within the cash flow forecasts and therefore the discount rate reflects a risk-free rate. Short and medium term rates are updated annually with the long-term rate only updated at each spending review cycle. The Treasury uses government gilt yields on the assumption that these represent risk free investments and this approach generates negative real rates across all durations.
10. The discount rate applied to the future cash flows incorporates an inflation assumption (RPI as we use index linked gilts), therefore departments do not account for this in their forecasts. Those that do include inflation calculate and use a nominal rate to avoid double counting the impact.
11. One factor of the provisions methodology is the extent to which the valuation reflects an accurate "exit price" for the liability. A negative rate results in a value far in excess of what could reasonably be paid to take on the liability. Indeed the measurement objective in IAS 37 specifically states that *"the amount recognised as a provision should be the best estimate of the expenditure required to settle the present obligation at the balance sheet date, that is, the amount than an entity would rationally pay to settle the obligation at the balance sheet date or transfer it to a third party"*.
12. A methodology that derives negative rates seems counter intuitive to the overarching measurement objective in IAS 37. This is an important consideration for the review due to the feedback from readers of the accounts, but is not the key accounting driver because:
 - The primary requirement for valuing provisions is to reflect the 'time value of money' not necessarily the potential exit price for the liability.
 - A purchaser would use their own assessment of what they would pay to take on a liability (including appropriate discounting) and would not be directly influenced by the valuation on the balance sheet. This rationale applies equally to the private sector.
 - There is no market for the majority of public sector provisions and therefore there is limited use for this perspective of value. However, it does provide a

sense check as to whether a chosen methodology follows the intent of the standard.

Conclusion 1: The key requirement is that the discount rate reflects *“a risk free market assessment of the time value of money”*. This is the primary accounting test for any proposed change to the current methodology.

Conclusion 2: While an important perspective the potential ‘exit price’ of a provision is not a relevant valuation methodology for public sector provisions.

Current Discount Methodology

13. The provision discount rates are based on market data published by the Bank of England as described below:
- Short-term (0-5 years): A real discount rate based on the yield on UK index-linked Gilts as determined by Bank of England data for the spot yield curve at 2.5 years to maturity.
 - Medium-term (5-10 years): Spot yield curve at 7.5 years to maturity.
 - Long-term (over 10 years): Spot yield curve at 25 years to maturity.
14. There are a range of assumptions inherent in the current choice of discount rate that will be examined during this paper.
- I. Do index linked government gilts reflect a true market assessment of the time value of money and therefore meet the IAS 37 criteria?
 - II. Are index linked gilts risk free instruments (from a market perspective)?
 - III. Are the short, medium and long-term rates taken at the right point on the yield curve to reflect the nature of the liabilities being valued?
 - IV. Is RPI the right inflation assumption?
 - V. How does the central government assumption contrast with local government, the private sector and international comparators?
15. There is a key assumption that all risks are reflected in the cash flow forecasts and therefore the discount rate should be a risk free rate. The Treasury will check whether this is consistently happening in practice through a consultation exercise with departments. Notwithstanding this issue, there is an initial question of whether the rate should be set for individual liabilities given the diverse nature of the public sector balance sheet. In essence, does the ‘time value of money’ judgement change or is it a reasonable and/or a necessary assumption that the risk free rate applies equally to all provisions?
16. In the Treasury’s view there are clear benefits in setting a central rate. Firstly it ensures consistency and efficiency in determining accounting measurements across government. Secondly, by setting the rate, Treasury is able to ensure that

judgements over accounting are objective and not subject to risks of judgement bias. Finally, it prevents additional costs for account preparers if they were required to devise their own methodologies to calculate discount rates.

Question 2: Do the Board agree with the Treasury view that setting different discount rates for each type of provision is not a suitable option?
Treasury recognises it would be extremely difficult to objectively achieve in practice and needs substantial further analysis, but we have retained the option in the summary for completeness.

Time value of money and risk free rate

17. The use of ILGs as a representation of a 'risk free' rate does have some resonance as government gilts are traditionally seen as safe investments and the risk of default is almost non-existent. However, gilt returns remain historically low and there is a risk of capital loss on a real terms basis due to inflationary pressures. This is particularly acute when considering very long term yields.
18. The current methodology uses a 25 year yield curve to discount cash flows that go far beyond a 25 year horizon, therefore market fluctuations can have a significant impact. This has been seen with the nuclear decommissioning provisions given the settlement period for the work programme goes up to 2137 and therefore using a 25 year spot rate significantly amplifies the uncertainty in the provision estimate at extreme durations.
19. Treasury recommends any future methodology should incorporate a reasonableness test to ascertain if the long term rate remains appropriate and continues to reflect the 'time value of money' at the extreme end of provision durations. The criteria and evidence for this assessment will need to be worked through, but it will be key to ensure this is an objective view (perhaps involving external scrutiny and validation). A suggested approach is to use the redemption yields of the longest dated index linked gilts based on Debt Management Office data.

Question 3: Do the Board agree with our proposal to assess the appropriateness of the long term rate on provisions with very long durations?

20. The question of whether ILGs represent a risk free investment is more complex. Economic, policy and regulatory developments since the global financial crisis has certainly introduced volatility in the demand for ILGs. In addition:
 - Real yields on ILGs are negative at every maturity point on the yield curve. This is due to a combination of macroeconomic, policy and regulatory factors which have fuelled demand for ILGs.

- Market risks have increased in the gilt market, most notably price volatility in ILGs has increased. As ILGs tend to have long maturities they are more price sensitive to small changes in yield. A hypothetical risk-averse investor looking to liquidate ILGs could now face higher price risk in the market.
- A range of new financial instruments have come onto the market which offer investors inflation based returns. These include index linked bonds issued by corporates. An investor seeking inflation protection has a significantly broader range of instruments to choose from than just ILGs.
- ILGs are linked to RPI, which is not necessarily an accurate reflection of the inflationary pressure on public sector liabilities. The RPI measure itself is no longer classed as a national statistic due to inherent issues with the methodology used to derive it.¹

21. All of these developments reduce the appropriateness of only using ILG's for a risk adverse assessment of the time value of money. ILGs only protect against market risk if they are held to maturity although they do offer a degree of inflationary protection.

Question 4: Do the Board have views on the appropriateness of ILGs representing a risk free discount rate?

22. There are other indexes available that could be used as a proxy for a risk free rate. For example, in May 2017, the Bank of England's Working Group on Sterling Risk-Free Reference Rates announced SONIA (sterling overnight index average) as a preferred near risk-free interest rate benchmark for use in sterling derivatives and relevant financial contracts. This or a similar index could be used as a proxy for a provision risk free rate. This meets our criteria of external credibility as it is a published and recognised index which reflects a market risk free rate.

Question 5: Do the Board have views on the appropriateness of using a published index as a proxy for a risk free rate?

Green Book Appraisal

23. The Green Book is central government best practice issued by HM Treasury on how to perform analysis in advance of government interventions. The requirement in the Green Book is to discount costs and benefits to society of different options that occur in different time periods to arrive at a net present value. This allows proposals with varied time spans and cost benefit profiles to be compared on a shared common 'present value' basis. This is based on the theory that individuals and society at large prefer to receive goods and services now rather than later. For

¹ <https://www.statisticsauthority.gov.uk/archive/assessment/assessment/assessment-reports/assessment-report-246---the-retail-prices-index.pdf>

society as a whole this preference is measured using a 'social time preference rate' and the components are as follows:

- Pure time preference: The rate at which individuals discount future consumption over present consumption plus an element to reflect the likelihood that a catastrophic event will radically alter returns from projects e.g. premature obsolescence or natural disaster (1.5%).
- An additional element to reflect the assumption that future consumption will be plentiful relative to the current position and thus has a lower marginal utility (2.0%).

24. The Green Book also recognises the uncertainty when discounting over very long periods of time and it is widely accepted amongst economists that a social discount rate should decline over time. This is primarily due to the increasing uncertainty about future values of the components of the discount rate. The table below sets out the declining long term rates recommended in the current guidance.

Years	0-30	31-75	76-125	126-200	201-300	300+
Rate	3.5%	3.0%	2.5%	2.0%	1.5%	1.0%

25. There is a question as to whether this can be correlated to the requirement of defining a 'market assessment of the time value of money' for provisions. Theoretically at least, money received now is more valuable than money received in the future, but there remains a degree of uncertainty over how to assess this over long periods of time. Indeed, small changes to the rate over such timeframes can yield substantial movements in the liability even if the underlying cash flows have remained reasonably stable.

26. Fundamentally, the methodology used in the Green Book rate is based on an economic assessment of the 'time value of money' to generate a net present value of a project or investment, using current theory of how society values consumption today over consumption in the future. This is not a reflection of the current financial value of a liability, therefore Treasury do not believe it would be appropriate to use this rate for discounting liabilities. However, the principle of a declining rate over very long time periods (due to increasing uncertainty in the rate assumptions) may be relevant for extreme duration provisions.

27. Further analysis would be required on the practicality of adopting this approach and there is no existing theory on how to incorporate this uncertainty into an accounting based discount rate.

Conclusion 3: The rate used in the Green Book is not a direct comparison for how we discount liabilities, but should we consider a declining discount rate when valuing provisions that occur over very long time periods?

Links to the policy environment

28. Before looking at comparatives it is worth pausing to consider how discount rates are used elsewhere in government and assess how this might impact on the review. In theory, in any instance where a current price assessment of a cash amount or liability is required, discounting using an appropriate rate is required. This includes compensation payments to individuals or organisations to redress some form of injury or loss.
29. One recent example is the Personal Injury Discount Rate (PIDR), which is set by the Lord Chancellor and used to calculate personal injury payments. The compensation settlement is discounted to reflect the return claimants can expect to earn by investing it in a low risk instrument. In theory, this reflects the fact they are financially dependent on this sum for a significant period of time. This makes them risk averse investors and the rate is linked to the returns on Index Linked Gilts (ILGs), leading to an updated rate of -0.75%. The need to link to ILGs was established during the *Wells v Wells* case in the House of Lords and effectively set a legal precedent to link to ILGs, which were seen as risk free in the early 2000's. Currently the real rates on ILGs are universally negative so there is a question as to whether they remain risk free investments. Hypothetical claimants who invest exclusively in ILGs would suffer a real term capital loss over time. In reality investors would diversify their portfolio to mitigate the capital and inflation risk.
30. The Ministry of Justice is undertaking a wider consultation on the methodology for calculating a personal injury discount rate in the future. The review will report later in the year, setting out any recommendations and revised proposals.
31. Accepting this is a different perspective than determining the financial value of a liability there are some parallels with the interpretation of a risk free rate and the time value of money concept for provisions. Although it remains key to ensure the review focus is on financial rather than economic value.

Conclusion 4: The solution to a "risk free rate" (or more accurately minimal risk) from an investor perspective is to use a broader spread of investments rather than a specific financial instrument.

Question 6: How does this interpretation of a risk free rate translate to the "time value of money" for provisions? Does the measurement objective in IAS 37 allow the investor view of risk free to determine the discount rate, for example by using a broader spread of government and corporate gilt yields?

Sector Comparisons

32. It is a review objective that the methodology for provisions can be compared against the approach in other sectors and internationally, to ensure consistency and credibility. This section of the paper sets out how IAS 37 has been interpreted and applied across other sectors and international comparatives. It will also consider any emerging conclusions from work undertaken by the IASB and IPSASB in the development of its accounting standards.

Local Government

33. Discount rates in local authorities are determined using the same fundamental principles as central government departments and follow the requirements of IFRS. The nature of activity in this sector does not lead to material and long term provisions being recognised on balance sheet. Treasury have not been able to find any examples of local authorities with significant provisions where the time value of money has been deemed material. Colleagues at CIPFA have confirmed that no authority has raised a technical issue on the discount rates used therefore the sector does not provide a suitable benchmark for our provision methodology.

Private Sector

34. As expected, there are a range of different approaches to discounting provisions in the private sector given the judgement required to assess the accounting standard requirement for the organisation. The table below sets out a range of approaches based on published accounts. Unless otherwise stated the rates are set out in nominal terms.

Company	Rate	Accounting policy
AngloAmerican	6.0%	Rate is adjusted for any risks not reflected in the underlying cash flows
Compass Group PLC	8.5%	Based on groups weighted average cost of capital adjusted for specific risks in the country of operation
Tesco	9-12%	Uses weighted average cost of capital, adjusted for specific risks
Kingfisher	-	Weighted average cost of capital, adjusted for risk
HSBC	-	Derived using a capital asset pricing model based on financial and economic inputs
Vodafone	-	State they "use a discount rate that reflects current market assessments of the time value of money and risks that have not been adjusted in the cash flows"

BP	Real 0.5% Nominal 2.0%	If the effect of the time value of money is material, provisions are determined by discounting the expected future cash flows at a pre-tax risk free rate that reflects current market assessments of the time value of money.
Sky Plc	-	Provisions are discounted if the effect of the time value of money is material using a pre-tax market rate adjusted for risks specific to the liability.
British American Tobacco	7.2 - 20.0%	Based on the Group's weighted average cost of capital, taking into account the cost of capital and borrowings, to which specific market-related premium adjustments are made.

35. There is no requirement in IAS 37 to fully disclose the discount rate methodology other than confirming the general approach in the accounting policy note. This makes it difficult to gather a full range of examples for comparison purposes. It is very rare for companies to have significant long term provisions to benchmark against the public sector equivalents. From the information that is available, a common interpretation of the time value of money is to use a weighted average cost of capital approach which is then adjusted to reflect risks specific to the company or country it operates in.

Question 7: Do the Board have further examples of private sector comparatives that can be used to benchmark the options as part of the consultation?

International Comparatives

Country	Rate	Accounting policy
New Zealand	3.0% (real) 5.5% (nominal)	Based on government bonds as a proxy for risk free rates. Uses macroeconomic extrapolation techniques to determine long term rates beyond last available data point – mainly driven by long-term inflation assumptions and expected long-term real interest rates.
Australia	6%	Discount rate was developed in conjunction with actuaries based on government gilt returns. Has remained constant for at least five years, but the

		Australian Treasury are planning to review the rate.
Canada	-	The discount rate applied is taken from the Government's Consolidated Revenue Fund monthly lending rates for periods of one year and over which is based on the Government's cost of borrowing. The discount rates used are based on the term rate associated with the estimated number of years to complete remediation. For remediation costs with estimated future cash flows spanning more than 25 years, the 25-year Consolidated Revenue Fund lending rate is used as the discount rate.
European Commission	-	The discount rate (or rates) should be a rate (or rates) that reflect(s) current market assessments of the time value of money and the risks specific to the liability. The discount rate(s) should not reflect risks for which future cash flow estimates have been adjusted. As an example, the zero coupon Euro bond yield curve can often be used as discount rate suitable for EU bodies

IASB perspective

36. The issue of discount rates has been discussed at length by the IASB and a research project² was undertaken in 2015-16 to determine whether there were financial reporting issues that should be addressed by the IASB. The main findings from the research were as follows:

- Present value measurements can be used in applying various measurement bases. IFRS uses a mixed-measurement model and therefore the use of different discount rates (and cash flows) across standards is justified. For example, a historic cost measurement would use a historic discount rate and a current value measurement would use current inputs for all factors.
- The report concluded some differences were difficult to explain:
 - i. Why is the time value of money ignored in some cash flow based measurements?

² <http://www.ifrs.org/Meetings/MeetingDocs/IASB/2015/December/AP17B-Discount-rates.pdf>

- ii. Why is there no explicit measurement basis in certain standards that use entity specific measurements (e.g. IAS 37)?
 - iii. Why is it not always clear which components those entity specific measurements include?
 - iv. Why are presentation and disclosure requirements different in each standard?
 - v. Why does IFRS prescribe a particular present value measurement for some entity specific measurements when other methods could achieve the same outcome and be potentially easier to apply?
- The overarching question was whether it was desirable to seek consistency for entity specific current value measurements in line with the approach to fair value in IFRS. Fair value has the same set of acceptable methods and disclosure requirements to be applied across a number of standards.
 - There was recognition that the perceived inconsistencies were not intentional, but a product of developing standards independently of each other and at different times. This was seen as comparable to inconsistencies in how fair value was used before the development of IFRS 13.

37. It is worth noting the paper did not consider the specific public sector context for discount rates but during the consultation process one auditor respondent stated *“Due to the current low interest environment, it may be that interest rates are or become negative. In practice, this leads to challenges on how to deal with risks in a low (or negative) interest environment, for example, for provisions. The practical problems should be dealt with sooner than the more conceptual concerns. Discount rates vary widely across different standards, which leads to conceptual problems. In order to be high quality standards, internal consistency and a consistent underlying principle are essential”*

38. Following a period of consultation and updates to the IASB during 2016 it was decided at the March 2017 Board meeting that the discount rate project would come to an end without a significant amount of further work.

39. Separately, EFRAG have commissioned a research project on “Discounting with Current Interest Rates³”. The project scope is summarised below:

Introduction

Various Standards require to measure assets or liabilities at the present value of the future cash inflows or outflows. Some of these Standards require to update the discount rate at each reporting date. Different concerns have been raised about the implications of the current level of negative and low interest rates in relation to discounting.

³ <https://www.efrag.org/Activities/1603021607589044/EFRAG-Research-Project-Discounting-with-Current-Interest-Rates#>

In the presence of negative rates, the present value of an asset or liability would exceed its ultimate recoverable or settlement amount. Some consider that this outcome is counterintuitive and may not provide relevant information. In the presence of rates that are close to zero, the impact of minor changes can result in very significant remeasurement. Some doubt that reporting these large remeasurements in profit or loss is helpful in depicting the entity's performance.

Moreover, there are inconsistencies across Standards about reporting the impact of updating the discount rates. IAS 19 Employee Benefits requires recognition of actuarial differences in Other Comprehensive Income, while IAS 37 Provisions, Contingent Liabilities and Contingent Assets requires reporting these changes in profit or loss.

What is the objective of the project?

The objective of the project is two fold. First, EFRAG will investigate whether discounting with a negative rate always results in relevant information. Secondly EFRAG will consider the presentation of changes in liabilities due to the reassessment of discount rates.

40. The scope of the project was tentatively agreed by EFRAG in January 2017. The project remains in its very early stages, but appears to identify similar issues in discounting liabilities in a low interest rate environment. It is likely the project conclusions will not be available in time to inform any decision for November 2017, but developments will feed into the Treasury consultation process and any further analysis undertaken.

IPSAS perspective

41. IPSASB do not currently have an active project on discount rates, but do recognise that the issue of how to discount has particular relevance for public sector organisations. The Board are starting to develop their strategy and workplan for 2019-2023, which will be issued for formal consultation during 2018. It is possible that discount rates will feature on this workplan.

Conclusion 5: There is likely to be further discounting work undertaken by both EFRAG and IPSASB, but any findings will not be available in time for the discount rate update. Treasury will continue to monitor progress on both projects as they develop.

Question 8: Do the Board have views on the conclusions from the IASB project or the EFRAG project scope that might be relevant for this review?

Options

42. It is clear from the research above that discounting is both a complex and sometimes contentious issue. There are a range of approaches used across

organisations, with a weighted average cost of capital common practice in the private sector. While the requirement to use a 'market assessment of the time value of money' is key for IAS 37, the translation of this into a discount rate is not articulated in the standard. Indeed the IASB have recognised this issue in their discount rate research, but concluded it is not necessarily a financial reporting issue. EFRAG and IPASB may take a different view.

43. The findings and conclusions above identify a range of possible alternatives to the current Treasury approach to use index linked gilts. All options identified so far are presented below followed by an indicative assessment of whether they meet the objectives set out at the start of the review. Not all options are exclusive as different elements could be incorporated together (such as the requirement to assess the applicability of the long term rate).

- **Option 1:** Maintain the status quo and continue to use existing ILG spot rates for short, medium and long term provisions. This would include the additional requirement to regularly assess the applicability of the long term rate for high duration provisions. This is aligned to the IFRS requirement, but as per the research above may not reflect a risk free rate.
- **Option 2:** As option 1 but adjust the long term rate to more accurately reflect the long duration of government provisions. This could incorporate a declining discount rate akin to the Green Book approach for high duration provisions. This would mitigate the high volatility associated with small changes in the rates.
- **Option 3:** Broaden the pool of gilts to include corporate bonds as well as government bonds. This is based on the assumption that this potentially mitigates market and interest risk so is a more accurate reflection of a 'risk-free' rate as required by IAS 37.
- **Option 4:** Use a publically available and recognised index (such as SONIA) as a proxy for a risk free rate.
- **Option 5:** In line with the private sector approach define and calculate a weighted average cost of government capital and use this as a real risk free rate across a range of durations.
- **Option 6:** Move away from a standard rate and calculate rates that are specific to the characteristics of each provision. In theory, this more accurately reflects the market assessment of the time value of money as it is more closely aligned to the type of provision. In practice, Treasury would need to provide a range of rates for departments to consider which most closely corresponds to a specific provision.

- **Option 7:** Use a standard set rate based on average historic rates rather than current gilt yields to mitigate the impact of short term fluctuations. The annual update process would include a review of the appropriateness of the rates in light of current market conditions. This in theory is a more stable rate and is less likely to be impacted by short term market changes.

Question 9: Do the Board have other options that the Treasury should consider as part of the next steps?

Assessment of options

44. The table below sets out our initial analysis of how the options compare against the objectives set out in the review. For clarity these are:

- Must be compliant with the requirement in IAS 37
- Assuming risks are incorporated in the cash flows, the methodology should reflect a risk free rate.
- Can be benchmarked against private sector approaches.

Option	IFRS Compliant?	Risk Free?	Private Sector comparative?
Status Quo	Yes	To an extent, although ILGs are widely considered not to be wholly risk free	In part
Use a declining long term rate	Yes – assuming time value of money is correlated to social time preference	As option 1, depends on the view of ILG's as a proxy for a risk free rate. Does mitigate the impact and volatility on longer term provisions	No examples of this approach in research undertaken so far
Use a broader pool of gilts	Yes – more reflective of a market rate of return given the wider spectrum of instruments included in the calculation	From an investor perspective risk is minimised due to a diverse portfolio and will retain ILGs as a core component	To an extent as most companies do use a weighted average cost of capital calculation
Use a recognised	Yes – reflects a	Has been	No examples of this

index such as SONIA	market assessment of the time value of money	specifically derived to represent a risk free rate (although is commonly used as a benchmark for interest rates)	type of approach in research undertaken so far
Weighted average cost of capital	Yes	To an extent, but depends on how to define WACC for the public sector (is it a historical average cost of borrowing or something different)	Yes – this is the most common approach
Define rates specific to each type of provision	Yes – assuming each liability was based on current market rates	Yes – although it would be subject to the same issues as options (1) to (5) in defining what is risk free	In part, particularly in the banking sector were provisions are subject to a range of different risks and rates.
Use an average based on historic rates	Possibly – assuming an annual review could test this assumption based on current market conditions	Yes – but subject to similar issues on defining a risk free rate	Some comparability in how companies calculate their WACC

Conclusion and recommendations

45. The FRAB are asked for their views on:

- The questions and conclusions set out in this paper
- The options identified and whether a combination of these may be a more accurate reflection of the valuation requirement in IAS 37
- The initial assessment of the options against the objectives agreed with the Board
- Views on next steps in advance of a formal consultation with departments over the summer

HM Treasury
15 June 2017