The key financial assumptions required for determining pension liabilities under the Accounting Standards FRS102 (UK non-listed), IAS19 (EU listed) and ASC715 (US listed) are the discount rate and the rate of future inflation.

There are a number of considerations for company directors to take into account when setting these assumptions and for auditors in determining whether the assumptions are appropriate. This note sets out some of the technical issues relevant to those involved in the preparation and the audit of pension disclosures.

### MARKET UPDATE

**An encouraging position ahead of the year end – despite falls in discount rates**

Due to falls in corporate bond yields over November and December 2017, most companies will be faced with higher values being placed on their pension obligations.

However, for companies sponsoring schemes that have a significant allocation to UK and overseas equities, the asset growth should have more than offset the increase in liabilities.

Schemes which have a higher allocation to protection assets (e.g. government bonds) may not have fared quite so well, although such schemes will generally have been better funded to start with and already benefitted from rising bond prices in recent years.

For all schemes, there may also be a small reduction in liabilities from using the latest version of the Continuous Mortality Investigation (CMI) mortality projection model.

Overall, the pensions accounting position for most companies reporting at 31 December 2017 may be better than at 31 December 2016 despite the significant fall in corporate bond yields.

### Discount rate

The Accounting Standards require the discount rate to be based on yields on high quality (usually AA-rated) corporate bonds of appropriate currency, taking into account the term of the relevant pension scheme’s liabilities. Corporate bond indices are often used as a proxy to determine the discount rate.

The table on the following page shows some of the key market indices that could be taken into account when deriving the discount rate. The yield on government bonds (gilts) is also shown for comparison.
<table>
<thead>
<tr>
<th>Index (annualised yield)</th>
<th>31 December 2017</th>
<th>30 September 2017</th>
<th>31 December 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>ML Sterling non-gilts AA over 15 years</td>
<td>2.29%</td>
<td>2.50%</td>
<td>2.57%</td>
</tr>
<tr>
<td>ML Sterling corporates AA over 15 years</td>
<td>2.38%</td>
<td>2.58%</td>
<td>2.69%</td>
</tr>
<tr>
<td>iBoxx Sterling corporates AA over 15 years</td>
<td>2.44%</td>
<td>2.64%</td>
<td>2.62%</td>
</tr>
<tr>
<td>Over 15-year fixed interest Gilts</td>
<td>1.69%</td>
<td>1.85%</td>
<td>1.77%</td>
</tr>
</tbody>
</table>

At the end of Q4 2017, yields on AA corporate bonds were significantly lower than they were at 31 December 2016. This is partly due to the bonds issued by General Electric and GE Capital (around 14 in total) being downgraded by all three major rating agencies in November and December, meaning that they no longer qualify as AA rated.

Lower yields on AA corporate bonds will result in lower discount rates being adopted for accounting purposes compared to last year.

Each 10 bps increase in discount rate would translate to a decrease of approximately 2% in liabilities for a scheme with a 20-year duration.

As can be seen in Figure 1, the yields vary significantly in the short to mid durations, but flatten out at the longer durations. The duration of the iBoxx Sterling corporates AA over 15 years as at 31 December 2017 is 15.30 years but this is generally shorter than the duration of most pension schemes’ liabilities.

In years where the yields vary significantly by term, the use of an index yield means the discount rate will not normally be appropriate for the duration of the scheme’s liabilities.

It is likely, therefore, to be appropriate to use a discount rate below the index yield if the duration of the scheme’s liabilities is shorter than the index.

For longer durations, yields are generally above the index - but even by extrapolating beyond the yield on the longest duration AA bonds, the maximum discount rate that can be justified is likely to be well below 3.0%, even for the most immature schemes. As ever, consistency with the approach adopted in previous years should be considered.

A common method to reflect the shape of an AA bond yield curve is to base the discount rate on a single equivalent rate based on the full yield curve rather than a single rate based on an index.

![Figure 1: iBoxx Corporate Bond universe as at 31 December 2017](Data Source: iBoxx)
Where a single equivalent discount rate approach is used, care should be taken as AA bond yield curves can be derived in a variety of ways. The methodology chosen can lead to significant variations in individual rates and subsequently also in the liability figure derived.

Even under this approach, which is argued by some to be the most accurate, a range of outcomes are possible depending on the dataset and method used to construct the curve and how this is extended to durations beyond the longest AA rated bond.

It may be possible to justify a higher discount rate by adopting a ‘single agency’ approach where the discount rate is set by reference to bonds that are rated at AA by one or more of the three main rating agencies. This approach provides a larger universe of bonds (particularly at the longer durations) to be considered when setting the discount rate. Currently, an adjustment of no more than 0.05% pa to a rate derived from the standard AA rated corporate bond data set is likely to be appropriate – which is broadly the same as a year ago.

Impact of pensions on UK business
Our seventh annual report considers the impact that pension provision is having on UK business. The survey offers a unique assessment of the financial impact of DB pension schemes within the context of the wider finances of FTSE350 companies.

The full report is available on our website.

Inflation

Retail Prices Index (RPI)

The table below shows a sample of market implied long-term inflation rates. As can be seen from the inflation yield curve in Figure 2, market implied expectations for the future vary considerably depending on the term being considered. It may therefore be appropriate to adopt an inflation assumption appropriate to the characteristics of each specific scheme, rather than merely adopting a proxy such as the Bank of England’s (BoE’s) rate at a given duration. In particular, the BoE curve indicates that lower rates are appropriate at shorter terms and also declining rates at longer terms. Consistency with the approach adopted to derive the discount rate is important.

<table>
<thead>
<tr>
<th>Index (annualised rate)</th>
<th>31 December 2017</th>
<th>30 September 2017</th>
<th>31 December 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank of England 20-year market implied inflation</td>
<td>3.61%</td>
<td>3.61%</td>
<td>3.66%</td>
</tr>
<tr>
<td>Bank of England 15-year market implied inflation</td>
<td>3.46%</td>
<td>3.47%</td>
<td>3.54%</td>
</tr>
</tbody>
</table>

There may be other considerations to take into account when choosing inflation assumptions, such as whether to adjust for a possible inflation risk premium (IRP) that may be implicit in the Bank of England’s rates, or for any other external factors that the company directors feel should be taken into account in determining this assumption.
Adjustments of up to 0.3% pa are typically used to reflect an IRP, although it may be possible to justify adjustments above this level. Implied rates of future inflation are at similar levels to the rates observed at the previous quarter-end, and are at marginally lower levels to those of a year ago.

For those schemes reporting at 31 December 2017 with inflation-linked liabilities, this will partially offset the increase in liabilities from falls in discount rates.

**Consumer Prices Index (CPI)**

The figures above relate to inflation as measured by the RPI. Many schemes now have benefits increasing with reference to the CPI instead, and over 20 years to 2010 CPI was on average around 0.7% pa lower than RPI. Of this, 0.5% pa could be attributed to the ‘formula effect’ resulting from technical differences in the way the two indices are calculated, and the remaining 0.2% pa could be attributed to differences between the compositions of the two indices. In 2010 a change was made to the way the indices were calculated, and at the time this was expected to increase the difference between CPI and RPI going forward. The ‘formula effect’ since 2010 has been observed to be between 0.8% pa and 1.0% pa.

Towards the end of 2011, the Office for Budget Responsibility (OBR) published a paper on the gap between RPI and CPI which suggested that the other factors mean the gap could be between 1.3% pa and 1.5% pa. A more recent paper published by the OBR in March 2015 suggests the median gap to be about 1.0% pa while the Bank of England central long-term estimate suggests 1.3% pa.

The current Government CPI inflation target is 2.0% pa.
Mortality

Demographic assumptions used for accounting disclosures can have a significant impact on the accounting figures. The most significant of these is the mortality assumption. Barnett Waddingham’s survey of assumptions used by FTSE 100 companies showed a difference of up to six years in the life expectancy assumptions adopted. The analysis showed a fall in average assumed life expectancy of 0.2 years between 2015 and 2016, which equates to approximately a 1% fall in the value of liabilities. This is likely to have been driven by recent evidence indicating life expectancy may not be rising as fast as previously predicted.

For simplicity, company directors have often adopted the same mortality assumptions used by the scheme’s trustees for the funding valuation.

As pension costs have increased there has been an increasing tendency to adopt different assumptions. Trustees are required to use prudent assumptions whereas the assumptions for company accounting should be a best estimate.

Entities should consider reviewing their mortality assumptions to ensure these are not overly prudent and that their pension liabilities are not being overstated.

Other assumptions

In the past, assumptions such as amounts commuted for cash at retirement and the proportion of cases where a pension is payable on death may have been set to align with the scheme funding valuation and may therefore contain an element of prudence. Individually, such assumptions may not have a material effect on the liabilities but collectively can mean liabilities are overstated relative to a true best estimate. Any such overstatement will be exacerbated in low discount rate environments.

Companies should therefore review other assumptions from time to time to ensure they reflect a best estimate of future experience.
The current UK framework

The Financial Reporting Council (FRC) UK accounting standards:

- FRS101: Reduced Disclosure Framework;
- FRS102: The Financial Reporting Standard;
- FRS104: Interim Financial Reporting and

We look at each of these in more detail:

**FRS101: Reduced Disclosure Framework**

FRS101 sets out a reduced disclosure framework for qualifying entities. A qualifying entity is a member of a group where the parent of that group prepares publicly available consolidated financial statements, and where that member is included in the consolidation, but other criteria must also be met.

This effectively means that subsidiaries of groups preparing accounts in line with International Financial Reporting Standards (IFRS) can apply consistent accounting policies with those group accounts, but can also take advantage of disclosure exemptions to reduce the time and cost of preparing accounts.

There are some restrictions; charities may not be qualifying entities, and qualifying entities who prepare consolidated financial statements, either because they are required to do so or they do so voluntarily, may not apply FRS101.

**FRS102: The Financial Reporting Standard**

FRS102 is a single reporting standard that has replaced the old UK GAAP (generally accepted accounting principles, which comprise of a number of Financial Reporting Standards, Statement of Standard Accounting Practice and Urgent Issue Task Force). The accounting standard includes specific requirements for specialised entities such as public benefit entities, retirement benefit schemes and financial institutions. The requirements in relation to accounting for post-retirement obligations are broadly the same as those under IFRS but with less extensive disclosures.

FRS102 makes it difficult to account for group plans (with more than one participating employer where these are under common control) as defined contribution (DC) schemes, as at least one group company will need to account for the scheme on a defined benefit (DB) basis.

It is only possible to account for multi-employer plans on a DC basis (with more than one participating employer where these are not under common control) if there is insufficient information to use DB accounting methods.

Further, if such an entity wishes to use DC accounting and has agreed contributions to fund a deficit, it will need to reflect the present value of these on its balance sheet and the impact of any revisions as an expense.

The FRC has published an updated version of FRS102. The change which takes effect for accounting periods beginning or after 1 January 2019 (early adoption permitted) do not have a significant impact on accounting for pension schemes, although there may be some changes to the way group plans are accounted for.
Training for those involved in Pensions Financial Reporting - IAS19, FRS101, FRS102 and ASC715

There have been several recent and forthcoming changes to the pensions requirements under UK and International Accounting Standards. Our specialist consultants at Barnett Waddingham have extensive experience of advising on the assumptions and preparing the pensions disclosures for inclusion in company accounts under the different accounting standards (e.g. FRS102, FRS101, IAS19 and ASC715); as well as supporting audit firms without the benefit of a specialist pension team to understand the assumptions and disclosures prepared by companies that they audit.

Our specialist consultants can provide interactive workshops focussing on accounting for DB pension arrangements. We will provide background on the theory behind the main pension accounting standards – IAS19, FRS101, FRS102 and ASC715 – and will explore some of the current market factors influencing the disclosures and how these have changed over the last year or so.

Global Accounting Consolidation system

We offer a web-based system that allows for the collection and consolidation of accounting disclosures for all the employee benefit plans operated by a company across the world. The system allows actuaries in different countries to submit disclosure information for their respective plans which can then be validated, converted to the local currency and consolidated centrally into single disclosures under IFRS, US GAAP or UK GAAP. Please contact us if you require further information on this service.

FRS104: Interim Financial Reporting

FRS104 does not in itself require any company to prepare an interim statement but may be used by companies which are required to produce interim financial statements under other rules (for example because they are listed). FRS104 is based on the interim reporting requirements of IAS34, which may be used by some entities instead of FRS104.

Disclosure requirements under FRS104 are based on those under FRS102 for annual financial statements. For pensions, the FRC has stated:

- The cost of a DB plan for an interim period is calculated on a year-to-date basis
- The DB obligation can be approximated based on the latest actuarial valuation and adjusted for changes in member demographics

FRS104 became effective for interim periods beginning on or after 1 January 2015.

FRS105: The Financial Reporting Standard applicable to the Micro-entities Regime

FRS105 is an accounting standard intended for financial statements of companies which qualify for the micro-entities regime. It is based on FRS102 but its accounting requirements are adapted to satisfy the legal requirements applicable to micro-entities, and to reflect the simpler nature and smaller size of micro-entities. FRS105 is effective for accounting periods beginning on or after 1 January 2016. The FRC withdrew the Financial Reporting Standard for Smaller Entities (FRSSE) from 1 January 2016, with any companies previously subject to this regime who do not qualify for the micro-entities regime being subject to FRS102 going forward.
IFRIC14 and IAS19

The International Accounting Standards Board (IASB) consulted on amendments to IAS19 and IFRIC14.

The proposed changes to IAS19 included a requirement for profit and loss items to be recalculated to allow for remeasurement of assets and liabilities at the date such an event occurs, which could be significant for those that rely on profit and loss charges being fixed at the start of the year.

The proposed amendments to IFRIC14 were intended to address how the powers of other parties, such as the trustees of the plan, affect an employer’s right to a refund of a surplus from the plan.

Broadly, these proposed amendments to IFRIC14 change the circumstances where an entity could be deemed to have an ‘unconditional right’ to a surplus, and require restriction of the amount recognised if the trustees of the scheme have a unilateral power (in the scheme rules) to use a surplus for other purposes (e.g. settling liabilities in full, making benefit improvements or by triggering a wind-up).

For example, this could result in some schemes which are closed to future benefit accrual no longer being able to recognise a surplus (as was the case under the old UK GAAP and FRS17). However, this restriction under FRS17 was relaxed under FRS102, and therefore such a change to IFRIC14 would once again lead to different treatment between UK GAAP and IFRS.

The IASB, following further consideration of the likely impact of the amendments, has decided to see if it is possible to introduce a more ‘principles-based’ approach under IFRIC14 for companies to assess and measure their right to a surplus refund.

No timetable has been given for completing the work in relation to IFRIC14 although the IASB will press ahead with amendments to IAS19 for accounting periods beginning on or after 1 January 2019.

Survey of assumptions used by the FTSE100 as at 31 December 2016

Our sixteenth annual survey of FTSE100 pensions accounting assumptions revealed an increase in IAS19 funding levels over the year to 31 December 2016. Market movements over the quarter mean that movement in deficits are expected to be similar to as at 31 December 2016.

The full survey is available on our website.
Yield curve approach to accounting

A number of companies in the US are beginning to use a "yield curve" approach to calculate interest cost and service cost components of the Net Periodic Benefit Cost for defined benefit obligations under ASC715. By applying a term-dependent spot rate to the present value of each future cashflow, it is possible to reduce these costs since the current shape of the yield curve would lead to a lower interest rate (when compared to the single equivalent discount rate) being used for the interest cost calculation. This approach would also lead to a reduction in the service cost as it would utilise the higher interest rates for longer duration liabilities. Note, under this alternative approach, the present value of future benefit cashflows at the measurement date, formally known as the ‘Projected Benefit Obligation’, will be unchanged from the current approach of using a single equivalent discount rate.

However, they did state that once a company moved to this approach, they would not expect them to move back to using a single equivalent discount rate. They also noted that appropriate disclosures about the change, such as the effect it would have, would be required.

The IASB and ASB have not yet given any indication of whether this approach is acceptable under IFRS or UK GAAP, but the net interest approach used for IAS19 and FRS102 means there is unlikely to be a significant benefit for UK schemes of moving (unless they are unfunded or very badly funded).