



Financial Reporting Council

# Thematic Review:

# Discount Rates

May 2022

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# 1. Executive summary

## Introduction

Discounted cash flows, and discount rates themselves, are commonly used when applying IFRS. Determining an appropriate discount rate is a complex area of financial reporting, which can also be a source of significant estimation uncertainty. The challenge is partly because the reporting requirements relating to discount rates differ across IFRS Accounting Standards, some do not include any explicit requirements, and many require judgement to be applied in determining the construction of the appropriate discount rate.

This complexity can present challenges in financial reporting and discount rates can be a source of errors. Although not featuring directly in the Corporate Reporting Review (CRR) team's Top Ten matters of challenge<sup>1</sup>, they underlie a number of common areas; impairment, for example, and have featured in some of CRR's most challenging cases and significant findings. We believe that many of these errors could have been avoided if companies had sought specialist third party advice at an appropriate point in their reporting cycle and we encourage companies to make a point of including this in their annual planning process, where no internal expertise exists. We also believe that there is general scope for improvement in the usefulness of the disclosures provided by many companies, particularly in the current interest rate environment of low nominal interest rates and relatively high inflation, which may impact reporting by many companies. This report aims to help preparers, auditors and investors better appreciate the reporting implications of sustained negative real interest rates.

Although IFRS Accounting Standards do not have a single set of established principles on discounting in financial reporting, some helpful research has been done in this area, specifically the IASB's [Discount rates in IFRS Standards](#)<sup>2</sup> (2019) and an older ASB paper [Discounting in financial reporting – Working paper](#)<sup>3</sup> (1999). We believe that much of this work continues to be relevant to financial reporting today, and we encourage you to consider the insights that they contain.

This report summarises the key findings from both our thematic review and our routine monitoring of corporate reporting.



Represents good quality application that we want other companies to consider when preparing their annual reports.



Represents opportunities for improvement by companies to move them towards good practice.



Represents an omission of required disclosure or other issue. We want companies to avoid such issues in their annual reports.



Represents a case study which illustrates improvements to reporting and disclosures as a result of engagement with companies as part of our routine reviews.

1. [https://www.frc.org.uk/getattachment/8430f391-6f44-4ec3-b1f8-c3d6b00c9a1e/FRC-CRR-Annual-Review\\_October-2021.pdf](https://www.frc.org.uk/getattachment/8430f391-6f44-4ec3-b1f8-c3d6b00c9a1e/FRC-CRR-Annual-Review_October-2021.pdf)

2. <https://www.ifrs.org/content/dam/ifrs/project/discount-rates/project-summary.pdf>

3. The ASB paper can be found in older hard copies of UK accounting standards e.g. 2009-10 and earlier

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# 1. Executive summary (continued)

## Summary of key observations

### Assumptions used for discount rates and cash flows should be internally consistent

- Risk of variability in cash flows may be reflected either in the cash flows or in the discount rate. However, risk should not be counted twice, and in many cases, it will be easier to risk adjust cash flows.
- If cash flows are not adjusted for inflation, then a real rate should be used as the starting point for constructing a discount rate.
- IAS 36 requires the use of a pre-tax discount rate and cash flows for value-in-use (VIU) calculations. However, in theory, using a post-tax discount rate and post-tax cash flows will give the same result. Where companies apply post-tax discount rates to post-tax cash flows, it is important to assess whether this will provide materially the same answer as using a pre-tax basis, as complications can arise in practice, and to ensure the disclosure requirements of IAS 36 are met.

### We encourage companies to consider whether specialist third party advice may be required

- Where a company is required to value a material item, and where no internal expertise exists, we expect companies to consider whether specialist third party input is required.

### Importance of high quality disclosures

- We believe it is particularly important to provide high quality disclosures in relation to discount rates when judgement has been exercised and / or discount rates are a source of significant estimation uncertainty.
- High quality disclosure will include both disclosure of the discount rate used, and an explanation of how it was determined.
- We were pleased to find some good examples where companies had clearly explained what factors had been considered in determining the discount rate, for example, explaining if risk and inflation were included in the cash flows or the discount rate.
- Management commentary, both in the financial statements and strategic report, should discuss discount rates used when necessary to understand the financial performance of the company. Narrative disclosures should also be clear and consistent with other disclosures in the financial statements.

## 2. Scope of the thematic review

### Scope

The thematic begins by considering how risk is incorporated into discount rates, through adjustments for risk, including liquidity risk and own credit risk.

We then consider the IFRS reporting requirements in relation to discount rates. A number of IFRS Accounting Standards either permit or require discounting. In particular this thematic considers the requirements in the following standards:

- IAS 36 'Impairment of Assets'
- IAS 37 'Provisions, Contingent Liabilities and Contingent Assets'

We have not considered in detail the determination of discount rates for the purposes of applying IFRS 13, but the general principles discussed in this thematic would be relevant in that context.

We also consider the importance of high quality disclosures in relation to discount rates, including in IAS 19 'Employee Benefits' and IFRS 13 'Fair Value Measurement'.

The Appendix provides an additional overview of some fundamental concepts of discounting in financial reporting such as: the time value of money, the term structure of interest rates, and real vs. nominal discount rates.

We did not select a sample of annual reports and accounts to review for this thematic. Instead we identified, through our routine work and by working with other FRC departments, examples of better disclosure and opportunities for improvement, some of which have been included in this report.

We have also included some case studies, based on issues we see in routine reviews, to illustrate some of the challenges which companies may face in this area.

### Areas not covered in this thematic

While discounting and present value measurement are common under many IFRS Accounting Standards, there are some areas in which we rarely see application issues. Some topics we have excluded from the scope of this thematic and reasons for this are explained below:

- Investment property valuations – we do not commonly see application issues in the valuation of investment properties. These valuations are usually performed by third party valuers and follow professional guidelines, for example the Royal Institution of Chartered Surveyors (RICS) has detailed guidance on discount rates.
- IFRS 9 'Financial Instruments' - discounting of items held at amortised cost at the effective interest rate, where the discount rate is determined at initial recognition and we do not commonly see application issues.
- IFRS 16 'Leases' – determination of the interest rate implicit in the lease or the incremental borrowing rate<sup>1</sup>. We have also not considered the impact of any one-time changes to impairment discount rates as a result of changes to debt to equity ratios following adoption of IFRS 16.
- IFRS 17 'Insurance Contracts' – while IFRS 17 contains detailed guidance on discounting, we have excluded it from the scope of this thematic as this standard is not currently applicable and is predominantly relevant to the insurance sector.
- IAS 19 'Employee Benefits' – measurement of defined benefit liabilities. There are clear requirements to discount post employment benefit obligations at the market yield on high quality corporate bonds. We believe the requirements are well understood by pensions actuaries and we do not commonly see application issues in this area.



As the requirements for discounting liabilities are specific to IAS 19, discounting in IAS 19 should not be applied to other areas of financial reporting by analogy.

1. For further information see the Leasing thematic: <https://www.frc.org.uk/getattachment/ea878d9a-dd03-45a3-9c00-7bda96775f5d/IFRS-16.pdf>

### 3. Incorporating risk into discounting

#### Risk adjustments

The value of future cash flows is affected not only by the time value of money (see the Appendix for further background information on the time value of money) but also by the variability (i.e. risk) associated with the cash flows. As with the time value of money, all rational economic transactions will reflect the effect of risk. Again, it follows that differences in value arising from the variability of the cash flows are recorded in financial statements as a matter of course if items are recorded at an arm's length purchase cost and if they are subsequently revalued at market value. It therefore seems appropriate, in general, that items measured by reference to future cash flows should also reflect the effect of the variability of the cash flows.

The effect of the variability of the cash flows can be reflected in two ways. Either:

- The expected value of the cash flows can be adjusted for risk and the adjusted figure (the certainty equivalent) discounted at a risk-free rate, or
- The expected value of the cash flows can be discounted at a risk-adjusted rate.

While both approaches to incorporating risk will, mathematically, give the same result, in most cases it may be easier to adjust the cash flows. Irrespective of the approach taken, care should be taken in the preparation of the calculations to ensure that risk is not double counted. For example, when calculating VIU, paragraph 56 of IAS 36 explains that the discount rate(s) used to measure an asset's value-in-use shall not reflect risks for which the future cash flow estimates have been adjusted.

#### Risk adjustment for assets

##### Example

Suppose an asset is expected to give rise to one of the following possible cash inflows in three years' time and that the risk-free rate of return is 5%.

Likelihood of cash flow	Cash flow	Expected value
25 per cent	£100	£25
50 per cent	£150	£75
25 per cent	£200	£50
Total		£150

##### Discussion

The expected value<sup>1</sup> of the cash inflow in three year's time is £150. However, there is the possibility that the cash flow will not be £150, but £100 or £200. Market participants are risk-averse and would accept a certain promise of, say, £140 in three year's time. We can express the effect of the uncertainty (risk) in calculating the present value by:

- a) Discounting the certainty equivalent of £140 at the risk-free rate of 5 per cent, giving a present value of £121, or
- b) Discounting the expected cash flow of £150 at a risk-adjusted rate that will give the present value of £121, i.e. a rate of 7.4 per cent.

1. The expected value of £150 in this example is the probability weighted calculation of the estimated future cash flows. It is not risk-adjusted.

### 3. Incorporating risk into discounting (continued)

#### Liquidity premium

The liquidity premium is a relatively new concept in financial reporting, but could be seen as a component of the overall risk premium. While the older accounting standards, such as IAS 37, do not mention liquidity premiums, IFRS 13 explicitly mentions liquidity risk in relation to adjusting discount rates for risk. In particular, paragraph B19 of IFRS 13 lists liquidity as a factor to consider when analysing market data for comparable assets or liabilities.

Generally, liquidity for the holder of an asset, such as a corporate bond, can be defined as the ability to quickly sell the asset at a predictable price ... [at] a basic level, the application of an illiquidity premium for asset valuation results in a less liquid asset having a higher rate of return (lower value) than an otherwise identical asset with higher liquidity, as the owner of that asset requires a greater return to compensate for not being able to trade or exchange it for cash during the period of illiquidity.

#### IAA Monograph Discount Rates in Financial Reporting – A Practical Guide

Market practice is to incorporate liquidity into the valuation of financial instruments, to the extent that this is something which would be considered by a market participant (which we note is also acknowledged in IE53 of IFRS 13).

However, other IFRS standards do not explicitly deal with liquidity premium in present value measurement. It is therefore not apparent whether liquidity premium should be considered, for example, when determining an appropriate discount rate for a provision under IAS 37. This issue is further considered in section 5 below.

#### Credit risk and own credit risk

IFRS 7 'Financial Instruments: Disclosures' defines credit risk as the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. Counterparty credit risk will influence the fair value of financial assets, and is therefore relevant to the measurement of financial assets at fair value. It is also relevant to the initial recognition of financial assets held at amortised cost (see the case study in section 7 below).

Conversely an entity's own credit risk, that is the risk the entity itself may fail to discharge an obligation under a financial instrument, is relevant to the fair value of a financial liability.

IFRS 13 defines non-performance risk as the risk that an entity will not fulfil an obligation. Non-performance risk includes, but may not be limited to, the entity's own credit risk.

Paragraph 42 of IFRS 13 states that the fair value of a liability reflects the effect of non-performance risk. However, other accounting standards are not explicit on whether non-performance risk should be reflected in the measurement of liabilities<sup>1</sup>. This issue is further considered in section 5 below.

1. The requirement in IAS 19 to discount post employment benefit obligations at the market yield on high quality corporate bonds results in the inclusion of some non-performance risk. However, as noted in section 2 the requirements of IAS 19 should not be applied by analogy to other standards.

## 4. IAS 36 – Pre-tax and post-tax discount rates for value-in-use (VIU)

### Discount rates for value-in-use

Paragraph 55 of IAS 36 requires the discount rate for a VIU measurement to be a pre-tax rate that reflects the current market assessments of both the time value of money and the risks specific to the asset which have not been reflected in the cash flows.

However, in theory, both approaches give the same result, which is a post-tax figure. Either applying a higher pre-tax rate to the higher pre-tax cash flows or applying a lower post-tax discount rate to the lower post-tax cash flows will give the same result. This is illustrated in the table below:

	Pre-tax cash flows	Post-tax cash flows
Pre-tax rate	Post-tax measurement	Double counting of tax effect
Post-tax rate	Pre-tax measurement	Post-tax measurement

The IASB's research on discount rates found that many companies use weighted average cost of capital (WACC) as a starting point for determining the discount rate for VIU, which is usually a post-tax rate. Therefore to comply with the standard the post-tax rate must be converted to a pre-tax rate.

Simply dividing the post-tax rate by (1 minus the tax rate) may work in simple scenarios, however, the Basis for Conclusions<sup>1</sup> on IAS 36 explains that a simple grossing-up of a post-tax rate by the standard rate of tax in order to arrive at a pre-tax rate is not always correct. This is because complications may arise if not all cash flows are taxed at the same rate or if cash flows do not occur evenly over time.

A number of formulae exist for more complicated scenarios which take into account other factors such as a constant growth rate or a finite number of time periods, however, these may still result in errors due to oversimplification.

This has led to diversity in practice, with some companies converting post-tax discount rates to pre-tax discount rates, and some using post-tax discount rates and post-tax cash flows.

The [IASB Discussion Paper: Business Combinations—Disclosures, Goodwill and Impairment<sup>2</sup>](#), states the IASB's preliminary view that it should develop a proposal to remove the requirement in IAS 36 to use a pre-tax discount rate. It states that stakeholders found the pre-tax rate hard to understand, and that it does not provide useful information because it is generally not used in valuation practices.

### FRC findings

- We see from our routine reviews that the requirement to use only pre-tax rates in value-in-use can cause complexities. Part of this may be that the conversion of post-tax to pre-tax discount rates is often not well understood.
- Even where the concept is understood, the iterative methods used by some companies can be operationally onerous to calculate.



Where companies apply post-tax discount rates to post-tax cash flows we expect them to consider whether this will provide an answer that is materially similar to one that uses a pre-tax basis.

We are less likely to challenge companies where clear explanations have been given for how discount rates have been determined.



Better disclosures from companies using post-tax rates explained why post-tax discount rates were used and provided the equivalent pre-tax discount rates to meet the disclosure requirements of the standard.

1. Paragraph BCZ85 of IAS 36

2. <https://www.ifrs.org/content/dam/ifrs/project/goodwill-and-impairment/goodwill-and-impairment-dp-march-2020.pdf>

## 5. IAS 37 – Risk, liquidity premium and own-credit

### Variability in cash flows

As with the example for risk adjustments of assets, in section 3, the effect of the variability of the cash flows for liabilities can be reflected in two ways. Either:

- The expected value of the cash flows can be adjusted for risk and the adjusted figure (the certainty equivalent) discounted at a risk-free rate, or
- The expected value of the cash flows can be discounted at a risk-adjusted rate.

While both approaches to incorporating risk will, mathematically, give the same result, in most cases it may be easier to adjust the cash flows. As with assets, risk should not be double counted. For example, when calculating provisions, paragraph 47 of IAS 37 explains that the discount rate(s) used shall not reflect risks for which the future cash flow estimates have been adjusted.

Unlike assets, liabilities with uncertain cash flows will generally be more onerous than liabilities with certain cash flows – entities that are risk-averse will tend to prefer a fixed cash outflow to a cash outflow that is of equal expected amount but may vary. This is shown in the worked example on this page.



Care should be taken when incorporating risk into the discounting of a liability, as we have seen errors in this area. We would expect uncertainty in the ultimate cash flows to make a provision more onerous. Where risk is adjusted through the discount rate, this would reduce the discount rate used and could result in a negative discount rate in a low interest rate environment, or potentially an even more negative rate if the cash flows are not inflation adjusted and a real risk free rate is used.

### Illustration of the impact of discounting at negative discount rates

The present value of a cash flow of £100 due in 10 years time, discounted at a rate of 2% is £82, calculated as  $£100 \times 1 / (1 + 0.02)^{10}$

The present value of the same cash flow of £100 due in 10 years time, discounted at a rate of -2% is £122, calculated as  $£100 \times 1 / (1 - 0.02)^{10}$ . The present value is higher than the amount of cash which will be paid in the future.

### Risk adjustment for liabilities

Liabilities with uncertain cash flows will generally be more onerous than liabilities with certain cash flows – companies that are risk-averse will tend to prefer a fixed cash outflow to a cash outflow that is of equal expected amount but may vary.

#### Example

Suppose a provision is expected to give rise to one of the following cash outflows in three years' time and that the risk-free rate of return is 5%.

Likelihood of cash flow	Cash flow	Expected value
25 per cent	£100	£25
50 per cent	£150	£75
25 per cent	£200	£50
Total		£150

#### Discussion

The expected value of the cash outflow in three year's time is £150. However, there is the possibility that the cash flow will not be £150, but £100 or £200. Market participants are risk-averse and would settle the liability for the certain payment of, say, £160 in three year's time. We can express the effect of risk in calculating the present value by:

- a) Discounting the certainty equivalent of £160 at the risk-free rate of 5 per cent, giving a present value of £138, or
- b) Discounting the expected cash flow of £150 at a risk-adjusted rate that will give the present value of £138, i.e. a rate of 2.8 per cent.

## 5. IAS 37 – Risk, liquidity premium and own-credit (continued)

### Own credit risk

The IASB's research on discount rates acknowledged that IAS 37 specifies a measurement basis but does not describe it clearly.<sup>1</sup> The IFRS Interpretations Committee also noted that it understood predominant practice was to exclude own credit risk, as a risk of the entity rather than a risk specific to the liability.<sup>2</sup>

### Liquidity premium

The IASB's research on discount rates found that the concept of liquidity risk premiums was not well understood by accountants when IAS 37 was written. However, liquidity in discount rates is mentioned in IFRS 13, and was a notable feature of financial instrument markets during the 2008 financial crisis.

Including liquidity premium in the discount rate could have a major impact on provisions which are generally illiquid and often long dated.

We recognise that the lack of a clear measurement objective in IAS 37 could lead to diversity in practice.

We do not commonly see own-credit risk or liquidity premium being included in the measurement of provisions. However, we are likely to challenge companies which do make such adjustments to discount rates, where it is not clear why the adjustment is justified for the specific liability.



We expect companies to explain what factors are considered in constructing the discount rate for provisions, including adjustments for variability in cash flows and any others factors, where this information is material.



Better disclosure examples explained how risk relating to variability in cash flows was taken into account, either in the cash flows or the discount rate.



### Case study – discount rate for asset retirement obligations (AROs)

#### Background

A company in the extractive industries had significant AROs for the retirement of the company's long lived tangible assets. AROs were discounted at rates between 6-12% depending on the country in which the liability arose.

#### FRC's approach

AROs are common in the industry in which the company operated, however, competitors typically discounted AROs at the risk-free rate, which at the time was around 2%. We asked the company for further information on how the discount rate was determined, and how risk was taken into account when estimating cash flows and discount rates. We noted that IAS 37 requires a discount rate which reflects the risks specific to the liability, and that as it is a liability being measured, we would expect risks related to variability in cash flows to be reflected as a reduction in the discount rate. We also questioned the disclosures provided and whether determining an appropriate discount rate represented an area of key estimation uncertainty.

#### The company's response

The company explained that in order to calculate a discount rate, the risk-free rate is used as a starting point. It is then adjusted upwards to take into account additional risks. These include an adjustment for country specific risks, timing risks and cost and other risks. This then results in the ARO discount rates between 6-12% disclosed in the annual report. The company explained that the reason for incorporating country risk was to reflect the risks associated with holding the AROs.

Following our interactions, the company agreed to remove the adjustment for country specific risks and discount the AROs at a risk-free rate, moving to a method where risks relating to variability in the cash flows are incorporated into the underlying cash flows. Previously cash flows were not adjusted for risk.

The company also agreed to enhance its disclosures, including to provide an explanation of how the discount rate for AROs is determined.

1. <https://www.ifrs.org/content/dam/ifrs/project/discount-rates/project-summary.pdf>

2. IFRIC Agenda Decision, March 2011, at <https://www.ifrs.org/content/dam/ifrs/supporting-implementation/agenda-decisions/ias-37-inclusion-of-own-credit-risk-in-discount-rate-march-2011.pdf>

## 6. Inflation – Real and nominal discount rates

### Inflation

As the current economic outlook is for increased inflation, the financial reporting considerations of how to treat inflation may become much more relevant than they have been in the recent past.

As with the discussion on tax, present value measurement can use inputs, that is cash flows and discount rates, that are either before or after inflation. Providing the inputs are consistent, the resulting measurement is the same.

Nominal cash flows, which include the effect of inflation, should be discounted at a nominal rate. Real cash flows, which exclude the effect of inflation, should be discounted at a real rate.

Paragraph B14(d) of IFRS 13 is explicit that assumptions about cash flows and discount rates should be internally consistent (that is both in nominal, or both in real terms), however, this basic requirement for assumptions used in discounting to be internally consistent is also a generally accepted principle in financial theory and applies across all areas of financial reporting.

The decision on how to include inflation in financial reporting is usually based on whether the nominal cash flows and nominal discount rate can be measured more reliably than the real cash flows and real discount rate.

IFRS measurements in practice are mostly based on nominal discount rates and nominal cash flows, however, real rates are sometimes used when applying IAS 37 or IAS 19<sup>1</sup>.

**This disclosure explains that a real discount rate is used. This results in a negative rate for 2020.**

**An explanation is provided for the risks which are reflected in the cash flows.**

Real interest rates are currently negative in some currencies, including in the UK (see section 10). While nominal rates may begin to recover from historical lows, inflation currently appears to be increasing in 2022. While we have not routinely seen inflation as a key source of estimation uncertainty, we expect inflation to have a bigger impact on companies' financial reporting in the near future.



Better disclosure examples explained how inflation was taken into account, either in the cash flows or the discount rate.



Where companies have long term liabilities which may be subject to material future price increases, we expect consideration of whether the calculation of inflation is a key source of estimation uncertainty in the financial statements.



Where inflation assumptions could have a material impact on the financial statements, we expect further details about how the inflation assumptions have been calculated. This may be more likely to be relevant where nominal discount rates are used, and so inflation expectations will need to be incorporated into the cash flows.

*The provision represents the discounted values of the estimated cost to decommission and rehabilitate the mines at the expected date of closure of each of the mines. The present value of the provision has been calculated using a real pre-tax annual discount rate, based on a US Treasury bond of an appropriate tenure adjusted for the impact of inflation as at 31 December 2020 and 2019 respectively, and the cash flows have been adjusted to reflect the risk attached to these cash flows. Uncertainties on the timing for use of this provision include changes in the future that could impact the time of closing the mines, as new resources and reserves are discovered. The discount rate used was -1.58% (2019: 0.00%).*

*Hochschild Mining PLC,  
Annual Report & Accounts 2020, p163*

1. Paragraph 79 of IAS 19 requires the discount rate to be based on nominal terms, unless real terms are more reliable.

## 7. Fair value

### Fair value

We do not commonly find issues with recurring fair value measurements for areas where specialist valuation input is typically taken. For example, for those investment properties measured at fair value, the RICS Red Book, has detailed guidance on discount rates. In some areas, such as financial instrument valuation in financial services companies, detailed industry valuation guidance exists, as well as companies' own valuation control frameworks.

However, we do find errors in ad-hoc fair value measurements in items such as deferred consideration, royalty and earn-out agreements.



Where a company is required to value a material item, and where no internal expertise exists, we expect companies to consider whether specialist third party input is required.

Where third-party advisors are used, it is still important for management to understand the output of valuations.



We may challenge companies where it is not clear how a valuation has been performed, or where, a discount rate does not appear to reflect the factors a market participant would include. For example where loans are made to related parties, but the fair value at initial recognition does not appear to reflect the risks a market participant would consider.



### Case study – fair value of loan at initial recognition

#### Background

The company received deferred consideration from the sale of a business in the form of long-term loan notes. The loan notes were initially recognised at fair value applying a discount rate of 3%.

#### FRC's approach

We asked the company to explain the basis on which the discount rate was calculated, and whether it reflected a market participant's view of the counterparty credit risk associated with the loan.

#### The company's response

The company acknowledged that the discount rate applied did not appropriately reflect the factors that a market participant would consider when assessing the risks attached to the notes' cash flows. As such the discount rate used to value the loan notes on initial recognition was increased to 12%, which was determined to be the appropriate market rate. The initial carrying value of the loan notes was restated.

The company also enhanced its disclosure of the assumptions used by management.



Better disclosures not only provided the key inputs, such as the discount rate used to determine fair value, but also explained the key assumptions used by management to derive the inputs.

## 8. Disclosures

### Disclosure requirements in IFRS for discount rates

There are a number of differences in the specific disclosure requirements for present value measurements between IFRS 13, IAS 19, IAS 36 and IAS 37<sup>1</sup>. These include:

- Disclosure of the discount rate itself is not required by all standards (for example IAS 37)
- The method used to determine discount rates is not always required to be disclosed, which can make it hard to interpret what a discount rate means, and what inputs have been considered

Due to the differences in disclosure requirements relating to discount rates between standards, we expect companies to apply judgement to determine what information is to be disclosed. In addition, many of the more general disclosure requirements of IFRS may apply:

- Paragraphs 125–133 of IAS 1 provide disclosure requirements on sources of estimation uncertainty, which in some cases overlap with the disclosure requirements in other standards
- Paragraph 39 of IAS 8 requires disclosure about changes in accounting estimates
- Paragraph 117<sup>2</sup> of IAS 1 requires disclosure of significant accounting policies



Better disclosures explained any changes in methodology in the year, as well as provided narrative explanation in the strategic report of how changes in methodologies had impacted the amounts recognised in the financial statements.



### Case study – disclosure of change in accounting estimate

#### Background

The company recognised an impairment in the year of goodwill and intangible assets. The strategic report stated that a key driver of this impairment was worsening macroeconomic factors which impacted the discount rate. However, the financial statements showed a notable reduction, from the prior year, in the pre-tax discount rate used to calculate the value-in-use. The financial statements did not explain how the pre-tax discount rate was determined, or why it had decreased from the prior year.

#### FRC's approach

We asked the company to provide further information about how the pre-tax discount rate had been calculated and how it had changed from the prior year. We also asked the company to explain the apparently contradictory narrative provided in the strategic report.

#### The company's response

The company provided further details about how the pre-tax discount rate was derived from a post-tax discount rate determined by the Capital Asset Pricing Model (CAPM). During the year the method used to derive the 'beta' input was changed from using the company's beta to using an average beta of a number of companies with similar assets. This method was considered by the company to be an improvement on the previous method.

The company acknowledged that the change in methodology used to derive the pre-tax discount rate should have been disclosed as a change in accounting estimate under IAS 8, and agreed to provide these disclosures in the next annual report. The company also agreed to improve the clarity of the narrative disclosures provided in the strategic report.

1. Appendix A in the Discount rates in IFRS Standards Project Summary: <https://www.ifrs.org/content/dam/ifrs/project/discount-rates/project-summary.pdf>

2. The IASB issued amendments to paragraph 117 of IAS 1 in February 2021, which are effective for annual reporting periods beginning on or after 1 January 2023 with earlier application permitted. The amended paragraph 117 requires disclosure of material accounting policy information, and paragraphs 117A-117E have been added to IAS 1.

## 8. Disclosures (continued)

### Examples of better disclosure

Most companies disclose the discount rates used in financial reporting; however, many companies provide little or no detail as to how discount rates are estimated.



We expect companies to disclose the discount rates used and how they are calculated where the effect of discounting is material, even where there may not be a specific disclosure requirement in the standards.

It is not always clear whether factors such as risk adjustments and inflation have been incorporated into cash flows or into the discount rate.



Better disclosure not only quantified the discount rates used but also explained how they had been determined, including explaining what inputs were used.

*Approach to set the assumption  
IAS 19 requires that the discount rate is determined by reference to market yields at the reporting date on high quality corporate bonds. The currency and term of these should be consistent with the currency and estimated term of the pension obligations...*

*...The discount rate model has been updated over the year to use a wider universe of corporate bonds to derive the yield curve. The revised model is a standard approach developed by our external actuary. The revised model leads to a 20bps increase in the discount rate at 31 March 2021 and a corresponding £1.7bn reduction in the BTPS liabilities.*

*BT Group plc  
Annual Report 2021, p160*

**This disclosure explains how the discount rate has been determined with reference to the requirements of a particular standard.**

**The company explains a change in the model in the year, and quantifies the impact on the discount rate and liability.**

Where a post-tax discount rate is used to calculate value-in-use, we would expect companies to explain why the method applied and disclosure provided comply with the standards.



Better disclosure explained how discount rates used in VIU calculations differ between CGUs, including how separate risk adjustments are calculated.

Where changes in discount rates have a material impact on the financial statements, for example, through the recognition of an impairment of non-financial assets, consideration should be given to the narrative commentary provided.



We expect narrative disclosures provided in the strategic report to be clear and consistent with information provided in the financial statements.

*What discount rate have we used?*

*The pre-tax discount rates applied to the cash flow forecasts are derived from our post-tax weighted average cost of capital. The assumptions used in the calculation of the group's weighted average cost of capital are benchmarked to externally available data. The pre-tax discount rate used in performing the value in use calculation in 2020/21 was 8.1% (2019/20: 8.0%). We have used the same discount rate for all CGUs except Global where we have used 8.5% (2019/20: 8.6%) reflecting higher risk in some of the countries in which Global operates.*

*BT Group plc  
Annual Report 2021, p142*

**This disclosure explains that the pre-tax discount rate is derived from a post-tax rate. It also discloses the rates used for all CGUs, and explains why one CGU has a higher discount rate.**

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## 9. Key expectations

Alongside the examples of better disclosure and opportunities for improvement identified throughout this report, we expect companies to carefully consider whether the matters identified apply to them, across all areas of financial reporting, and amend their disclosures where material and relevant.

In particular, we expect companies to:

Ensure that assumptions used for discount rates and cash flows are internally consistent.

Ensure risks are not counted twice. In many cases, it will be easier to risk adjust cash flows.

Use a real risk-free rate as the starting point for constructing a discount rate, if cash flows are not adjusted for inflation.

Use a pre-tax discount rate and cash flows for VIU calculations; or where companies apply post-tax discount rates to post-tax cash flows, to assess whether this will provide an answer that is materially similar to one that uses a pre-tax basis, and disclose the equivalent pre-tax discount rates.

Obtain specialist third party advice, when the choice of discount rate has a material effect on the measurement of assets or liabilities, and where no internal expertise exists.

Provide high quality disclosures when judgement has been exercised or discount rates are a source of significant estimation uncertainty.

Disclose the discount rate used, as well as an explanation for how it was determined.

Ensure that management commentary, both in the financial statements and strategic report, is clear and consistent with other disclosures in the financial statements, for example, where changes in discount rate assumptions have, or could have a material impact.

# 10. Appendix. Time value of money

## Time value of money

In most economies<sup>1</sup>, finance is a scarce resource. Money, therefore, has a value associated with time: £1 now is worth more than a promise of £1 in a year's time. This would be true even if there were no risk of non-repayment and there were no inflation, as investors require a return even on a risk-free asset.

Assets that generate cash flows soon are worth more, therefore, than those generating the same cash flows later. This difference in value is automatically recorded in financial statements if the assets are recorded at an arm's length purchase cost or market value because all rational economic transactions will take account of the time value of money.

However, sometimes assets are measured not by reference to an observable price in a transaction or market but by reference to the future cash flows arising from the items. For example, in the calculation of revised values for impaired assets, value in use is measured on the basis of future cash flows. In these cases, if the difference in value between assets that arises from the different timing of cash flows is to be recognised, the cash flows must be discounted.

If the cash flows were not discounted two assets giving rise to cash flows of the same amount but with different timings would be recorded at the same value, even though their market values and costs if purchased now would be different. In other words, unlike items would appear alike. Useful information about those assets would be lost to users of financial statements.

In contrast to assets, liabilities that generate cash outflows soon are more onerous than those generating the same cash outflows later. Again, because rational economic decisions will always reflect the time value of money, this difference in value is automatically recorded in financial statements if the liabilities are recorded at an arm's length transaction price. However, many liabilities, in particular provisions, are based on future cash flows. In those cases where the cash flows lie far in the future, for example abandonment costs, discounting the cash flows is necessary to reflect differences in value arising from the timing of the cash outflows.

Although this results in the liabilities being recorded at less than the undiscounted amount, this is not imprudent – it simply reflects the benefit that arises from the cash outflows not being due until a later date.

The time value of money unaffected by risk is given by the rate of return on a risk-free investment. In the UK this is often determined from the market price of government bonds, also called gilts.

Where government bonds are used to calculate a discount rate, it is important to consider whether the maturity of the government bonds used matches the expected maturities of the cash flows being discounted. In addition, currencies should also match.

## Term structure of interest rates

The rate at which an individual cash flow at a future date should be discounted is the spot rate. In practice the market spot rate will differ for different maturities. This relationship between maturities and interest rates is known as the term structure of interest rates. While not commonly used for discounting in many areas of financial reporting, term structures are commonly used in actuarial models and option pricing models.

Often in financial reporting (for example value-in-use calculations or provisions) a single interest rate is used, for all the cash flows being discounted. A single discount rate will often give an appropriate result in financial reporting where cash flows are relatively evenly spread over time. A single discount rate can be thought of as a form of an average of the spot rates for different maturities, sometimes called a par rate.



If cash flows are not spread evenly over time, or will be received or paid at a single point in time, it may be necessary to use spot rates that are matched to the maturity profile of the cashflows.

1. While this is typically the starting point for most financial theories, we accept that this background does not fully explain the occurrence of negative nominal interest rates, which have been seen in several economies in recent years. The theoretical explanation for negative nominal interest rates is beyond the scope of this thematic.

## 10. Appendix. Time value of money (continued)

### Term structure of interest rates (continued)

Chart 1 shows the UK nominal spot curve (sterling) published by the Bank of England as at 31 March 2022.

### Inflation

Interest rates which are obtained from the conventional gilt market are called nominal interest rates. Index linked gilts make coupons and principal payments which are adjusted for inflation since the gilt's issue. These index linked securities can be used to obtain real interest rates.

An implied inflation rate can then be calculated by comparing the real and nominal interest rates. The relationship between inflation, real and nominal rates is known as the Fischer relationship, which is explained in more detail by the Bank of England<sup>1</sup>.

While the spread between conventional and inflation-linked government bonds can be used as an indicator of market-based inflation expectations, it is not a perfect expectation as it also reflects risk premia that compensate investors for inflation risk, as well as liquidity risk<sup>3</sup>.

Therefore the yields on index-linked bonds theoretically need to be adjusted for market liquidity and inflation risk premium in order to derive the implied inflation rate. The effect of such adjustments would be to reduce inflation expectations and make the real discount rate less negative. We understand that such inflation risk premium adjustments are made by some actuaries but a discussion of this is beyond the scope of this thematic<sup>1,3</sup>.

Chart 2 shows the UK implied real spot curve as at 31 March 2022, which is negative across all maturities.

The financial reporting considerations of inflation are considered in section 6.

Chart 1: UK nominal spot curve<sup>2</sup>

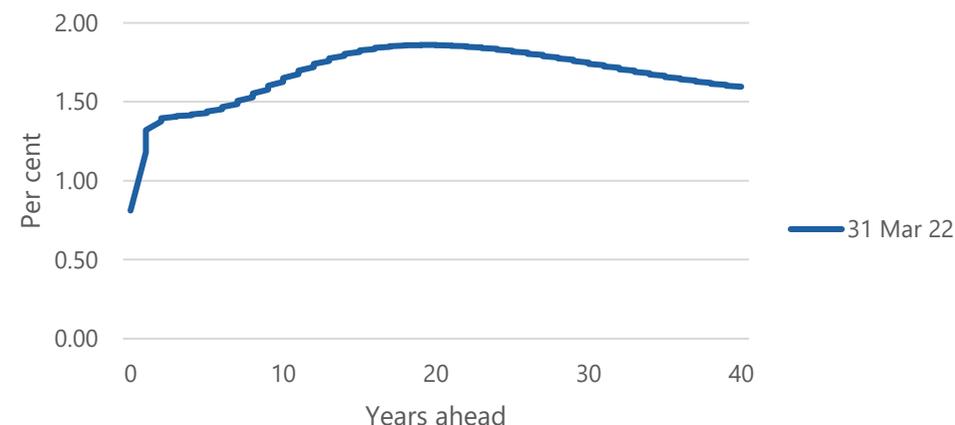
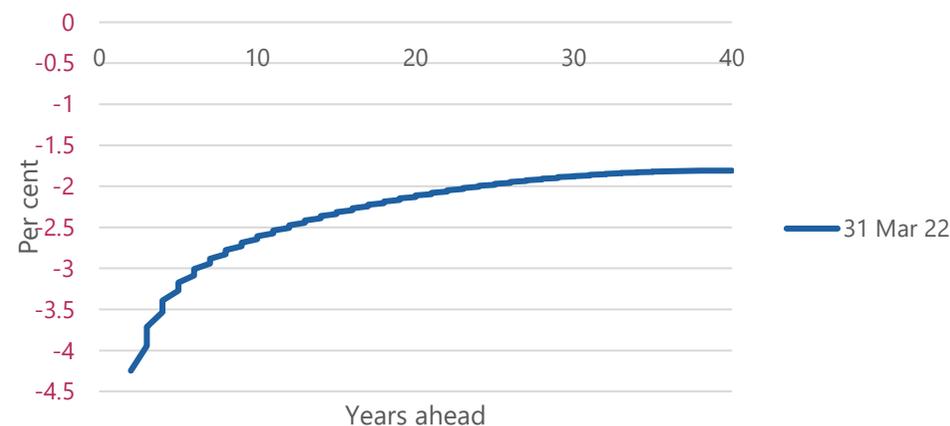


Chart 2: UK implied real spot curve<sup>2</sup>



1. <https://www.bankofengland.co.uk/statistics/yield-curves/terminology-and-concepts>

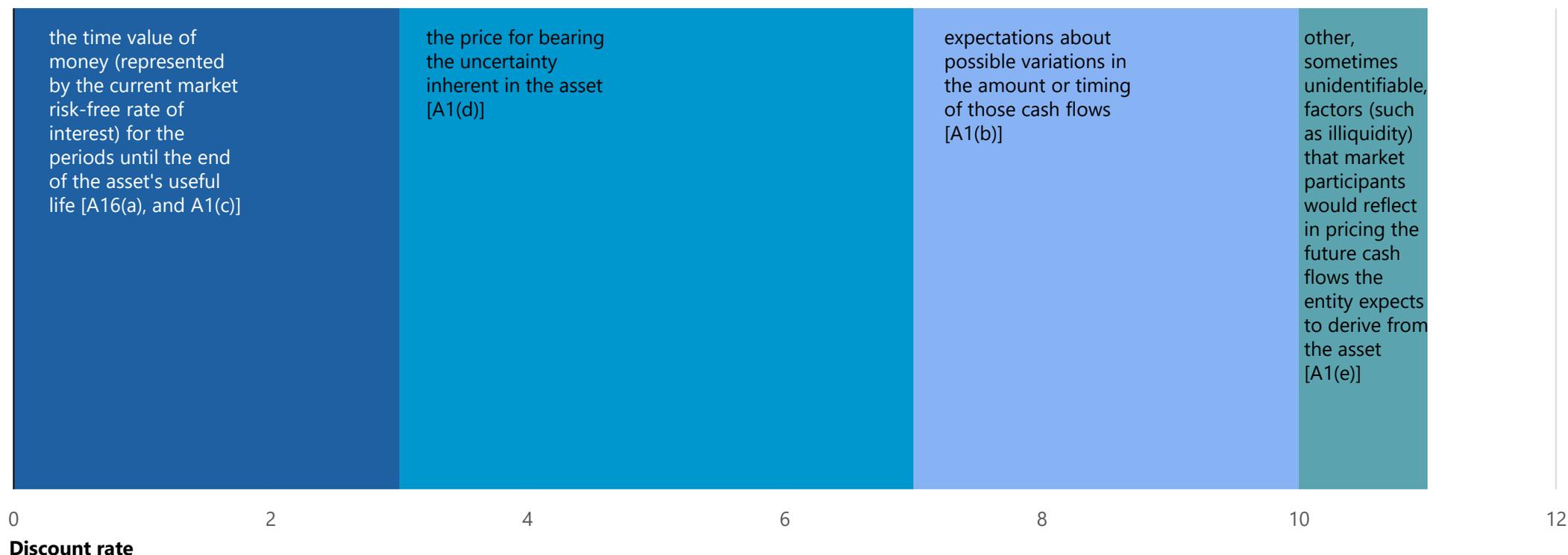
2. <https://www.bankofengland.co.uk/statistics/yield-curves>

3. IMI Working Paper: No. 1803, <http://www.imi.ruc.edu.cn/docs/2020-11/3144dfec7c1b43ab9b841a793dec1c9a.pdf>

# 11. Appendix. Illustrative discount rate for value-in-use<sup>1</sup>

## Summary of guidance on discount rates for VIU estimation in IAS 36 Appendix A

Appendix A to IAS 36 provides guidance on the components of a present value measurement, including the elements which could be used to estimate a market assessment of the discount rate, where an asset-specific rate is not directly observable from the market.



1. The amounts presented in the chart are entirely illustrative to demonstrate the different components of the discount rate, and are not indicative of current market rates.

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## 12. Appendix. Further reading

### References

- IFRS Standards Project Summary: Discount rates in IFRS Standards<sup>1</sup> (2019)
- Draft Research Paper: Present value measurements - discount rates research<sup>2</sup> (2015)
- ASB paper: Discounting in financial reporting – Working paper<sup>3</sup> (1999)

1. <https://www.ifrs.org/content/dam/ifrs/project/discount-rates/project-summary.pdf>

2. This draft staff paper was prepared for discussion with the IASB: <https://www.ifrs.org/content/dam/ifrs/meetings/2015/september/iasb/discount-rates/ap15b-pvm-research.pdf>

3. The ASB paper can be found in older hard copies of UK accounting standards e.g. 2009-10 and earlier



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