RBC Capital Markets

INTEREST RATES

The birth of the surplus

The significant benefit of imminent higher assumed interest rates for UK company pension schemes

FOR REQUIRED NON-U.S. ANALYST AND CONFLICTS DISCLOSURES PLEASE SEE PAGE 35.

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The birth of the surplus

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Executive summary

Now is the time to buy pensions exposed stocks.

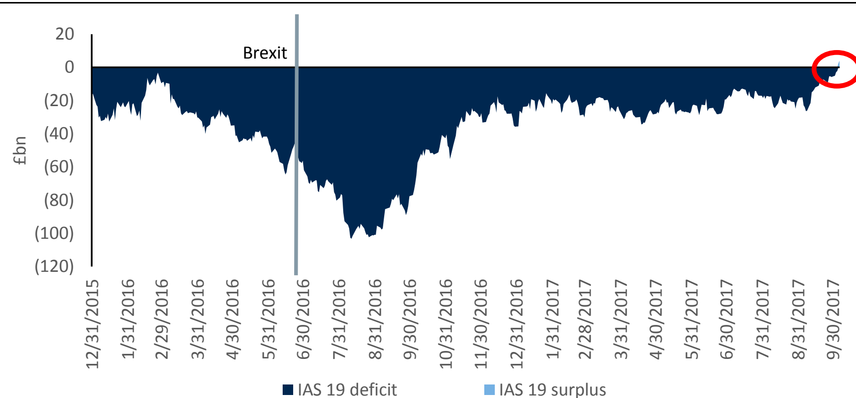
UK pension schemes have just moved out of deficit and into surplus for the first time since 2000. In addition, an imminent increase to assumed discount rates should significantly improve that surplus. We do not believe share prices have factored in this improvement and we recommend investors buy a basket of pensions-exposed stocks highlighted in this report.

UK pension schemes see first surplus since the crisis

A move into surplus for the first time since 2008.

We calculate that UK defined benefit (DB) pension schemes have in aggregate moved into surplus for the first time since the global financial crisis in 2008. Assets have increased by 5.1% this year: equity markets, which still account for 30% of pension fund assets, have performed well (the FTSE All Share total return in 2017 so far has been 9.1%). Liabilities have reduced: corporate bond yields, which are used to discount liabilities, have increased, while employers have continued to pay record contributions into schemes. On an IAS 19 basis, we calculate the deficit of the FTSE 100 has improved significantly from the record high of £103bn on 11 August 2016 to a surplus of £0.7bn as at 13 October 2017.

Exhibit 1: UK pension deficit has become a surplus
FTSE 100 IAS 19 deficit 31/12/2015–13/10/2017



Source: RBC Capital Market estimates

…and the first real surplus since 2000

However, we consider this the first proper surplus since 2000 as in 2008 liabilities were artificially suppressed by a spike up in corporate bond yields driven by default expectations.

Surplus about to increase significantly as higher discount rates are adopted…

New actuarial advice on discount rates means surpluses are about to step up.

In addition, we expect DB schemes are about to see a step change improvement driven by an increase in the assumed rate to discount the liabilities. Under IAS19, the assumed discount rate is a high quality corporate bond yield. However such corporate bonds are few and far between at durations in excess of 30 years. Therefore discount rates tend to be based on gilt yields at those long durations. Actuarial consultants are starting to encourage schemes to adopt a (higher) corporate bond yield at long durations. We expect schemes will increase discount rates by 0.3%, in line with the move by Tesco, and calculate that the aggregate surplus will improve by £41bn. The triennial funding valuation, which determines the employer contribution, should be unaffected.

…which adds to mortality gains…

The slowdown in life expectancy improvement is also a tailwind for pension schemes.

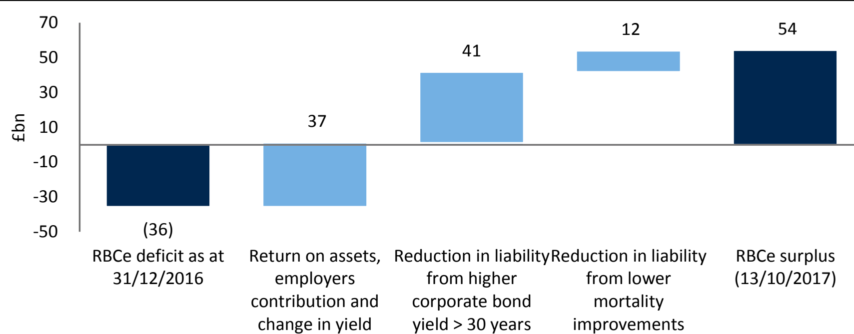
This positive thesis adds to our work on life expectancy. In Death of the deficit, we flagged that UK pension schemes are using older mortality tables which have not yet

taken account of the slowdown in life expectancy improvement since 2011. We expect scheme liabilities will reduce by £12bn when the latest tables are adopted.

...leading to a surplus of £54bn

The combination of the expected imminent increase to discount rates and the adoption of the latest mortality tables would boost the aggregate FTSE100 pension position to a surplus of £54bn. We do not believe share prices have factored in this improvement and recommend investors buy a basket of pensions-exposed stocks highlighted in this report.

Exhibit 2: Discount rate increase and mortality gains to significantly improve surplus FTSE100 aggregate funding position 2017 to date



Source: RBC Capital Market estimates

Tesco's pension scheme deficit more than halved

Tesco is the first large company to make these changes and the impact was significant.

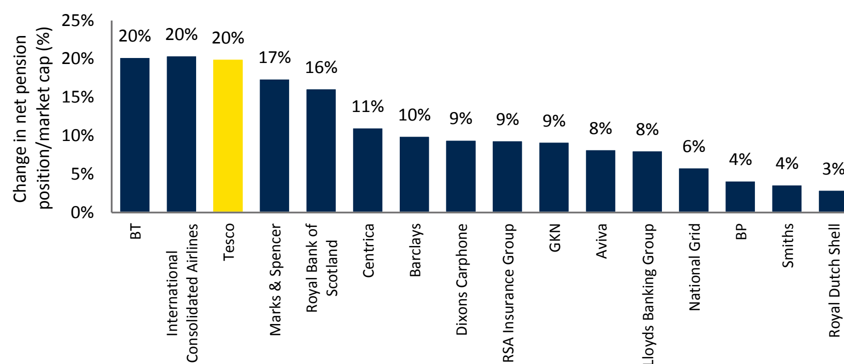
On 4 October 2017 Tesco announced a £3.1bn improvement in its pension scheme, more than halving the deficit over 6 months to £2.4bn. The main driver, accounting for 65% of the improvement, was a 0.3% increase in the discount rate while a move to the 2016 mortality table also contributed. The improvement was equivalent to 20% of Tesco's market capitalisation. The share price reacted favourably, initially climbing 5%. We expect other companies to follow Tesco's example, and in this report we have considered how surpluses would change if each company also increased its discount rate by 0.3%.

Which companies are most exposed?

BT Group and IAG are set to see the largest gains.

The stocks which have most to gain are those where the pension scheme is large compared to the corporate sponsoring it. We have identified 15 such companies. We calculate that BT Group and International Consolidated Airlines are set to gain the most from an increase in its discount rate and a move to the 2016 mortality tables with gains equivalent to 20% of their market capitalisation. Other companies that could benefit are Marks & Spencer (17%), Royal Bank of Scotland (16%), Centrica (11%) and Barclays (10%).

Exhibit 3: Expected pension fund surplus gains are significant compared to market caps



Source: RBC Capital Market estimates

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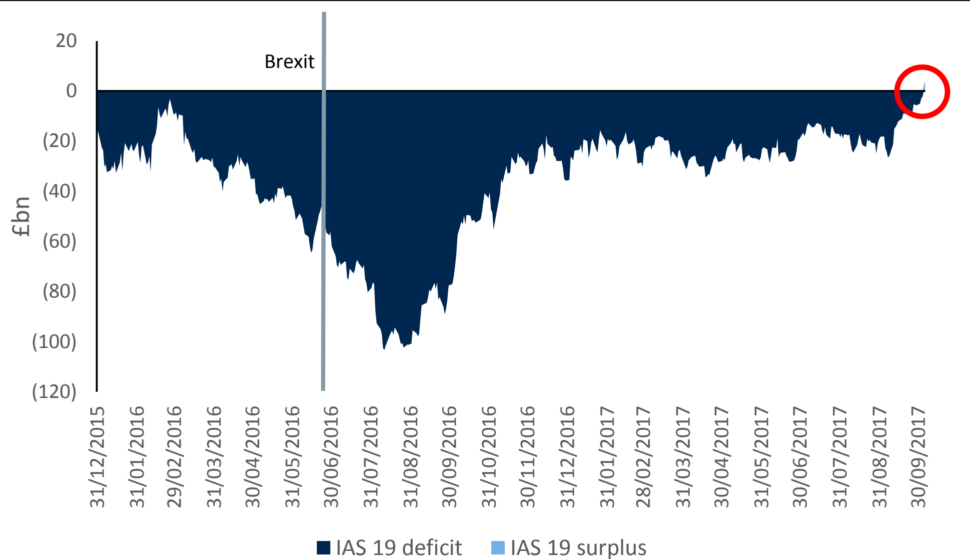
UK pension schemes see first surplus since the crisis

We calculate that UK defined benefit pension schemes have in aggregate moved into surplus for the first time since the global financial crisis in 2008.

Funding levels, which hit a low post Brexit, have finally moved into positive territory.

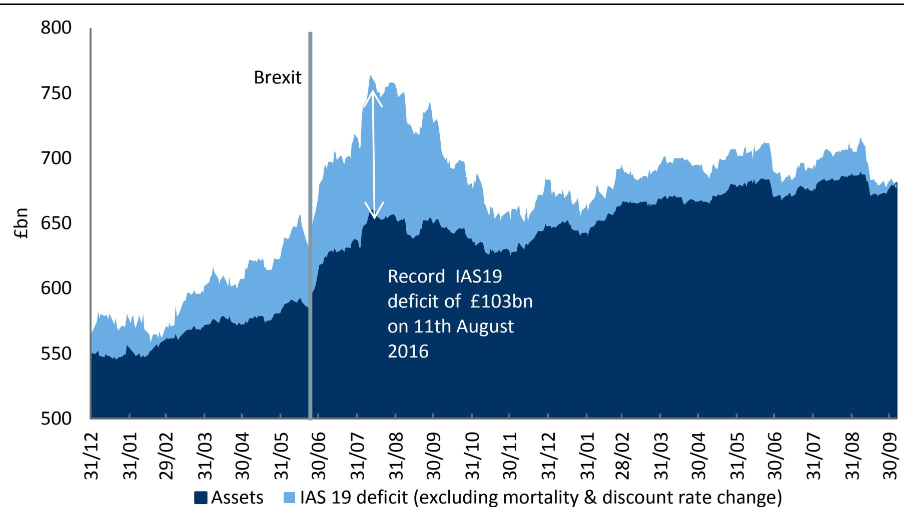
On an IAS 19 basis, we calculate the deficit of the FTSE 100 has improved significantly from the record high of £103bn on 11 August 2016 (23 June 2016/day before Brexit: £46bn) to a surplus of £0.7bn as at 13 October 2017.

Exhibit 4: IAS19 pension deficit has moved into surplus territory
FTSE 100 IAS 19 deficit 31/12/2015–13/10/2017



Source: RBC Capital Market estimates

Exhibit 5: Assets have caught up with liabilities



Source: RBC Capital Market estimates

However, this can be considered the first proper surplus since 2000 as in 2008 liabilities had been artificially suppressed by a spike up in corporate bond yields driven by default expectations.

Surplus about to increase significantly as higher discount rates are adopted

In addition, we expect DB schemes are about to see a step change improvement driven by an increase in the assumed rate to discount the liabilities.

Surpluses are extremely sensitive to the discount rate assumption, which we expect is about to increase due to new actuarial advice.

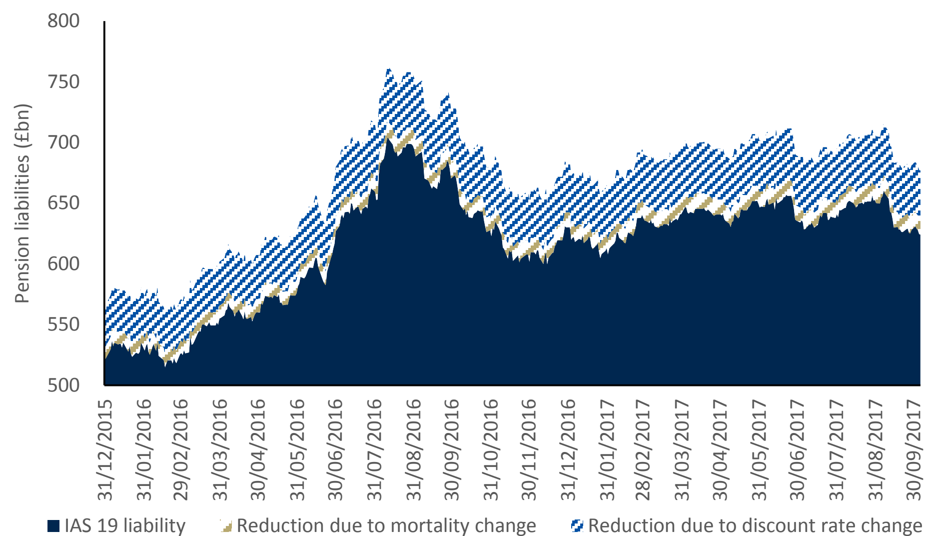
Higher discount rates mean lower liabilities. Lower liabilities can mean lower deficits or deficits can be changed into surpluses.

Under IAS19, the assumed discount rate is a high quality corporate bond yield. However such corporate bonds are few and far between at durations in excess of 30 years. Therefore discount rates tend to be based on gilt yields at those long durations.

Actuarial consultants are starting to encourage schemes to adopt a (higher) corporate bond yield at long durations.

We expect schemes will increase discount rates by 0.3% and calculate that for the average scheme the impact is a reduction of liabilities of 6.0%.

Exhibit 6: Liabilities would be greatly reduced by using higher discount rates and up to date mortality tables
FTSE 100 IAS 19 liabilities 31/12/2015–13/10/2017



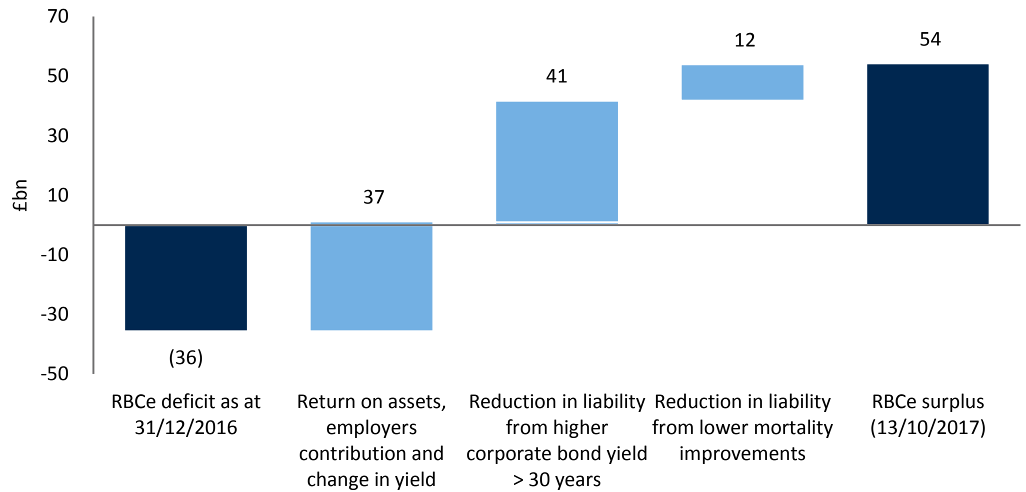
Source: RBC Capital Market estimates

…which adds to mortality gains…

We previously have highlighted the tailwind coming from the slowdown of life expectancy improvement.

This positive thesis adds to our work on life expectancy. In Death of the deficit, we flagged that UK pension schemes are using older mortality tables which have not yet taken account of the slowdown of life expectancy improvement since 2011. We expect scheme liabilities will reduce by £12bn when the latest tables are adopted.

Exhibit 7: Discount rate increase and mortality gains to significantly improve surplus
FTSE100 aggregate funding position 2017 to date



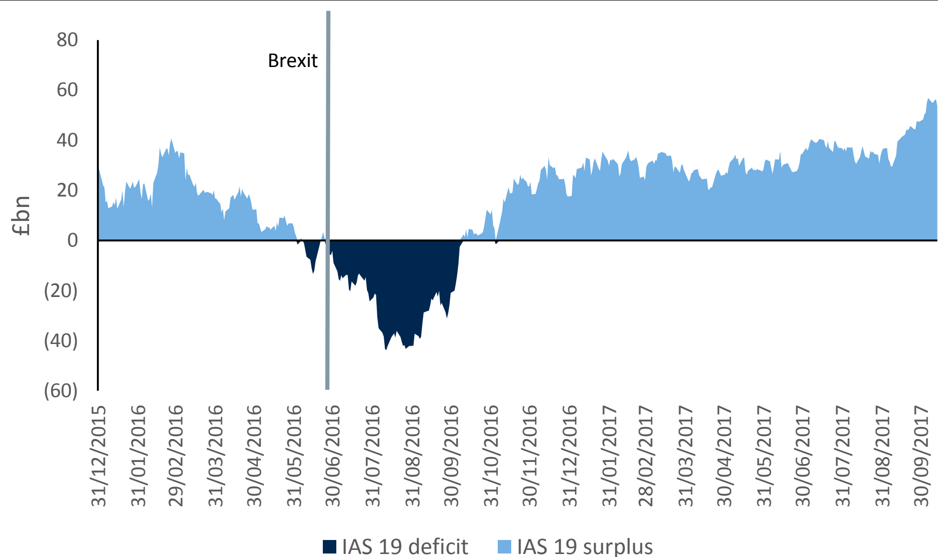
Source: RBC Capital Market estimates

...leading to a surplus of £54bn

We calculate the real funding level for UK companies in aggregate is a strong surplus of £54bn.

The combination of the imminent increase to discount rates and the adoption of the latest mortality tables would boost the aggregate FTSE100 pension position to a surplus of £54bn. We do not believe share prices have factored in this improvement and we recommend investors buy a basket of pensions exposed stocks highlighted in this report.

Exhibit 8: Pension surplus would improve significantly by using higher discount rates and up to date mortality tables
FTSE 100 IAS 19 deficit 31/12/2015–13/10/2017



Source: RBC Capital Market estimates

Sensitivity to our discount rate assumption

Surpluses are very sensitive to the discount rate assumption.

We have considered the impact if all companies increased discount rates by 0.3%. For the FTSE 100 as a whole, a 0.3% increase would reduce liabilities by 6.0% which would improve the surplus to £54bn. For each company we have used the sensitivity provided in the annual report or equivalent.

The table below shows sensitivity to the increase in discount rate we assume. Even a small increase in discount rate would provide a significant boost to the aggregate surplus.

Exhibit 9: Our base case is a 0.3% increase in discount rate as per Tesco
Sensitivity analysis

Change in weighted average yield	Change in liability	RBCe FTSE 100 pension surplus (£bn)
0.19%	-4.2%	42
0.24%	-5.1%	48
0.30%	-6.0%	54
0.35%	-6.9%	60
0.40%	-7.7%	65

Source: RBC Capital Markets estimates

Which companies benefit the most?

We believe the stocks which have most to gain are those where the pension scheme is large compared to the corporate sponsoring it. We have identified 15 such companies.

BT and IAG are set to gain the most.

We calculate that **BT Group** and **International Consolidated Airlines** are set to gain the most from an increase in discount rate and a move to the 2016 mortality tables with gains equivalent to 20% of their market capitalisation. Other companies which could benefit are **Marks & Spencer** (17%), **Royal Bank of Scotland** (16%), **Centrica** (11%) and **Barclays** (10%).

Exhibit 10: We see potential for significant improvements to the scheme surpluses

Company	Change in surplus/(deficit)/Market cap (%)	Change in net pension surplus/(deficit)/1 year fwd PBT (%)	Last reported surplus/deficit (m)	Last reported date	Currency	Forecast surplus/(deficit) based on market movement and contribution (m)	Forecast surplus/(deficit) including benefit from updated mortality and discount rate assumptions (m)
BT	20%	156%	(9,600)	30/06/2017	GBP	(8,351)	(4,182)
International Consolidated Airlines	20%	113%	(646)	30/06/2017	EUR	249	2,316
Marks & Spencer	17%	166%	702	01/04/2017	GBP	987	1,687
Royal Bank of Scotland	16%	107%	4,973	31/12/2016	GBP	6,985	10,256
Centrica	11%	87%	(922)	30/06/2017	GBP	(674)	139
Barclays	10%	55%	400	30/06/2017	GBP	1,327	3,650
Dixons Carphone	9%	54%	(589)	29/04/2017	GBP	(521)	(389)
RSA Insurance Group	9%	117%	(143)	30/06/2017	GBP	(16)	449
GKN	9%	68%	(1,063)	30/06/2017	GBP	(741)	(579)
Aviva	8%	58%	2,482	30/06/2017	GBP	3,035	4,115
Lloyds Banking Group	8%	45%	(495)	30/06/2017	GBP	259	3,367
National Grid	6%	72%	(156)	31/03/2017	GBP	524	1,691
BP	4%	55%	(7,721)	30/06/2017	USD	(5,638)	(2,409)
Smiths	4%	43%	224	31/07/2017	GBP	266	451
Royal Dutch Shell	3%	28%	(9,074)	30/06/2017	USD	(6,433)	(1,627)

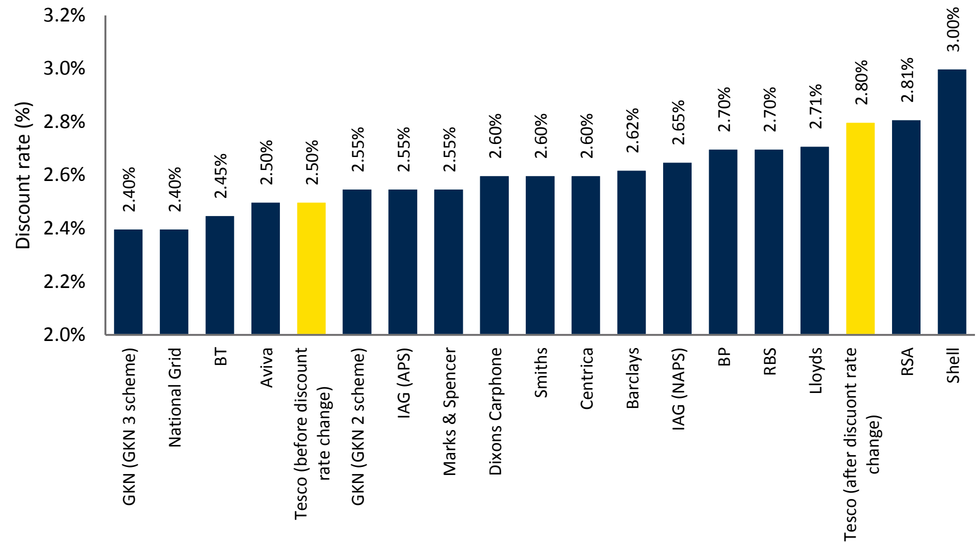
Source: Company reports, Bloomberg, RBC Capital Markets estimates

Discount rates

We assume all companies increase discount rates by 0.3%, as per Tesco.

We explain below that it is net discount rates which matter; however, in this section we consider the absolute level of discount rate used by each company. Tesco moved from using 2.5% to 2.8%. The chart below shows how this compares to the other pension funds we consider in this report.

Exhibit 11: Discount rates used by the companies



Source: Company reports.

The level of maturity of the pension scheme and the date of valuation are reasons why each company uses a slightly different discount rate.

We believe it is reasonable to expect all companies increase rates by 0.3%.

Discount rates should not be the same for all pension schemes

This is because the corporate bond yield curve is not flat - yields tend to increase as duration increases.

This leads to:

- Mature pension schemes (with more pensioners and a lower duration of liabilities) will tend to use a lower corporate bond yield.
- In contrast, immature pension schemes (with more in service members and a higher duration of liabilities) will tend to use a higher corporate bond yield.

Looking at the above chart it would be easy to conclude that Shell has no room to increase its discount rate assumption because it is already above (3.0%) that which Tesco has moved to (2.8%).

However, we believe Shell may still increase its discount rate assumption:

- We note that Shell's discount rate is listed at 3% in the 2016 Annual report and accounts. Due to rounding we expect the number is below 3%.
- In addition, no update on discount rate was given at 30/6/2017. Yields at end March 2017 were markedly lower than end December 2016.

In addition, we explain below that it is net rather than absolute discount rates that are key in determining the liabilities.

Tesco's pension scheme deficit more than halved

Tesco announced a significant reduction in its pension scheme deficit…equivalent to 20% of its market capitalisation

On 4 October 2017 Tesco announced a £3.1bn improvement in its pension scheme deficit (on an accounting basis), more than halving the deficit over 6 months to £2.4bn. The main driver, accounting for 65% of the improvement, was a 0.3% increase in the discount rate while a move to the 2016 mortality table also contributed.

The improvement was equivalent to 20% of Tesco's market capitalisation (see table below). The share price reacted favourably, initially climbing 5% on the news. We expect other companies to follow Tesco's example.

Exhibit 12: Tesco's deficit saw a significant gain, equivalent to 20% of market cap
Tesco pension scheme deficit (IAS 19 basis)

	£m	As % of market cap
Deficit at 25/2/2017	**(5,499)**	**(36%)**
Discount rate increase	1,966	13%
Mortality table update and other	1,094	7%
Total improvement in deficit	**3,060**	**20%**
Deficit at 26/8/2017	**(2,439)**	**(16%)**

Source: Company reports, RBC Capital Markets, Bloomberg

Discount rate increase

Tesco stated:

> "During the period the Group has taken actuarial advice and decided to change the model used for deriving the discount rate assumption for valuing the Scheme's liabilities under IAS 19.

Tesco explains the change in methodology for long dated liabilities.

> The standard requires the discount rate to be determined by reference to market yields of high quality corporate bonds of suitable currency and term to the Scheme cash flows. The standard does not specify the approach that should be taken to extrapolate current market rates along the yield curve when there are no suitable corporate bonds of sufficient duration. As the term of the Scheme's liabilities is particularly long, the balance sheet is sensitive to the extrapolation approach adopted. Under the previous model, the extrapolation was in line with the movement in the gilt yield curve. The model now adopted by the Group extrapolates based on the trend observable in corporate bond yields. In the Group's view, this more appropriately reflects long-dated corporate bond yields for the cash flow profile of the Scheme's liabilities.
>
> The impact of the change in discount rate model was to give a £1,966m gain on change of financial assumptions."

Net discount rates matter

The discount rate was only increased by 0.3% yet the effect on the deficit was dramatic.

Tesco increased its discount rate by 0.3% in absolute terms; however, when considering the effect on liabilities we must consider a net discount rate. This is the discount rate (which discounts liabilities) less the inflation assumption (which grows liabilities).

- For post-retirement liabilities this is the discount rate less the assumed rate of pension increases.
- For deferred pensioner liabilities this is the discount rate less the assumed rate of pension increases in deferment.
- For in-service liabilities this is the discount rate less the assumed rate of salary inflation.

It is the difference between the discount rate and the salary/pension increase rate which determines the liabilities.

In Tesco's case the net discount rate increased by 0.3% over a six month period (see table below).

Exhibit 13: Tesco increased its net discount rate by 0.3-0.4%.
Tesco plc Pension Scheme IAS 19 UK principal assumptions

	25/02/2017	26/08/2017
Assumptions		
Discount rate	2.5%	2.8%
Price inflation	3.2%	3.1%
Deferred increases	2.2%	2.1%
In payment increases (pre 1/6/2012)	3.0%	2.9%
In payment increases (post 1/6/2012)	2.2%	2.2%
Discount rate less		
- Price inflation	(0.7%)	(0.3%)
- Deferred increases	0.3%	0.7%
- In payment increases (pre 1/6/2012)	(0.5%)	(0.1%)
- In payment increases (post 1/6/2012)	0.3%	0.6%
Change in net discount rate		
- Price inflation		0.4%
- Deferred increases		0.4%
- In payment increases (pre 1/6/2012)		0.4%
- In payment increases (post 1/6/2012)		0.3%

Source: Company reports

Change in mortality table

Tesco adopted the 2016 mortality table which also added to the improvement in deficit…

Tesco moved to using the 2016 mortality table (investor relations indicated to us that the previous table used was the 2013 table) which is also a major contributor.

- Male life expectancy at age 65 has dropped significantly by 11 months to 22.3 years.
- Female life expectancy has dropped by 6 months to 23.9 years.

On mortality Tesco stated:

> "The Group, in consultation with an independent actuary, conducted an analysis of mortality trends under the Scheme as part of the triennial actuarial valuation process. Subsequent to this analysis, the Group adopted the following best estimate assumptions for the calculation of the IAS 19 pension liability as at 26 August 2017 for the main UK scheme.
>
> The mortality assumptions used are based on tables that have been projected to 2017 with CMI 2016 improvements. In addition, the allowance for future mortality improvements from 2017 is in line with CMI 2016 improvements, with a long term improvement rate of 1.25% per annum."

…which may have been triggered by the publication of the triennial funding valuation.

It is interesting that both the interest rate increase and mortality table change appear to have been triggered by the triennial funding valuation the results of which Tesco revealed in its interim results. For other companies, a good assumption would be: when they publish a triennial pension scheme valuation they will take that opportunity to catch up on discount rates and mortality tables (which will significantly improve the surplus).

Scheme performance to date

Assets have on average increased by 5.1% since year end

All companies are required to publish their assets and liabilities using an IAS 19 basis at the end of their financial year.

Using an estimate of the asset allocation for FTSE 100 companies, we have been able to calculate the expected return at 13 October 2017 for FTSE 100 companies which includes:

- Equity markets: the FTSE All Share has delivered a total return of 9.06% and MSCI World has delivered a total return of 9.27%.
- Returns on bonds have been marginal given the improvement in yields
- We then pro-rate the employer's contribution into the scheme based on the number of months since the last financial year end.

On average, we calculate that pension scheme assets increased by 5.1% in the year to 13 October 2017.

On average, we calculate that assets have increased by 5.1% since year end.

Where asset allocation has changed since disclosure we have not been able to reflect such changes.

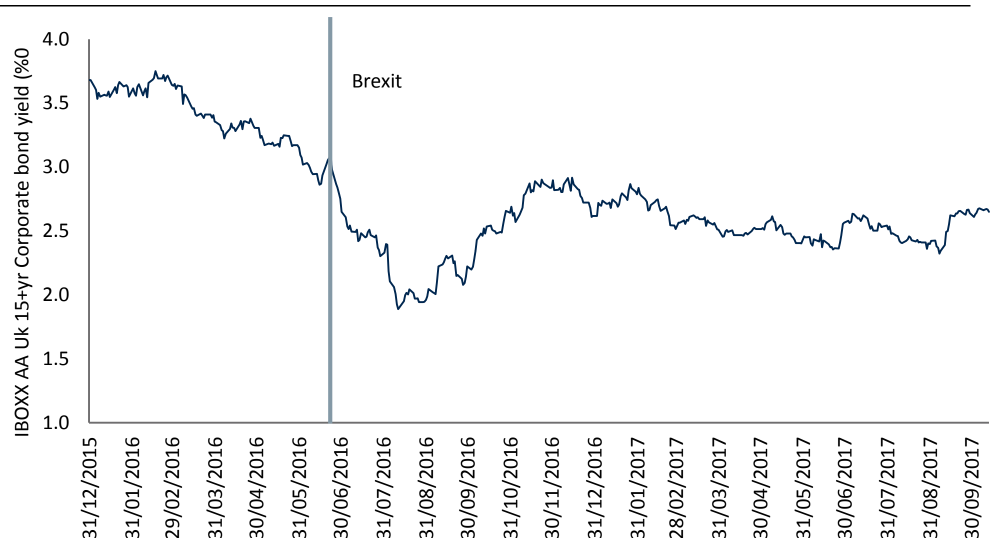
…and liabilities have reduced by 0.4%

IAS 19 liabilities are discounted using a high quality corporate bond yield. We have used the iBoxx >15 year AA corporate bond yield, which is used by many UK companies.

The high quality corporate bond yield used to calculate liabilities has remained relatively flat from 2.62% at end December 2016 to 2.65% at 13 October 2017.

The yield has increased slightly since the start of 2017, increasing from 2.62% at end December 2016 to 2.65% at 13 October 2017. A higher discount rate means lower liabilities, which in turn means lower deficits.

Exhibit 14: Bond yields have increased slightly since the start of 2017



Source: Datastream

Making assumptions for the shape of the average scheme's future liabilities, we calculate that pension liabilities have reduced by 0.4% since the year end.

The actual change in liabilities will depend on their exact shape. This is not typically disclosed so we have made assumptions.

Pensions stocks have underperformed which creates a buying opportunity

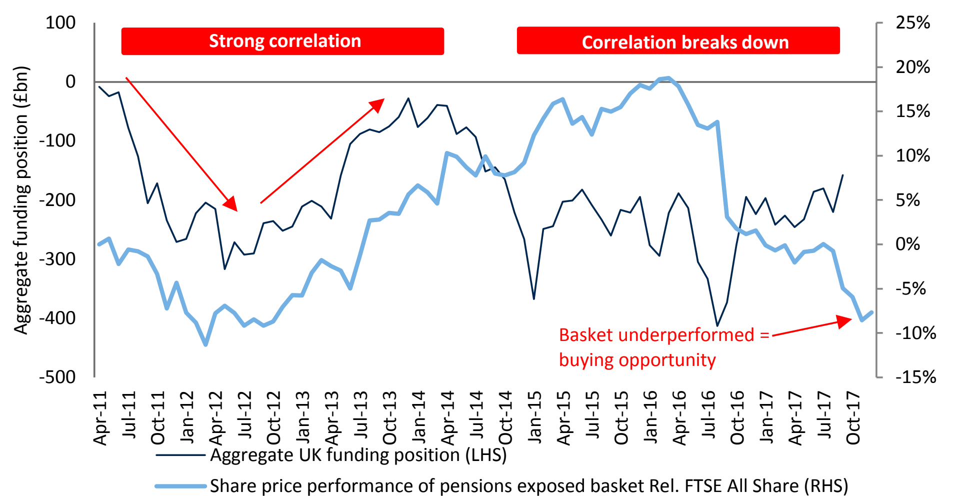
We believe there is a correlation between the share price performance of companies sponsoring large DB pension schemes (in many cases the scheme liabilities are larger than the market capitalisation of the company) and the funding level of those schemes.

We believe pension fund surpluses and share prices are correlated, but often with a helpful lag.

Often the correlation exists but with a lag. The lag exists because pension scheme triennial valuations can take around 18 months to be published. The biggest delay, in our experience, is due to the time it takes to clean the member data. In addition, the liability valuation is a highly complicated task and pension trustees are notoriously slow at deciding which valuation basis to use. The existence of a lag is helpful for investors who have time to react if they can anticipate the results of valuations.

The chart below shows that the correlation was strong between 2011 and mid-2014.

Exhibit 15: The correlation between share price performance and aggregate funding position was strong between 2011 and mid-2014



Source: Pension Protection Fund, Datastream

A correlation existed but this broke down in 2014…

However recently, aside from the months immediately post the Brexit vote, the correlation has broken down.

…pension stocks have underperformed even though surpluses have improved…

The basket of pensions-exposed stocks has underperformed by 26.2% since December 2015 and we believe this creates a buying opportunity.

Pension schemes are often overlooked by shareholders, in our view, due to their complex nature and the fact that sponsoring employers are reluctant to talk about them.

…we believe this creates a buying opportunity.

As we have highlighted, the FTSE100 has moved into a real surplus for the first time since 2000. We do not believe investors are fully aware of this.

In addition, we have highlighted why (through higher interest rates and updated mortality tables) this surplus is about to increase markedly.

Accounting versus funding valuations

We have shown that higher assumed discount rates can have a dramatic impact on funding levels on an IAS19 basis, however we do not expect a change in methodology on a funding basis, which is the basis which actually determines the employer contribution.

The impact of higher discount rates on the accounting valuation is significant. The funding valuation should be unaffected.

The discount rate used in the funding valuation should take account of the expected return on the specific assets held by the scheme. The assets will not change due to the discount rate methodology change we are discussing in this report so the funding discount rate should not change.

We analyse the IAS 19 valuation…

We have considered the impact of higher discount rates on IAS 19 deficits as opposed to funding deficits.

- IAS 19 valuations are performed every year; however, funding valuations are done only every three years.
- In addition, funding valuation can take in excess of 12 months to become available.

…which differs to the funding valuation

Accounting standard IAS 19 lays out the accounting treatment for pension schemes. It is a best estimate basis.

Accounting standard IAS 19 lays out the accounting treatment for pension schemes.

The IAS 19 pension scheme valuation is entirely separate and quite different to the funding valuation required by trustees in order to run the scheme.

- In the UK, IAS 19 requires that liabilities are discounted using an AA-rated corporate bond yield.
- Assumptions should be best estimate (rather than prudent).
- If there is a deficit, the full value of this deficit must be reported on the company balance sheet.
- The increase in liabilities due to employee service (the service cost) and the cost of funding any deficit (the finance cost) are shown as a cost in the company's profit and loss account.

…however it is the funding valuation that determines the employer cost

It is the funding valuation that determines how much the employer pays into the scheme.

It is the funding valuation that determines how much the employer pays into the scheme. As the funding valuation is performed with prudent assumptions (rather than best estimate assumptions), any deficit is likely to be materially worse than that shown under IAS 19.

Younger schemes to see a greater benefit from higher rates

As mentioned above the increase in discount rate we expect would impact liabilities which are more than 30 years out.

Younger schemes will gain more from an increase in the long dated discount rate than older schemes.

Therefore schemes which are immature (a greater proportion of younger members and more employees compared to the average pension scheme) would see a greater reduction in liability and improvement in funding position than schemes which are more mature.

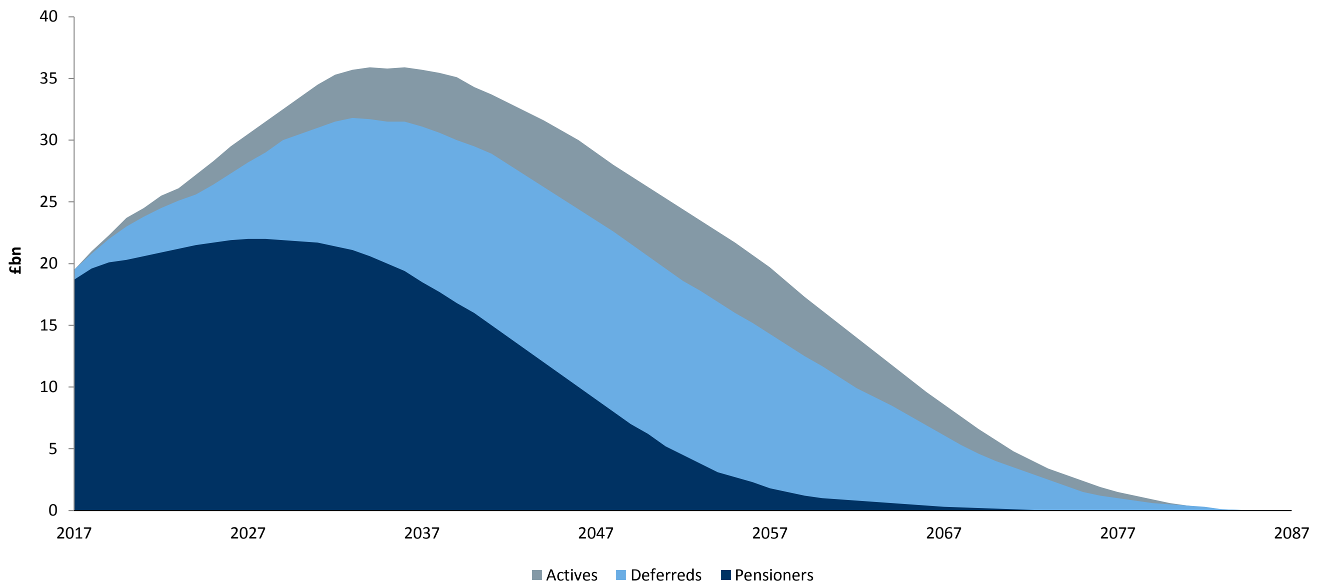
For an immature scheme such as **Tesco** the reduction in liability is large – we estimate 13%. In Tesco's case over half of the pension benefits are due to be paid in 30 years' time.

Schemes such as **Smiths Group** are more mature and have relatively less liabilities more than 30 years out than the average scheme. Sensitivities in the Smiths Group report indicate that a 0.3% increase in the discount rate would reduce liabilities by 4.6%.

For the FTSE100 as a whole we have calculated that a 30bps increase in discount rate would reduce liabilities by 6.0%. When projecting each company's pension position we have used the discount rate sensitivity provided in the annual report or equivalent. For the basket of stocks we have considered, liabilities reduce by an average of 5.2%. This basket has more mature pension schemes than average so the average reduction is less than 6.0% as expected.

We have used this shape of liabilities as the average.

Exhibit 16: Assumed shape of DB liabilities (2017-2087E)



Source: Barnett Waddingham, RBC Capital Market estimates. Original analysis is for the shape of FTSE 350 liabilities, rather than FTSE 100 liabilities.

We have not reduced assets for higher interest rates as in the accounting valuation assets are taken at market value.

Liabilities have been reduced, assets are taken at market value

We have only considered the impact on the pension scheme liabilities from an increase in discount rate; we have not considered the impact on the scheme assets. This is because under IAS19 the scheme assets are taken at market value. The liabilities are calculated using assumptions, the key assumption being the discount rate.

When Tesco reported its significant reduction in deficit this was because the liabilities had reduced. The assets were taken at market value and as such were not impacted by the change in discount rate assumption.

If actual yields increased then there would be a decrease in asset values (albeit smaller due to mismatching) alongside a decrease in liabilities.

Some companies provide sensitivity to changing yields to both assets and liabilities. For the reason explained above we have only considered the impact on the liabilities.

Hedging

In select cases, trustees have hedged either or both of interest rate risk and longevity risk. Sensitivities provided by companies have already allowed for this hedging so our calculations effectively allow for it.

A complex task

Forecasting assets and liabilities is a highly complex task. It takes highly qualified consulting actuaries several months to value the liabilities of a pension scheme.

Based on the information we have, our forecasts are our best estimate of where surpluses and deficits currently sit. However, asset returns will likely vary from scheme to scheme, the shape of the liabilities will likely vary scheme by scheme, and there likely will be changes to liabilities (e.g. more pensioner deaths than expected) that we are unaware of. We have included our assumed shape of FTSE 100 defined benefit liabilities in Exhibit 16 above.

While we have used historical accounting information that has been disclosed in company reports, we have also made some broad assumptions that we have applied across all companies in order to produce our projections.

Company profiles

Aviva Plc (LSE: AV.)

RBC Europe Limited

Gordon Aitken (Analyst) +44 20 7002 2633; gordon.aitken@rbccm.com

Rating: Outperform
Closing Price: GBp 501.5p
Price Target: 540p
Implied All-in Return: 13%

Pension scheme statistics:

£m	
Assets – 30/6/2017	18,597
Liabilities – 30/6/2017	16,115
Surplus/(Deficit) – 30/6/2017	2,482
Surplus/(Deficit) – RBC forecast to 17/10/2017	4,115
Annual Employer's Contribution*	181
Discount rate used	2.5%
Mortality table currently in use	CMI_15

Source: Company reports. Note Data relates to Aviva's UK pension schemes only. Contribution has been pro-rated to reflect UK contribution. * RBC Capital Market Estimates

Company statistics:

£m	31/12/2017E
Dividends	1,109
Market cap (17/10/2017)	19,847
Profit before tax	2,835

Source: RBC Capital Market estimates, Bloomberg

Relative pension gain:

Change in surplus/deficit as % of Mcap	8%
Change in surplus/deficit as % of PBT	58%

Source: RBC Capital Market estimates, Bloomberg

Relative exposure:

	30/6/2017	RBC forecast (17/10/2017)	FTSE 100 average
Asset/Liability	115%	128%	95%
Liability/Mcap	81%	74%	34%
Surplus/Mcap	13%	21%	(2%)

Source: Company reports, RBC Capital Market Estimates *Average for FTSE 100 companies as at 31 December 2016

Company valuation:

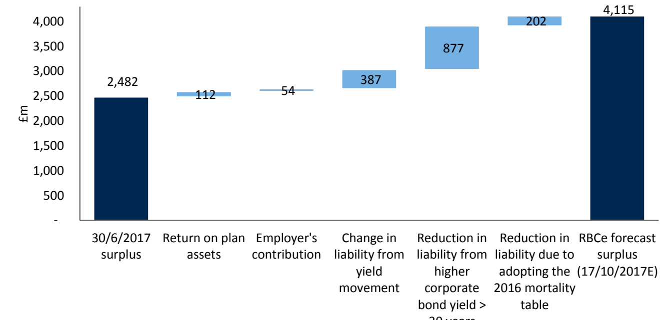
	2016A	2017E	2018E	2019E
P/E adj. (x)	9.8	8.7	8.4	7.7
Yield (%)	4.6%	5.4%	5.7%	6.0%

Source: RBC Capital Market Estimates, priced as at 17 October 2017 close

Share price performance chart

Source: Thomson Reuters Datastream

Pension surplus/deficit waterfall



Source: RBC Capital Market estimates

A large scheme with a large surplus driven by Aviva's deep understanding of the risks

- Aviva, as a UK insurer, has a deep understanding of pension liabilities as this forms a significant part of its business as well as its staff DB pension scheme. In addition, insurers have been subject to Solvency II since the beginning of 2016, a regime which requires a close matching of assets and liabilities. As such, we believe Aviva is more aware of DB pension scheme risks than other non-insurance companies.
- Aviva's scheme is large (the liabilities of the scheme were 81% of the market cap at end June 2017). It enjoys a healthy surplus on an accounting basis (115% at end June 2017).
- We estimate that Aviva's accounting surplus, which was £2.5bn at end June 2017, would rise to £4.1bn (see chart above) if it increased its discount rate by 0.3% (+£877m) and moved to the 2016 mortality table (+£202m).
- On interest rate risk, we understand Aviva has de-risked using hedges. On mortality, Aviva entered into a longevity swap in 2014 covering £5bn of pensioner liabilities. At the time, the longevity swap on the staff scheme was the largest ever and was the first ever to transfer risk directly to reinsurers (Swiss Re, Munich Re, SCOR) rather than an insurer. The mortality assumption for the Aviva Staff Pension Scheme, the most material scheme was moved from CMI_13 to CMI_15 in the 2016 results.
- The last funding valuation (prudent basis) was as at 31 March 2015 and while we do not yet have details of the results, Aviva said the scheme was fully funded at end 2016.

RBC Capital Markets

Barclays PLC (LSE: BARC)

RBC Europe Limited
Robert Noble (Analyst) +44 20 7029 0786; robert.noble@rbccm.com

Rating: Sector Perform
Closing Price: 192p
Price Target: 230p
Implied All-in Return: 22%

Pension scheme statistics:

£m	
Assets – 31/12/2016	32,657
Liabilities – 31/12/2016	33,033
Surplus/(Deficit) – 31/12/2016	(376)
Surplus/(Deficit) – 30/6/2017	400
Surplus/(Deficit) – RBC forecast to 17/10/2017	3,650
Annual Employer's Contribution*	634
Discount rate used	2.62%
Mortality table currently in use	CMI_2014 assumed

Source: Company reports. * RBC Capital Market Estimates

Company statistics:

£m	31/12/2017E
Dividends	513
Market cap (17/10/2017)	32,612
Profit before tax	5,883

Source: RBC Capital Market estimates, Bloomberg

Relative pension gain:

Change in surplus/deficit as % of Mcap	10%
Change in surplus/deficit as % of PBT	55%

Source: RBC Capital Market estimates, Bloomberg

Relative exposure:

	30/6/2017	RBC forecast (17/10/2017)	FTSE 100 average
Asset/Liability**	101%	112%	95%
Liability/Mcap**	102%	94%	34%
Surplus/Mcap	1%	11%	(2%)

Source: Company reports, RBC Capital Market Estimates *Average for FTSE 100 companies as at 31 December 2016 **RBC Capital Market Estimates

Company valuation:

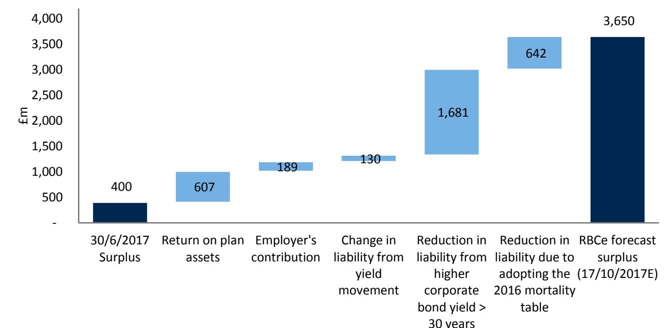
	2016A	2017E	2018E	2019E
P/E adj. (x)	16.1	9.4	7.9	6.2
Yield (%)	1.5%	1.6%	3.9%	5.2%

Source: RBC Capital Market Estimates, priced as at 19 October 2017 close

Share price performance chart

Source: Thomson Reuters Datastream

Pension surplus/deficit waterfall



Source: RBC Capital Market estimates

Key points:

- Barclays completed its latest triennial review and updated the market with the H1 results on July 28th. The deficit increased from £6bn in September 2015 to £7.9bn now (with an effective date of 30th September 2016). The CFO on the call noted that given the movements since then the deficit would actually be lower than that now.
- The contributions into the programme, however, have been reduced for the period from 2017 to 2020 which has a 25bps benefit to capital relative to the old contributions. From 2021-2026, however, there will be new, higher contributions which should act as a drag (though subject to another triennial review in 2019).
- Note that Barclays is in an IAS19 surplus position. IAS19 surplus positions do not count towards regulatory capital; asymmetrically however deficit positions are deducted. Contributions to the pension scheme therefore close the actuarial deficit but detract from regulatory capital.
- Any potential future gains to the IAS19 deficit through a higher discount rate should have no impact on the capital position. It would, however, positively impact TBV (+6%)- though as this is coupled by a lower ROTE it would not theoretically change the value we assign to the company

BP plc (LSE: BP)

RBC Europe Limited
Biraj Borkhataria (Analyst) +44 20 7029 7556; biraj.borkhataria@rbccm.com

Rating: Sector Perform
Closing Price: GBp 492
Price Target: GBp 500
Implied All-in Return (%): 7.8%

Pension scheme statistics:

$m	
Assets – 31/12/2016	40,685
Liabilities – 31/12/2016	48,976
Surplus/(Deficit) – 31/12/2016	(8,291)
Surplus/(Deficit) – 30/6/2017	(7,721)
Surplus/(Deficit) – RBC forecast to 17/10/2017	(2,409)
Annual Employer's Contribution*	651
Discount rate used	2.70%
Mortality table currently in use	CMI_2014 (assumed)

Source: Company reports. *RBC Capital Market Estimates

Company statistics:

$m	31/12/2017E
Dividends	5,998
Market cap (17/10/2017)	128,065
Profit before tax	9,700

Source: RBC Capital Market estimates, Bloomberg

Relative pension gain:

Change in surplus/deficit as % of Mcap	4%
Change in surplus/deficit as % of PBT	55%

Source: RBC Capital Market estimates, Bloomberg

Relative exposure:

	30/6/2017	RBC forecast (17/10/2017)	FTSE 100 average
Asset/Liability**	85%	95%	95%
Liability/Mcap**	39%	37%	34%
Surplus/Mcap	(6%)	(2%)	(2%)

Source: Company reports, RBC Capital Market Estimates *Average for FTSE 100 companies as at 31 December 2016**RBC Capital Market Estimates

Company valuation:

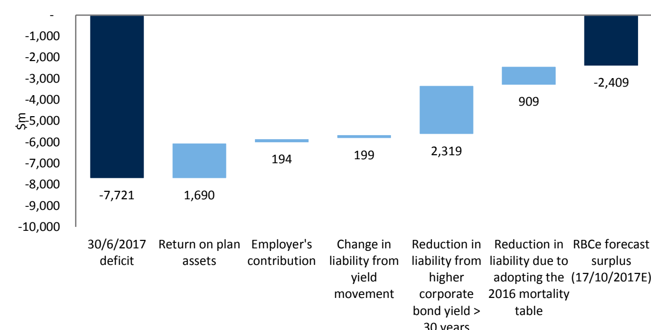
	2016A	2017E	2018E	2019E
P/E adj. (x)	58.2	22.1	22.4	19.9
Yield (%)	6.2%	6.2%	6.2%	6.2%

Source: RBC Capital Market Estimates, priced as at 19 October 2017 close

Share price performance chart

Source: Thomson Reuters Datastream

Pension surplus/deficit waterfall



Source: RBC Capital Market estimates

Key points:

- BP, like all other of the majors in the current environment, is trying to manage the challenges of lower commodity prices alongside its progressive dividend policy as well as future growth expectations.
- Although the published pension deficit is not burdensome relative to the overall market capitalization, the potential improvement in deficit from higher corporate bond yields could help BP's equity base expand and could potentially lead to gearing levels falling faster than expected.
- We expect this trend to be an additional supporting factor for BP's investment case.

BT Group plc (LSE: BT.A)

RBC Europe Limited
Wilton Fry (Analyst) +44 20 7429 8463; wilton.fry@rbccm.com

Rating: Outperform

Closing Price: 270p

Price Target: 410p

Implied All-in Return: 51.9%

Pension scheme statistics:

£bn	
Assets – 30/6/2017	49.0
Liabilities – 30/6/2017	58.6
Other schemes – 30/6/2017	0.5
Surplus/(Deficit) – 30/6/2017	(9.6)
Surplus/(Deficit) – RBC forecast to 17/10/2017	(4.2)
Annual Employer's Contribution*	521
Discount rate used	2.45%
Mortality table currently in use	CMI_13

Source: Company reports. * RBC Capital Market Estimates

Company statistics:

£m	31/12/2018E
Dividends	1,601
Market cap (17/10/2017)	26,778
Profit before tax	3,475

Source: RBC Capital Market estimates, Bloomberg

Relative pension gain:

Change in surplus/deficit as % of Mcap	20%
Change in surplus/deficit as % of PBT	156%

Source: RBC Capital Market estimates, Bloomberg

Relative exposure:

	30/6/2017	RBC forecast (17/10/2017)	FTSE 100 average
Asset/Liability	84%	92%	95%
Liability/Mcap	219%	202%	34%
Surplus/Mcap	(36%)	(16%)	(2%)

Source: Company reports, RBC Capital Market Estimates *Average for FTSE 100 companies as at 31 December 2016

Company valuation:

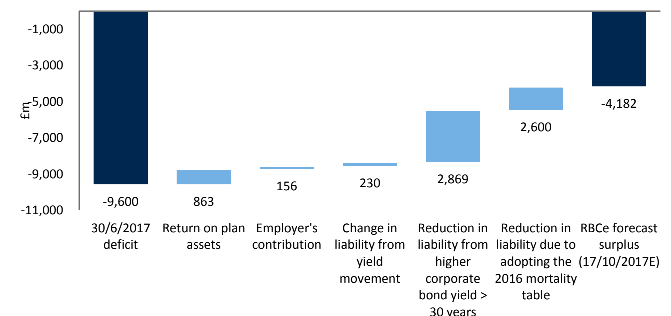
	2016A	2017A	2018E	2019E
P/E adj. (x)	9.0	13.9	12.8	11.4
Yield (%)	5.2%	5.7%	6.0%	6.1%

Source: RBC Capital Market Estimates, priced as at 17 October 2017 close

Share price performance chart

Source: Thomson Reuters Datastream

Pension surplus/deficit waterfall



Source: RBC Capital Market estimates

Key points:

- BT is due to reveal its June 2017 triennial valuation around March / April 2018.
- We believe BT is considering using a Scottish Limited Partnership structure to use assets instead of cash to plug any increase in the deficit from the new triennial valuation.
- BTPS holds a longevity insurance contract which covers around 25% of BTPS's total exposure to improvements in longevity, providing long-term protection and income to the BTPS in the event that members live longer than currently expected.
- Please see the BT note released on 23 October 2017 for details to our calculations on the gain in moving from CMI_2013 to CMI_2016.

Centrica (CNA LN)

RBC Europe Limited
John Musk (Analyst) +44 207 029 0856; john.musk@rbccm.com

Rating: Sector Perform
Closing Price: 172p
Price Target: 210p
Implied All-in Return (%): 29.4%

Pension scheme statistics:

£m	
Assets – 30/6/2017	8,207
Liabilities – 30/6/2017	9,129
Surplus/(Deficit) – 30/6/2017	(922)
Surplus/(Deficit) – RBC forecast to 17/10/2017	139
Annual Employer's Contribution*	248
Discount rate used	2.60%
Mortality table currently in use	CMI_2014 (assumed)

Source: Company reports. * RBC Capital Market Estimates

Company statistics:

£m	31/12/2017E
Dividends	680
Market cap (17/10/2017)	9,575
Profit before tax	1,214

Source: RBC Capital Market estimates, Bloomberg

Relative pension gain:

Change in surplus/deficit as % of Mcap	11%
Change in surplus/deficit as % of PBT	87%

Source: RBC Capital Market estimates, Bloomberg

Relative exposure:

	30/6/2017	RBC forecast (17/10/2017)	FTSE 100 average
Asset/Liability	90%	102%	95%
Liability/Mcap	95%	86%	34%
Surplus/Mcap	(10%)	1%	(2%)

Source: Company reports, RBC Capital Market Estimates *Average for FTSE 100 companies as at 31 December 2016

Company valuation:

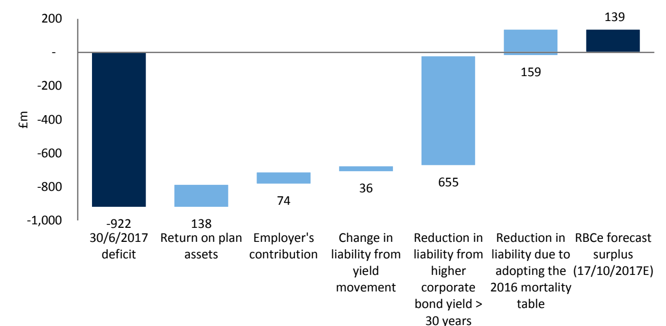
	2016A	2017E	2018E	2019E
P/E adj. (x)	10.2	11.6	10.6	10.7
Yield (%)	7.0%	7.2%	7.3%	7.5%

Source: RBC Capital Market Estimates, priced as at 19 October 2017 close

Share price performance chart

Source: Thomson Reuters Datastream

Pension surplus/deficit waterfall



Source: RBC Capital Market estimates

Key points:

- The Centrica Engineers Pension Scheme, Centrica Pension Plan and Centrica Pension Scheme form the significant majority of the CNA's defined benefit obligation and are referred to collectively as the 'Registered Pension Schemes'. The latest full actuarial valuation of the Registered Pension Schemes was carried out in March 2015. It was updated for the purposes of IAS 19 in the 2016 annual report but the next full actuarial assessment is due in March 2018.
- As of December 2016 CNA's IAS19 pension liability stood at £9.1bn, with plan assets of £7.9bn and a net deficit of £1.1bn. This net deficit had jumped from de-minimis levels over the course of 2016 and was a major reason why CNA had to caution against future dividend increases because of the overall level of indebtedness (including pensions).
- By the time of half year accounts the net deficit had declined slightly to £0.9bn and, coupled with asset disposals, CNA is now on track to reduce net debt to £2.5-3.0bn by year end 2017 which is the communicated trigger for the potential return to dividend growth. Although uncertainty from tariffs caps may result in the company remaining cautious on dividends.
- Based on our assumptions around increasing the bond rate to a higher corporate bond yield at durations in excess of 30 years, we believe the deficit will flip into a net surplus at year end. Overall this £1.1bn swing is worth ~19p/sh to valuation.

Dixons Carphone plc (LSE: DC.)

RBC Europe Limited
Richard Chamberlain (Analyst) +44 20 7429 8092; richard.chamberlain@rbccm.com

Rating: Outperform
Closing Price: 184p
Price Target: 215p
Implied All-in Return: 22.9%

Pension scheme statistics:

£m	
Assets – 29/4/2017	1,125
Liabilities – 29/4/2017	1,714
Surplus/(Deficit) – 29/4/2017	(589)
Surplus/(Deficit) – RBC forecast to 17/10/2017	(389)
Annual Employer's Contribution*	43
Discount rate used	2.60%
Mortality table currently in use	CMI_15

Source: Company reports. * RBC Capital Market Estimates

Company statistics:

£m	FY2018E
Dividends	130
Market cap (17/10/2017)	2,113
Profit before tax	374

Source: RBC Capital Market estimates, Bloomberg

Relative pension gain:

Change in surplus/deficit as % of Mcap	9%
Change in surplus/deficit as % of PBT	54%

Source: RBC Capital Market estimates, Bloomberg

Relative exposure:

	29/4/2017	RBC forecast (17/10/2017)	FTSE 100 average
Asset/Liability	66%	75%	95%
Liability/Mcap	81%	74%	34%
Surplus/Mcap	(28%)	(18%)	(2%)

Source: Company reports, RBC Capital Market Estimates *Average for FTSE 100 companies as at 31 December 2016

Company valuation:

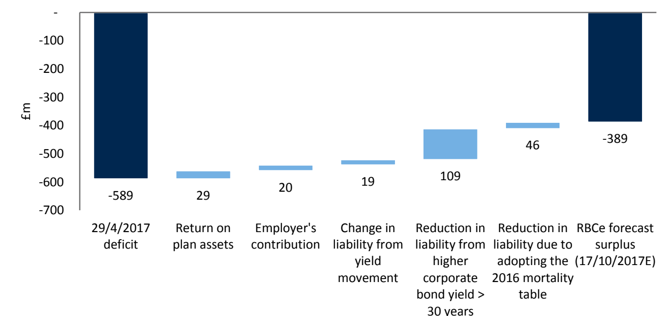
	2016A	2017A	2018E	2019E
P/E adj. (x)	7.0	6.7	7.1	6.6
Yield (%)	5.2%	6.0%	6.0%	6.0%

Source: RBC Capital Market Estimates, priced as at 19 October 2017 close

Share price performance chart

Source: Thomson Reuters Datastream

Pension surplus/deficit waterfall



Source: RBC Capital Market estimates

Key points:

- Dixons Carphone's actuarial deficit had risen until recently because according to DC it mixed more into more defensive, less volatile bonds and other types of assets. It had a lot of equities which generated some good upside, but these are more volatile and the range of outcomes was wide so it became more defensive.
- We estimate a 1 year increase in mortality rates would reduce Dixons Carphone's pension finance cost by £1mn and its pension deficit by £69mn. Based on the disclosed sensitivities and the CMI table used, our calculations show that the move to CMI_2016 would lead to a £23mn gain to the net pension scheme position, which is equivalent to 6% of FY18E PBT.
- In addition, were a higher corporate bond rate used to discount Dixons Carphone's pension liabilities, we estimate this would reduce its deficit from £589mn to £389mn. Given structural and cyclical headwinds in mobile (eg higher handset costs, customers taking longer to upgrade and switching to sim only deals), Dixons Carphone has relatively low visibility right now on working capital and its cash position over the next few years. However, we expect this to improve post the launch of the new iPhone X in November and post peak trading over Black Friday and Christmas. A lower pension deficit would make it easier for Dixons Carphone to make additional cash returns to shareholders in the medium term, and give investors more confidence in the sustainability of its current +6% dividend yield.

GKN Plc (LSE: GKN)

RBC Europe Limited
Wasi Rizvi (Analyst) +44 20 7653 4591; wasi.rizvi@rbccm.com

Rating: Outperform

Closing Price: 302p

Price Target: 430p

Implied All-in Return: 42%

Pension scheme statistics (UK schemes):

£m	
Assets – 31/12/2016	2,293
Liabilities – 31/12/2016	3,514
Surplus/(Deficit) – 31/12/2016	(1,221)
Surplus/(Deficit) – 30/6/2017	(1,063)
Surplus/(Deficit) – RBC forecast to 17/10/2017	(579)
Annual Employer's Contribution *	263
Discount rate used	2.40%-2.55%
Mortality table currently in use	CMI_16

Source: Company reports. *Pro-rated regular contribution based on RBC Capital Markets estimates plus £250m one-off contribution

Company statistics:

£m	31/12/2017E
Dividends	155
Market cap (17/10/2017)	5,255
Profit before tax	713

Source: RBC Capital Market estimates, Bloomberg

Relative pension gain:

Change in surplus/deficit as % of Mcap	9%
Change in surplus/deficit as % of PBT	68%

Source: RBC Capital Market estimates, Bloomberg

Relative exposure:

	30/6/2017	RBC forecast (17/10/2017)	FTSE 100 average
Asset/Liability**	69%	82%	95%
Liability/Mcap**	65%	62%	34%
Surplus/Mcap	(20%)	(11%)	(2%)

Source: Company reports, RBC Capital Market Estimates *Average for FTSE 100 companies as at 31 December 2016 **RBC Capital Market Estimates

Company valuation:

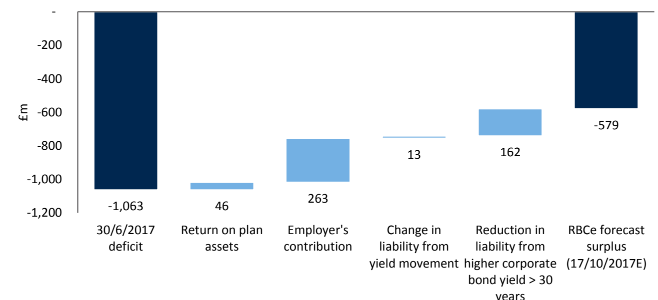
	2016A	2017E	2018E	2019E
P/E adj. (x)	10.6	9.6	9.0	8.3
Yield (%)	2.9%	3.1%	3.2%	3.4%

Source: RBC Capital Market Estimates, priced as at 17 October 2017 close

Share price performance chart

Source: Thomson Reuters Datastream

Pension surplus/deficit waterfall



Source: RBC Capital Market estimates

Key points:

- At GKN's 2017 interim results, the accounting deficit on the UK pension schemes was £162m lower than at December 2016, with £72m of the gain coming from using updated mortality assumptions (including CMI_2016). It was also announced that the DB scheme was closed to future accruals from July 1st 2017.
- We consider GKN's pension commitments to be reasonably well understood by investors; the actuarial calculation of the deficit is typically used by analysts and investors in GKN valuation calculations. The two UK defined benefit schemes are currently conducting their 2016 triennial funding valuations, which is expected to result in a deficit ~£350m lower than the accounting deficit (largely owing to differing discount rates used).
- GKN issued a £300m bond in May, of which £250m will be paid into the UK pension scheme during H2 2017 (included in the waterfall above). The company expects that this will result in lower deficit recovery payments from the current £42m p.a. (included within the £87m contribution above).
- GKN's schemes are relatively mature. As such, the potential reduction in liability from higher corporate bond yields (>30 years) is likely to be lower than in our waterfall above. The weighted average duration (i.e. the estimated average time to payment of all cash flows arising as a result of the defined benefit obligations) of GKN's two schemes is 19 and 11 years.

International Consolidated Airlines Group S.A. (LSE: IAG)

RBC Europe Limited
Damian Brewer (Analyst) +44 20 7653 4900; damian.brewer@rbccm.com

Rating: Sector Perform
Closing Price: 650GBp
Price Target: 600GBp
Implied All-in Return: -2.4%

Pension scheme statistics:

€m	
Assets – 30/6/2017	27,927
Liabilities – 30/6/2017	28,573
Surplus/(Deficit) – 30/6/2017	(646)
Surplus/(Deficit) – RBC forecast to 17/10/2017	2,316
Annual Employer's Contribution*	936
Discount rate used	2.55-2.65%
Mortality table currently in use	CMI_2014 (assumed)

Source: Company reports. * RBC Capital Market Estimates

Company statistics:

€m	31/12/2017E
Dividends (€/share)	€0.368
Market cap (17/10/2017) (m)	€14,477
Profit before tax (m)	€2,629

Source: RBC Capital Market estimates, Bloomberg

Relative pension gain:

Change in surplus/deficit as % of Mcap	20%
Change in surplus/deficit as % of PBT	113%

Source: RBC Capital Market estimates, Bloomberg

Relative exposure:

	30/6/2017	RBC forecast (17/10/2017)	FTSE 100 average
Asset/Liability	98%	109%	95%
Liability/Mcap	197%	182%	34%
Surplus/Mcap	(4%)	16%	(2%)

Source: Company reports, RBC Capital Market Estimates *Average for FTSE 100 companies as at 31 December 2016

Company valuation:

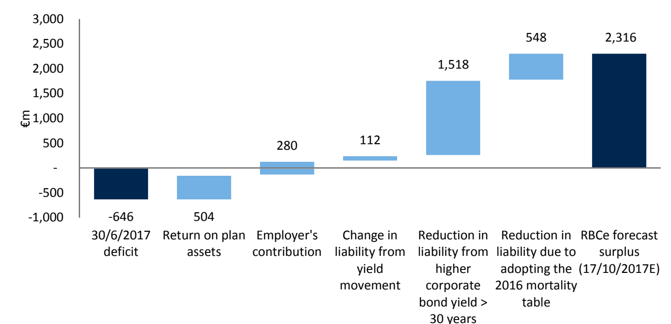
	2016A	2017E	2018E	2019E
P/E adj. (x)	5.8x	6.6x	7.3x	7.9x
Yield (%)	4.5%	5.3%	4.8%	4.4%

Source: RBC Capital Market Estimates, priced as at 19 October 2017 close

Share price performance chart

Source: Thomson Reuters Datastream

Pension surplus/deficit waterfall



Source: RBC Capital Market estimates

Key points:

- IAG's main exposure is through BA's two main DB pensions' schemes. One pension scheme is in dispute, the other (NAPS) reached agreement in principle on the triennial valuation in 2016, with contribution rates agreed to 2027.
- We find investors assess pension value cost based on the NPV of the future cash contribution cost, not accounting measures.
- For an airline, the biggest valuation impact remains the prospects for average fares achieved – given the operating and debt leveraged structure of the business.

Lloyds Banking Group plc (LSE: LLOY)

RBC Europe Limited
Robert Noble (Analyst) +44 20 7029 0786; robert.noble@rbccm.com

Rating: Outperform
Closing Price: 67p
Price Target: 90p
Implied All-in Return: 40%

Pension scheme statistics:

£m	
Assets – 30/6/2017	44,721
Liabilities – 30/6/2017	45,216
Surplus/(Deficit) – 30/6/2017	(495)
Surplus/(Deficit) – RBC forecast to 17/10/2017	3,367
Annual Employer's Contribution*	623
Discount rate used	2.71%
Mortality table currently in use	CMI_2014 assumed

Source: Company reports. *RBC Capital Markets estimate

Company statistics:

£m	31/12/2017E
Dividends	2,928
Market cap (17/10/2017)	47,729
Profit before tax	8,548

Source: RBC Capital Market estimates, Bloomberg

Relative pension gain:

Change in surplus/deficit as % of Mcap	8%
Change in surplus/deficit as % of PBT	45%

Source: RBC Capital Market estimates, Bloomberg

Relative exposure:

	30/6/2017	RBC forecast (17/10/2017)	FTSE 100 average
Asset/Liability	99%	108%	95%
Liability/Mcap	95%	88%	34%
Surplus/Mcap	(1%)	7%	(2%)

Source: Company reports, RBC Capital Market Estimates *Average for FTSE 100 companies as at 31 December 2016

Company valuation:

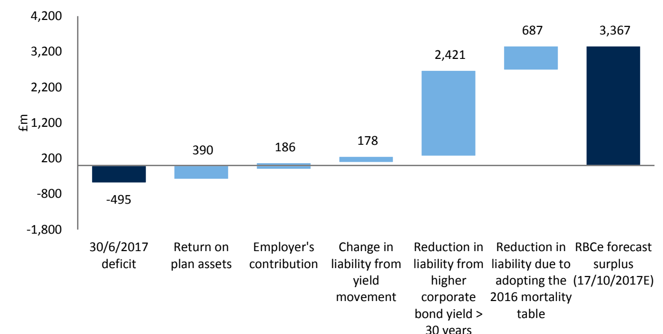
	2016A	2017E	2018E	2019E
P/E adj. (x)	8.8x	8.1x	9.0x	8.8x
Yield (%)	4.6%	6.1%	8.2%	9.7%

Source: RBC Capital Market Estimates, priced as at 19 October 2017 close

Share price performance chart

Source: Thomson Reuters Datastream

Pension surplus/deficit waterfall



Source: RBC Capital Market estimates

Key points:

- LLOY is the only UK bank with a defined benefit scheme that is still open for accruals for each year of service; however, pensionable pay has been frozen which should limit the increase in liabilities. However, the contribution to the fund is not particularly large in comparison to expected 2017 dividends (21%).
- The triennial valuation is this year and we expect an update at some point towards the end of this year or beginning of next year. The last valuation at 30 June 2014 showed a £5bn actuarial deficit and the revaluation could lead to greater contributions into the pension fund.
- IAS19 surplus positions do not count towards regulatory capital; asymmetrically however deficit positions are deducted. Contributions to the pension scheme therefore close the actuarial deficit but detract from regulatory capital.
- LLOY has a small pension deduction in capital of £320m. A theoretical £3.9bn benefit would therefore have a £320m benefit to capital and a £3.9bn benefit to TBV. That is worth 15bps of capital and 10% benefit to TBV.

RBC Capital Markets

Marks & Spencer Group PLC (LSE: MKS)

RBC Europe Limited
Richard Chamberlain (Analyst) +44 20 7429 8092; richard.chamberlain@rbccm.com

Rating: Outperform
Closing Price: 347p
Price Target: 400p
Implied All-in Return: 20.8%

Pension scheme statistics:

£m	
Assets – 1/4/2017	10,135
Liabilities – 1/4/2017	9,433
Surplus/(Deficit) – 1/4/2017	702
Surplus/(Deficit) – RBC forecast to 17/10/2017	1,687
Annual Employer's Contribution*	100
Discount rate used	2.55%
Mortality table currently in use	CMI_2014 (assumed)

Source: Company reports. * RBC Capital Market Estimates

Company statistics:

£m	FY18E
Dividends	378
Market cap (17/10/2017)	5,651
Profit before tax	593

Source: RBC Capital Market estimates, Bloomberg

Relative pension gain:

Change in surplus/deficit as % of Mcap	17%
Change in surplus/deficit as % of PBT	166%

Source: RBC Capital Market estimates, Bloomberg

Relative exposure:

	1/4/2017	RBC forecast (17/10/2017)	FTSE 100 average
Asset/Liability	107%	120%	95%
Liability/Mcap	167%	153%	34%
Surplus/Mcap	12%	30%	(2%)

Source: Company reports, RBC Capital Market Estimates *Average for FTSE 100 companies as at 31 December 2016

Company valuation:

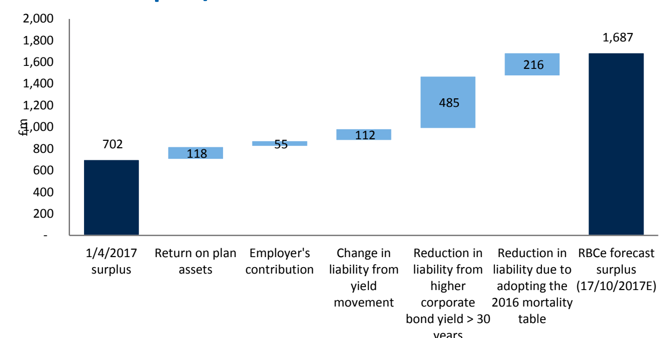
	2016A	2017A	2018E	2019E
P/E adj. (x)	12.2	11.9	11.6	11.0
Yield (%)	5.4%	5.4%	5.5%	5.6%

Source: RBC Capital Market Estimates, priced as at 19 October 2017 close

Share price performance chart

Source: Thomson Reuters Datastream

Pension surplus/deficit waterfall



Source: RBC Capital Market estimates

Key points:

- M&S has a relatively large pension scheme with a last reported surplus of c.£700mn. In FY17, M&S paid £135mn of cash contributions to the scheme and we expect contributions of c.£100mn per year over the next two years (£72mn to the SLP and £28mn of deficit funding). There is also another £100mn of service costs for both defined benefit and defined contribution scheme.
- Stated in the annual report, the impact of a decrease in the average life expectancy of one year on the scheme surplus is £370mn, assuming all other factors remain constant, which should be helpful to the value per share. Based on the disclosed sensitivities and the CMI_2014 table used, our calculations show that the move to CMI_2016 would lead to a £216mn benefit to the net pension scheme position, which is equivalent to 36% of PBT. In addition we estimate if M&S were to use a higher corporate bond yield for durations over 30 years to discount its pension liabilities we think this would lead to a pension surplus of c.£1.8bn.
- We don't expect the above changes to affect M&S' funding requirements over the next two years. However in the medium term if a higher surplus is sustained we think M&S could be able to accelerate cash returns to shareholders. M&S already offers a dividend yield of +5%, but additional cash returns should be very well received given the maturity of its UK clothing business and online/discount pressures facing the UK retail sector.

National Grid (NG)

RBC Europe Limited
Maurice Choy, +44 20 7653 4198, maurice.choy@rbccm.com

Rating: Sector Perform
Closing Price: 935p
Price Target: 1,050p
Implied All-in Return (%): 17.5%

Pension scheme statistics:

£m (UK Scheme only)	
Assets – 31/3/2017	15,489
Liabilities – 31/3/2017	15,645
Surplus/(Deficit) – 31/3/2017	(156)
Surplus/(Deficit) – RBC forecast to 17/10/2017	1,691
Employer's Contribution*	528
Discount rate used	2.4%
Mortality table currently in use	CMI_14

Source: Company reports. * RBC Capital Market Estimates

Company statistics:

£m	31/03/2018E
Dividends	1,579
Market cap (17/10/2017)	31,468
Profit before tax	2,550

Source: RBC Capital Market estimates, Bloomberg

Relative pension gain:

Change in surplus/deficit as % of Mcap	6%
Change in surplus/deficit as % of PBT	72%

Source: RBC Capital Market estimates, Bloomberg

Relative exposure:

	31/3/2017	RBC forecast (17/10/2017)	FTSE 100 average
Asset/Liability	99%	112%	95%
Liability/Mcap	50%	45%	34%
Surplus/Mcap	0%	5%	(2%)

Source: Company reports, RBC Capital Market Estimates *Average for FTSE 100 companies as at 31 December 2016

Company valuation:

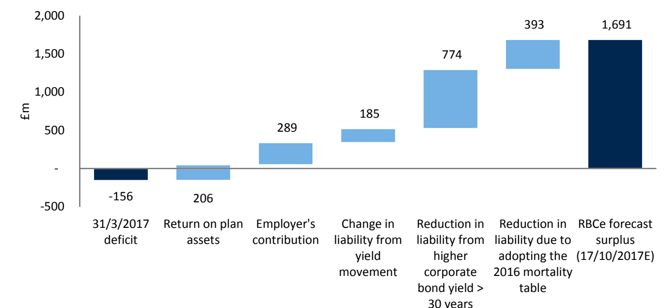
March y/e	FY17A	FY18E	FY19E	FY20E
P/E adj. (x)	12.8	15.7	12.4	12.2
Yield (%)	4.7%	5.0%	5.2%	5.4%

Source: RBC Capital Market Estimates, priced as at 17 October 2017 close

Share price performance chart

Source: Thomson Reuters Datastream

Pension surplus/deficit waterfall



Source: RBC Capital Market estimates

Key points:

- As of March 2017 NG's IAS19 pension liability stood at £26.3bn, of which £15.6bn relates to UK operations (with the remainder relating to the US). NG plan assets were £24.4bn, which resulted in a net deficit of £1.9bn. Of the £1.9bn net deficit, only £156m related to the UK as the vast majority relates to pensions and medical benefits in the US.
- The actuarial valuation of NG's two defined benefit UK pension schemes last took place in Sep 2015/March 2016 and as of FY17A the net deficit was £1.76bn, which is less than the reported IAS19 figure.
- Based on our assumptions, a forecast surplus of £1.69bn results in an increase in the pension balance of ~£1.85bn, which is a positive for NG. We note that pensions form part of the periodic regulatory review process with Ofgem and generally speaking out- and underperformances are shared with customers.
- A pension surplus has a positive impact on our valuation, a forecast surplus of £1.69bn in the pension balance is worth 55p/sh to our valuation, which is around a 5% increase.

RBC Capital Markets

The Royal Bank of Scotland Group plc (LSE: RBS)

RBC Europe Limited
Robert Noble (Analyst) +44 20 7029 0786; robert.noble@rbccm.com

Rating: Sector Perform
Closing Price: 280p
Price Target: 240p
Implied All-in Return: -13%

Company valuation:

	2016A	2017E	2018E	2019E
P/E adj. (x)	13.2x	10.9x	12.5x	11.2x
Yield (%)	0%	0%	0%	7.1%

Source: RBC Capital Market Estimates, priced as at 19 October 2017 close

Pension scheme statistics:

£m	
Assets – 31/12/2016	43,824
Liabilities – 31/12/2016	38,851
Surplus/(Deficit) – 31/12/2016	4,973
Surplus/(Deficit) – RBC forecast to 17/10/2017	10,256
Annual Employer's Contribution*	267
Discount rate used	2.70%
Mortality table currently in use	CMI 2014 (assumed)

Source: Company reports. *RBC Capital Markets estimate

Share price performance chart

Source: Thomson Reuters Datastream

Company statistics:

£m	31/12/2017E
Dividends	0
Market cap (17/10/2017)	32,704
Profit before tax	4,928

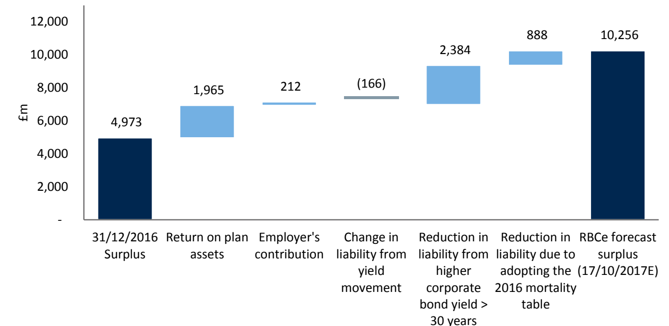
Source: RBC Capital Market estimates, Bloomberg

Relative pension gain:

Change in surplus/deficit as % of Mcap	16%
Change in surplus/deficit as % of PBT	107%

Source: RBC Capital Market estimates, Bloomberg

Pension surplus/deficit waterfall



Source: RBC Capital Market estimates

Relative exposure:

	31/12/2016	RBC forecast (17/10/2017)	FTSE 100 average
Asset/Liability	113%	129%	95%
Liability/Mcap	119%	109%	34%
Surplus/Mcap	15%	31%	(2%)

Source: Company reports, RBC Capital Market Estimates *Average for FTSE 100 companies as at 31 December 2016

Key points:

- RBS closed the deficit on its defined contribution pension plan in Q1 2016 through a contribution of £4.2bn following in part a change in accounting standards under IFRIC14 regarding trustees' rights of recoverability of employee pension.
- The IAS19 position for RBS is already a substantial surplus. IAS19 surplus positions do not count towards regulatory capital; asymmetrically however deficit positions are deducted.
- Any potential future gains to the IAS19 deficit through a higher discount rate should have no impact on the capital position. It would, however, positively impact TBV (15% benefit) - though as this is coupled by a lower ROTE it would not theoretically change the value we assign to the company.

Royal Dutch Shell, plc (LSE: RDSB)

RBC Europe Limited
Biraj Borkhataria (Analyst) +44 20 7029 7556; biraj.borkhataria@rbccm.com

Rating: Outperform
Closing Price: GBp 2,312
Price Target: GBp 2,500
Implied All-in Return (%): 12.7%

Pension scheme statistics:

$m	
Assets – 31/12/2016	81,276
Liabilities – 31/12/2016	94,405
Surplus/(Deficit) – 31/12/2016	(13,129)
Surplus/(Deficit) – 30/6/2017	(9,074)
Surplus/(Deficit) – RBC forecast to 17/10/2017	(1,627)
Employer's Contribution*	485
Discount rate used	3.0%
Mortality table currently in use	CMI_2014 (assumed)

Source: Company reports. * RBC Capital Market Estimates

Company statistics:

$m	31/12/2017E
Dividends	10,020
Market cap (17/10/2017)	251,535
Profit before tax	27,061

Source: RBC Capital Market estimates, Bloomberg

Relative pension gain:

Change in surplus/deficit as % of Mcap	3%
Change in surplus/deficit as % of PBT	28%

Source: RBC Capital Market estimates, Bloomberg

Relative exposure:

	30/6/2017	RBC forecast (17/10/2017)	FTSE 100 average
Asset/Liability**	90%	98%	95%
Liability/Mcap**	37%	35%	34%
Surplus/Mcap	(4%)	(1%)	(2%)

Source: Company reports, RBC Capital Market Estimates *Average for FTSE 100 companies as at 31 December 2016 **RBC Capital Markets estimates

Company valuation:

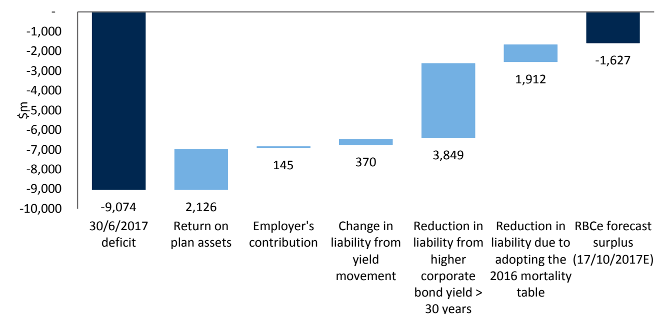
	2016A	2017E	2018E	2019E
P/E adj. (x)	33.8	17.8	16.0	13.4
Yield (%)	6.1%	6.1%	6.1%	6.1%

Source: RBC Capital Market Estimates, priced as at 19 October 2017 close

Share price performance chart

Source: Thomson Reuters Datastream

Pension surplus/deficit waterfall



Source: RBC Capital Market estimates

Key points:

- Shell, like all other of the majors in the current environment, is trying to manage the challenges of lower commodity prices alongside its enlarged dividend base following the BG deal.
- Shell's gearing has been a key focus area for investors, as management has specifically guided to getting gearing levels closer to 20% (25.3% at 2Q17) before removing the scrip dividend.
- We therefore see the trend in improving pension deficits as positive for the overall investment case at Shell, and it could potentially lead to gearing falling faster than expected.

RBC Capital Markets

RSA Insurance Group plc (LSE: RSA)

RBC Europe Limited
Anna Hui (Analyst) +44 20 7653 4206; anna.hui@rbccm.com

Rating: Outperform
Closing Price: 626.0p
Price Target: 750p
Implied All-in Return: 24%

Pension scheme statistics:

£m	
Assets – 31/12/2016	8,641
Liabilities – 31/12/2016	8,893
Surplus/(Deficit) – 31/12/2016	(252)
Surplus/(Deficit) – 30/6/2017	(143)
Surplus/(Deficit) – RBC forecast to 17/10/2017	449
Employer's Contribution*	110
Discount rate used	2.81%
Mortality table currently in use	CMI_15

Source: Company reports. * RBC Capital Market Estimates

Company statistics:

£m	31/12/2017E
Dividends	248
Market cap (17/10/2017)	6,300
Profit before tax	507

Source: RBC Capital Market estimates, Bloomberg

Relative pension gain:

Change in surplus/deficit as % of Mcap	9%
Change in surplus/deficit as % of PBT	117%

Source: RBC Capital Market estimates, Bloomberg

Relative exposure:

	30/6/2017	RBC forecast (17/10/2017)	FTSE 100 average
Asset/Liability**	98%	105%	95%
Liability/Mcap**	142%	134%	34%
Surplus/Mcap	(2%)	7%	(2%)

Source: Company reports, RBC Capital Market Estimates *Average for FTSE 100 companies as at 31 December 2016 **RBC Capital Markets estimates

Company valuation:

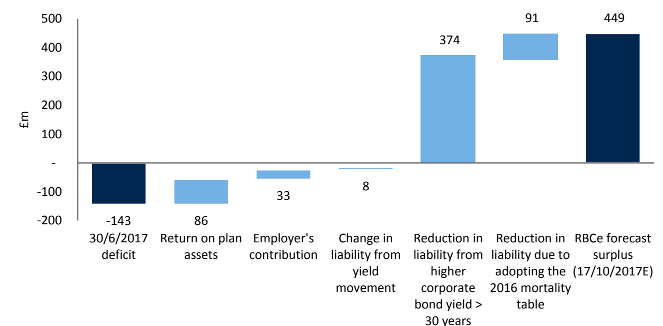
	2016A	2017E	2018E	2019E
P/E (x)	15.8	13.3	11.8	10.4
Yield (%)	2.6%	3.8%	5.8%	6.7%

Source: RBC Capital Market Estimates, priced as at 19 October 2017 close

Share price performance chart

Source: Thomson Reuters Datastream

Pension surplus/deficit waterfall



Source: RBC Capital Market estimates

Key points:

- RSA currently uses CMI_2015 tables in assessing its defined benefit scheme obligations. The company disclosed a sensitivity of £274m charge for a 12% reduction in mortality assumption (this is equivalent to a one-year increase in the life expectancy of a 60 year-old male).
- We estimate that the gain from moving from CMI_2015 to CMI_2016, which reduces life expectancy by 4 months, is £91m.
- The discount rate used in assessing the obligations of the UK pension scheme was 2.81% (2016). Based on the sensitivities provided, an increase in the discount rate by 0.25% reduces the obligation by £310m (c.3.5%). We estimate that by increasing the discount rate by 30bps would reduce the pension liability by £374m.

RBC Capital Markets

Smiths Group Plc (LSE: SMIN)

RBC Europe Limited
Matthew Spurr (Analyst) 0207 029 0787; matthew.spurr@rbccm.com

Rating: Outperform
Closing Price: 1537p
Price Target: 1650p
Implied All-in Return: 11%

Pension scheme statistics:

£m	
Assets – 31/7/2017	4,259
Liabilities – 31/7/2017	4,035
Surplus/(Deficit) – 31/7/2017	224
Surplus/(Deficit) – RBC forecast to 17/10/2017	451
Employer's Contribution*	35
Discount rate used	2.6%
Mortality table currently in use	CMI_16

Source: Company reports. * RBC Capital Market Estimates

Company statistics:

£m	31/7/2018E
Dividends	167
Market cap (17/10/2017)	6,224
Profit before tax	524

Source: RBC Capital Market estimates, Bloomberg

Relative pension gain:

Change in surplus/deficit as % of Mcap	4%
Change in surplus/deficit as % of PBT	43%

Source: RBC Capital Market estimates, Bloomberg

Relative exposure:

	31/7/2017	RBC forecast (17/10/2017)	FTSE 100 average
Asset/Liability	106%	112%	95%
Liability/Mcap	65%	61%	34%
Surplus/Mcap	4%	7%	(2%)

Source: Company reports, RBC Capital Market Estimates *Average for FTSE 100 companies as at 31 December 2016

Company valuation:

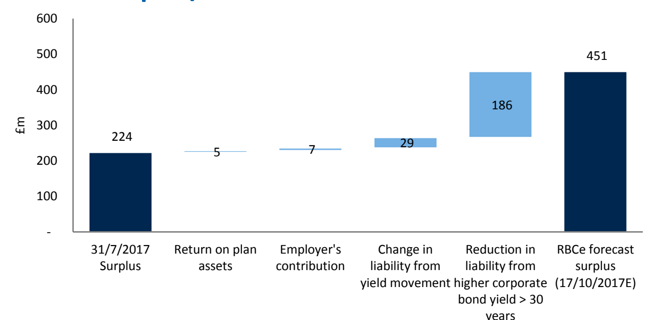
	2017A	2018E	2019E	2020E
P/E adj. (x)	16.7x	17.2x	15.9x	15.0x
Yield (%)	2.8%	2.9%	3.0%	3.1%

Source: RBC Capital Market Estimates, priced as at 19 October 2017 close

Share price performance chart

Source: Thomson Reuters Datastream

Pension surplus/deficit waterfall



Source: RBC Capital Market estimates

Key points:

- Smiths has made significant progress in funding its pension deficit and de-risking liabilities. Over 90% of the portfolio is in matching assets (government bonds, corporate bonds, insured liabilities) as of July 2017, reducing materially exposure to fluctuations in discount rates.
- Triennial valuations of the two main UK pension schemes were agreed in 2016. As a result recurring cash contributions are now ~£50-60m and likely to persist through 2018/2019.
- We believe investors are fairly sanguine on Smith's pension issue now, although cognisant that gross liabilities are material compared to the market capitalisation. The stock has closed a significant valuation gap to the sector over the past 18 months. The material net deficit and drain on cash flows in the past were significant investor concerns.
- In terms of assumptions, Smiths uses 23 (male), 24 (female) life expectancy assumptions for current 65 year olds, which is within the normal range. Its UK schemes assume a 2.6% discount rate and a 3.2% inflation rate. The sensitivity in the report shows a 25bps increase in inflation rate assumption reduces the net surplus by £124m.
- Smiths' schemes are relatively mature with a high percentage of pensioners and deferred members
- Smiths' own headline adjusted income statement measures do not include ~£7-8m of pension administration costs (we add back) nor the IAS 19 interest charge.

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