

Aviva plc 2015 Preliminary Results Announcement

Mark Wilson, Group Chief Executive Officer, said:

"2015 was about stability and growth at Aviva, against a background of market volatility and uncertainty. Aviva is now a stronger and more focused business. We have completed the fix phase of our transformation."

"With a Solvency II ratio¹ of 180% and a surplus¹ of £9.7 billion, our balance sheet is one of the strongest and most resilient in the UK market. Over the last four years, we have tripled our economic capital surplus."

"The integration of the £6 billion Friends Life acquisition has gone faster and better than expected. We expect to achieve our target of £225 million integration synergies in 2016, one year ahead of schedule. After nine months, we have achieved run-rate synergies of £168 million and expect £1.2 billion of capital benefits, £400 million of which we have realised in 2015."

"Operating profits^{2,3} are up 20% to £2.7 billion, and value of new business increased 24%^{4,5}, representing twelve consecutive quarters of growth. The combined ratio³ in our general insurance business improved to 94.6%, the best in nine years, despite the recent floods and Aviva Investors grew fund management profits by 33% to £105 million."

"Overall this is a highly satisfactory set of results and the Board has decided to increase the final dividend per share 15% to 14.05p."

"We enter 2016 from a position of strength. Our focus remains on transforming our business and delivering on our commitments."

Balance sheet

- Solvency II coverage ratio¹ of 180%, with low sensitivity to a wide range of market stresses
- Internal loan plan complete; reduced from £5.8 billion to £1.5 billion at end of February 2016, ahead of target
- IFRS net asset value up 14% to 389p per share (*FY14: 340p*)
- Holding company liquidity £1.3 billion at end of February 2016 (*February 2015: £1.1 billion*)

Profit

- Operating profit^{2,3} up 20% to £2,665 million (*FY14: £2,213 million*)
- Operating EPS^{2,3} increased 2% to 49.2p (*FY14: 48.3p*) despite foreign exchange headwinds
- IFRS profit after tax £1,079 million (*FY14: £1,738 million*)

Cash

- Total dividend up 15% to 20.8p (*FY14: 18.1p*)
- Remittances £1,507 million (*FY14: £1,431 million*) and excess centre cash flow £699 million (*FY14: £692 million*) exclude C\$230 million retained by Canada to part fund the acquisition of RBC General Insurance and £150 million paid by Friends UK to its parent company pre acquisition
- Unaudited Solvency II capital generation estimated at £2.7 billion in 2015
- Friends Life integration expected to provide £1.2 billion of capital benefits, leading to £1.0 billion of additional remittances over the next 3 years

Expenses

- £168 million of Friends Life integration run-rate synergies secured
- Run-rate synergy target of £225 million to be delivered in 2016, one year ahead of schedule
- Operating expense ratio^{2,3} 1.1 percentage points lower at 50.0% (*FY14: 51.1%*)

Growth

- Value of new business (VNB) up 24%^{4,5} to £1,192 million (*FY14: £1,005 million*), with twelve consecutive quarters of growth
- General insurance distribution expanded via RBC General Insurance, Homeserve, and TSB
- Aviva Investors flagship AIMS funds AUM reached £3.0 billion

Combined operating ratio

- Combined operating ratio³ (COR) improved 1.1 percentage points to 94.6% (*FY14: 95.7%*)
- UK COR³ steady at 95.1% (*FY14: 94.8%*) despite the £132 million cost of December floods
- Canada improved to 93.8% (*FY14: 96.1%*) and Europe COR improved to 95.4% (*FY14: 97.7%*)

¹ The estimated Solvency II ratio represents the contribution to Group Solvency Capital Requirement ("SCR") and Group Own Funds of fully ring-fenced with-profits funds (£2.7 billion) and staff pension schemes in surplus (£0.7 billion) – these exclusions have no impact on Solvency II surplus. The impact from internal reinsurance arrangements between UK Life, UK and Ireland General Insurance and Aviva International Insurance Limited and the securitisation of equity release mortgages held by UK Life, effective 1 January 2016, have also been reflected in the Solvency II position.

² Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

³ Excludes the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

⁴ Poland includes Lithuania, Italy excludes Eurovita, Spain excludes CxG and Asia excludes South Korea.

⁵ On a constant currency basis.

Cash

	Cash remitted to Group			Operating capital generation		
	2015 £m	2014 £m	Sterling% change	2015 £m	2014 £m	Sterling% change
United Kingdom & Ireland Life	667	437	53%	1,465	888	65%
United Kingdom & Ireland General Insurance & Health ¹	358	294	22%	370	425	(13)%
Europe	431	473	(9)%	424	499	(15)%
Canada ²	6	138	(96)%	154	136	13%
Asia and Other	45	89	(49)%	114	(8)	—
Total	1,507	1,431	5%	2,527	1,940	30%

Operating profit: IFRS basis

	2015 £m	Restated ³ 2014 £m	Sterling% change
Life business	2,419	2,019	20%
General insurance and health ⁴	765	808	(5)%
Fund management	106	86	23%
Other*	(625)	(700)	11%
Operating profit before tax⁴	2,665	2,213	20%
Operating earnings per share^{4 **}	49.2p	48.3p	2%

* Includes other operations, corporate centre costs and group debt and other interest costs.

** Net of tax, non-controlling interests, preference dividends, coupon payments in respect of the direct capital instrument (DCI) and tier 1 notes (net of tax).

Expenses

	2015 £m	2014 £m	Sterling% change
Operating expenses	3,030	2,795	8%
Integration & restructuring costs	379	140	—
Expense base	3,409	2,935	16%
Operating expense ratio³	50.0%	51.1%	(1.1)pp

Value of new business

	2015 £m	2014 £m	Sterling % change ⁵	Constant currency % change ⁵
United Kingdom & Ireland	625	482	30%	30%
France	198	205	(4)%	7%
Poland ⁶	65	64	2%	13%
Italy ⁶	79	63	26%	40%
Spain ⁶	31	30	5%	17%
Turkey	27	30	(10)%	4%
Asia ⁶	151	122	23%	22%
Aviva Investors	16	9	79%	79%
Value of new business⁶	1,192	1,005	19%	24%

General insurance combined operating ratio

	2015	2014	Change
United Kingdom & Ireland ⁴	95.0%	94.9%	0.1pp
Europe	95.4%	97.7%	(2.3)pp
Canada	93.8%	96.1%	(2.3)pp
General insurance combined operating ratio⁴	94.6%	95.7%	(1.1)pp

IFRS profit after tax

	2015 £m	2014 £m	Sterling% change
IFRS profit after tax	1,079	1,738	(38)%

Dividend

	2015	2014	Sterling% change
Final dividend per share	14.05p	12.25p	15%
Total dividend per share	20.80p	18.10p	15%

Capital position

	2015	2014	Sterling% change
Estimated Solvency II cover ratio ⁷	180%		
Estimated economic capital surplus ⁸	£11.6bn	£8.0bn	45%
Estimated IGD solvency surplus ⁸	£6.0bn	£3.2bn	88%
IFRS net asset value per share	389p	340p	14%
MCEV net asset value per share ⁹	515p	527p	(2)%

1 Cash remittances include amounts of £351 million received from UK & Ireland GI in February 2016 in respect of 2015 activity and £273 million received from UKGI in February 2015 in respect of 2014 activity.

2 CAD\$230 million in respect of 2015 activity has been retained at the Canadian holding company in order to part-fund the proposed RBC General Insurance Company acquisition.

3 Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

4 Excludes the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

5 Currency movements are calculated using unrounded numbers so minor rounding differences may exist.

6 Poland includes Lithuania, Italy excludes Eurovita, Spain excludes CxG and Asia excludes South Korea.

7 The estimated Solvency II ratio represents the shareholder view. This ratio excludes the contribution to Group SCR and Group Own Funds of fully ring-fenced with-profits funds (£2.7 billion) and staff pension schemes in surplus (£0.7 billion) – these exclusions have no impact on Solvency II surplus. The impact from internal reinsurance arrangements between UK Life, UK and Ireland General Insurance and Aviva International Insurance Limited and the securitisation of equity release mortgages held by UK Life, effective 1 January 2016, have also been reflected in the Solvency II position.

8 The economic capital and IGD solvency surpluses represent an estimated position. The economic capital requirement is based on Aviva's own internal assessment and capital management policies. The term 'economic capital' does not imply capital as required by regulators or other third parties.

9 In preparing the MCEV information, the directors have done so in accordance with the European Insurance CFO Forum MCEV Principles. No allowance for the impact of Solvency II has been made as permitted by the additional guidance issued in October 2015 by the European Insurance CFO Forum.

Overview

Aviva enters 2016 from a position of strength. Our Solvency II coverage ratio¹ is 180% and our capital position has low sensitivity to market stress.

Operating EPS^{2,3} increased 2% to 49.2p (FY14: 48.3p) despite foreign exchange headwinds. In our life insurance business, VNB was 24%^{4,5} higher and we have now achieved twelve consecutive quarters of growth. In general insurance, our combined operating ratio³ improved by 1.1 percentage points to 94.6%. We have increased our total dividend by 15% in 2015 to 20.8p (FY14: 18.1p).

The integration of Friends Life is ahead of schedule. At the end of 2015, we have delivered £168 million of run-rate savings, and we expect to achieve the targeted £225 million of Friends Life integration synergies by the end of 2016, one year earlier than our original plan.

2015 was a year where we delivered on key commitments. Our focus is on maintaining consistent improvement in operating profits and dividends, in line with our cash flow plus growth investment thesis.

Solvency II

- 180% coverage ratio¹, with low sensitivity

Our Solvency II coverage ratio¹ is 180%, at the top end of our working range.

Resilience is a key feature of our Solvency II capital position. We are prudently positioned in terms of credit and interest rate risk, we use hedging to mitigate market volatility and in 2015, we took a number of actions to reduce our risk exposures in commercial mortgages and general insurance legacy reserves. As a result, our Solvency II coverage ratio has modest levels of sensitivity to a wide range of market stresses.

We have a secure balance sheet and this provides a strong foundation for the Group to execute its business plans and maintain an attractive and sustainable dividend profile for shareholders.

Friends Life integration

- Integration ahead of schedule
- £1.2 billion capital benefits

The acquisition of Friends Life was completed on 10 April 2015. We have made highly satisfactory progress on integration. At the end of 2015, we had secured £168 million of run-rate synergies. We expect to achieve the remainder of our £225 million run-rate synergy target by the end of 2016, one year ahead of schedule.

The integration is expected to give rise to £1.2 billion of capital benefits, £400 million of which were achieved in 2015. As a result of these actions, we expect the UK Life business to make £1 billion of additional remittances over the next three years, enhancing the liquidity profile of the Group and facilitating the reallocation of capital towards our high returning or fast growing businesses.

Operating Profit^{2,3}

- Operating profit increased 20% to £2,665 million
- Operating EPS^{2,3} rose 2% to 49.2p

Operating profit increased 20% to £2,665 million (FY14: £2,213 million). The contribution from Friends Life (£554 million) and underlying growth (£103 million) more than offset headwinds from foreign exchange movements (£117 million) and a reduction in one-off items. Operating EPS^{2,3} rose 2% to 49.2p (FY14: 48.3p) after allowing for the dilutive impact of the Friends Life share issuance.

Life insurance operating profits increased 20% to £2,419 million (FY14: £2,019 million), principally driven by the contribution from Friends Life and despite adverse foreign exchange movements and lower levels of one-offs.

In general insurance and health, operating profits fell 5% to £765 million (FY14: £808 million). This reflected a £81 million decline in investment income, of which £41 million arose from the reduction in the internal loan balance, which nets off at the Group level. The underwriting profit of £374 million (FY14: £341 million) benefitted from good cost control and improved prior year development.

Aviva Investors delivered fund management operating profits of £105 million in 2015, up 33% (FY14: £79 million).

¹ The estimated Solvency II ratio represents the shareholder view. This ratio excludes the contribution to Group SCR and Group Own Funds of fully ring-fenced with-profits funds (£2.7 billion) and staff pension schemes in surplus (£0.7 billion) – these exclusions have no impact on Solvency II surplus. The impact from internal reinsurance arrangements between UK Life, UK and Ireland General Insurance and Aviva International Insurance Limited and the securitisation of equity release mortgages held by UK Life, effective 1 January 2016, have also been reflected in the Solvency II position.

² Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

³ Excludes the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

⁴ Poland includes Lithuania, Italy excludes Eurovita, Spain excludes CxG and Asia excludes South Korea.

⁵ On a constant currency basis.

Cash flow

- Remittances totalled £1,507 million

Increasing the level of remittances from business units up to Group remains a key focus, as this drives our capacity to pay dividends and provides strategic and capital flexibility.

In 2015, total remittances were £1,507 million (*FY14: £1,431 million*) and excess centre cash flow was £699 million (*FY14: £692 million*). Both the remittance and excess centre cash figures in 2015 exclude C\$230 million of planned dividends that were retained by the Canadian business to part fund the acquisition of RBC General Insurance and £150 million of remittances paid by Friends UK to its parent company prior to acquisition.

After making pro forma adjustments for the impact of the Friends Life acquisition, we estimate our unaudited Solvency II capital generation was £2.7 billion in 2015. This figure was supported by underlying generation and management actions, partially offset by negative investment variances.

Life insurance (value of new business)⁴

- VNB up 24%⁵

In 2015, our value of new business (VNB) increased 24%⁵ to £1,192 million. Excluding the impact of Friends Life, growth in VNB was 14%⁵. We continue to make positive progress on mix, with protection accounting for 39% of Group VNB (*FY14: 35%*).

In UK Life, the total VNB including Friends Life increased 29% to £609 million (*FY14: £473 million*) despite regulatory challenges. We continue to see positive trends in new business mix, with protection VNB up 64% and pensions and platforms VNB up 41%.

VNB from Europe increased 14% in constant currency but this growth was eroded by foreign exchange headwinds, resulting in a relatively flat headline result. Italy was the standout performer in Europe with 40%⁵ growth in VNB driven by the success of our less capital intensive product suite.

Asia increased VNB 22%⁵ to £151 million (*FY14: £122 million*). Strong progress continues to be delivered in both China and Singapore, where VNB increased 31%⁵ and 19%⁵ respectively. The contribution to VNB from DBS was £28 million.

General insurance³

- COR 94.6%

The Group combined operating ratio (COR) improved by 1.1 percentage points to 94.6% (*FY14: 95.7%*) reflecting a 1.6 percentage points improvement in our commission and expense ratio to 30.1% (*FY14: 31.7%*) and increase in positive prior year development to 3.2% (*FY14: 1.6%*).

Consistency is a key feature of our general insurance operating performance. Our largest general insurance businesses in the UK, Canada, France, Ireland and Italy all delivered a COR below 96%.

In line with our strategy of rebalancing our portfolio and allocating capital to our stronger businesses, in January 2016, we announced the acquisition of RBC General Insurance Company in Canada. This will consolidate Aviva's position as a leading general insurer in Canada and provides diversification of distribution. We also entered into arrangements with Homeserve and TSB in the UK.

Our general insurance business continues to play an important role in supporting our customers in times of need. We acted quickly to help our customers impacted by the recent UK floods and assisted 200 families with alternative accommodation.

Fund management – Aviva Investors

- Operating profit £105 million
- AIMS fund range AUM £3 billion

Fund management is core to our True Customer Composite strategy and we have made strong progress during 2015. Our flagship AIMS fund range has delivered strong returns and has outperformed peers. At the end of 2015, AIMS had accumulated £3.0 billion of assets under management (AUM).

The £105 million fund management operating profit delivered by Aviva Investors in 2015 is an important milestone. However, it is still early days for the Aviva Investors business and we expect the continuation of strong flows into higher margin external mandates to underpin growth. We will also benefit from the transfer of £45 billion of AUM into Aviva Investors as part of the integration of Friends Life.

³ Excludes the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

⁴ Poland includes Lithuania, Italy excludes Eurovita, Spain excludes CxG and Asia excludes South Korea.

⁵ On a constant currency basis.

Digital

- *Digital strategy progressing at pace*

Digital is crucial to our future success. It is increasingly how our customers want to deal with us and we want to lead the market in this area. In 2015, we saw 27 million visits to our UK website, an increase of 35%. Within this, 10 million website visits were made from mobiles and tablets, up 79% over the prior year.

Our digital strategy has progressed at pace in 2015. In the UK, we have moved toward a full composite offering, having launched our investment platform, expanded protection and health essentials propositions. Our digital garage in Hoxton is fully operational and we opened a second location in Singapore.

Looking forward, our focus is on delivering a substantial increase in MyAviva registrations. Our testing tells us that MyAviva users are three times more likely to hold multiple Aviva products and some of our early work points to significant upside potential for operating margins from this channel. MyAviva is live and operational in the UK, France and Italy and we expect to roll it out to at least 3 additional markets this year.

Outlook

We have come a long way from the "old Aviva". Today, Aviva is committed to maintaining a strong and stable balance sheet that has low sensitivity to market stress, and possessing a smaller collection of stronger businesses, where our ambition is to be world class.

We recognise that the best way to demonstrate the quality of our core businesses is to deliver consistent progression of profits, cash flows and dividends. To achieve this, we will maintain our focus on expenses and business mix improvement, reallocate capital towards businesses with superior returns and continue to prioritise investment in digital to deepen and broaden our customer relationships.

With our strong financial position, we can focus on providing customers with the very best of life, general and health insurance and asset management, through the convenience of our digital channels. Our focus remains on transforming our business and delivering on our commitments.



Mark Wilson

Group Chief Executive Officer

Overview

In 2015 we successfully navigated regulatory change and turbulent external conditions to deliver a stronger, cleaner balance sheet and continued operating momentum.

Under the new Solvency II capital rules, we ended the year with an estimated £9.7 billion surplus¹, which translates to a 180% cover ratio¹, at the top end of our working range. Our transition to Solvency II has avoided surprises and sudden changes. Aviva strengthened the methodology of its economic capital models over the course of the year, resulting in what we believe to be a conservatively stated cover ratio under both our economic capital model (181%)² and the new rules (180%)¹.

We have benefitted from the £6 billion acquisition of Friends Life in April 2015. IFRS net asset value per share (NAV) increased 14% to 389p at year end, largely as a result of this acquisition. We are ahead of schedule on the integration, and expect to realise the £225 million of run-rate synergies by the end of 2016 – a year ahead of schedule.

In 2015, operating profit^{3,4} increased 20% to £2,665 million, with a significant contribution from Friends Life. Operating earnings per share^{3,4} (EPS) increased 2% to 49.2p, after the dilutive impact of issuing shares to fund the Friends Life acquisition. Weighted average shares outstanding for the year were 3,741 million, up 27% from 2,943 million in 2014. In 2016 the full impact of the Friends Life acquisition will affect Aviva, with year end 2015 shares outstanding of 4,048 million.

Operating profit^{3,4} after integration and restructuring costs was up 10% from £2,073 million to £2,286 million. Integration and restructuring costs were much higher in 2015, at £379 million reflecting the Friends Life acquisition, Solvency II costs and other restructuring, primarily in the UK. IFRS profit after tax, after economic variances and the expense of amortising acquired value of in-force (AVIF), was down 38% to £1,079 million from £1,738 million.

Excess centre cash flow of £699 million in 2015 did not show improvement from the £692 million in 2014, but this also reflects our decision to retain cash in Canada, rather than pay a planned dividend, to partly fund the proposed acquisition of Royal Bank of Canada General Insurance Company.

Based on our overall stronger capital, cash flow and liquidity position this year, we increased the shareholder total dividend by 15% to 20.8p, following last year's 21% increase to 18.1p.

Balance Sheet

In addition to transitioning to Solvency II at year end, during 2015 we took a number of steps to reduce risk and free up under-utilised capital, further improving our balance sheet.

In UK Life, we sold £2.2 billion of non-core commercial mortgages. As a result, the average mortgage loan-to-value ratio in our portfolio decreased 24 points from 85% a year ago to 61% at 31 December 2015. In UK general insurance we transferred out £0.7 billion of latent exposures by purchasing an adverse development cover. We also undertook additional equity and credit risk hedging activity during the year, which has moderated the impact of recent market volatility on our capital position.

Through a series of non-cash and cash actions, we reduced the balance of the intercompany loan between our main UK general insurance legal entity, Aviva Insurance Limited, and the Group, from £2.8 billion as at the end of February 2015 down to £1.5 billion as at the end of February 2016, below our target of £2.2 billion. Further reductions are possible, but none are planned or considered necessary at this point.

Our external debt leverage improved slightly from 28% to 27% on an S&P basis. It remains under the 30% threshold commensurate with an AA rating, which continues to be our target for debt leverage.

Liquidity at the centre is £1.3 billion as at the end of February 2016 (*February 2015: £1.1 billion*) and within our risk appetite. We took steps during the year to further develop our internal reinsurance company, domiciled in the UK, to enhance our future capital and liquidity management.

¹ The estimated Solvency II ratio represents the shareholder view. This ratio excludes the contribution to Group SCR and Group Own Funds of fully ring-fenced with-profits funds (£2.7 billion) and staff pension schemes in surplus (£0.7 billion) – these exclusions have no impact on Solvency II surplus. The impact from internal reinsurance arrangements between UK Life, UK and Ireland General Insurance and Aviva International Insurance Limited and the securitisation of equity release mortgages held by UK Life, effective 1 January 2016, have also been reflected in the Solvency II position.

² The economic capital surplus represents an estimated position. The economic capital requirement is based on Aviva's own internal assessment and capital management policies. The term 'economic capital' does not imply capital as required by regulators or other third parties.

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⁴ Excludes the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

Business Unit Performance

In UK and Ireland life, operating profit³ increased by 37% to £1,432 million (*FY14: £1,049 million*). Friends UK contributed £358 million of the £383 million increase in operating profit, with underlying growth constrained by a lower level of one-offs and management actions. The UK and Ireland life business contributed value of new business (VNB) of £625 million (*FY14: £482 million*). Operating expenses were £815 million in 2015, up from £565 million in 2014. Excluding Friends UK, the UK Life business reduced expenses by 5% while Ireland Life expenses fell by 25%. Remittances from UK and Ireland Life totalled £667 million (*FY14: £437 million*).

Our UK and Ireland general insurance and health business delivered operating profit⁴ of £430 million (*FY14: £499 million*). The main driver of the fall in operating profit was a decline in investment return, primarily reflecting the reduction in the intercompany loan balance. The combined operating ratio⁴ (COR) was broadly stable at 95.0% (*FY14: 94.9%*), with heightened weather losses associated with the UK floods offset by a 3.4 percentage points improvement in the commission and expense ratio and higher levels of prior year reserve releases. General insurance net written premiums⁴ increased 1% to £3,967 million (*FY14: £3,935 million*). Remittances from UK and Ireland general insurance and health increased 22% to £358 million (*FY14: £294 million*).

Life, general insurance and health operating profit³ from our European business was £880 million (*FY14: £995 million*). Of the £115 million reduction in operating profit, £101 million was caused by foreign exchange movements while the year to year comparisons are further clouded by disposals (Eurovita, CxG and Turkey GI) and a one-off benefit in 2014 arising from regulatory changes in Poland. Excluding these effects, underlying profit rose 5%. VNB excluding the disposed entities increased 14% in constant currency terms to £400 million. In general insurance, the COR improved by 0.6 percentage points to 95.4% (*FY14: 96.0%*⁵) due to better weather experience in France and favourable prior year reserve development in Italy.

Our Canada general insurance business achieved a strong rebound in operating profits to £214 million (*FY14: £189 million*). The COR improved to 93.8% (*FY14: 96.1%*) due to improved weather experience and higher prior year reserve releases from personal lines. Operating expenses increased by 1% in constant currency terms, though this was linked to the 4% constant currency increase in gross written premiums – the commission and expense ratio fell by 0.1 percentage point to 30.5% (*FY14: 30.6%*).

Aviva Investors fund management delivered operating profit of £105 million (*FY14: £79 million*). This included a £9 million contribution from Friends Life Investments though this is expected to expand in 2016 following the on-boarding of £45 billion of assets from external managers as part of the integration. Operating expenses increased to £345 million (*FY14: £298 million*) as a result of the impact of Friends Life and investments made in developing the business.

Life, general insurance and health operating profit from our Asian business was £238 million (*FY14: £85 million*), of which £151 million was contributed by Friends Provident International (FPI). VNB⁵ increased to £151 million (*FY14: £122 million*) with strong growth achieved in both Singapore and China as a result of the continued shift towards protection products.

Efficiency gains

We hit our operating expense ratio target of 50% in 2015, a year earlier than expected. On a constant currency basis and excluding Friends Life, operating expenses reduced by 1%. In our business segments, our expense ratios improved in general insurance to 13.9% (*FY14: 14.8%*) and in health to 14.5% (*FY14: 15.7%*). However, the impact of the Friends Life acquisition increased the life insurance expense ratio³ for the life segment to 32.2% (*FY14: 29.7%*). We expect to achieve more efficiency gains in UK Life over the next few years. Operating expenses have increased in Aviva Investors and Asia as we have funded growth in those businesses and our group expenses include a significant investment in digital.

Having achieved an overall operating expense ratio of 50%, we are shifting our focus more toward improving the segmental expense ratios across all our businesses. The overall Group ratio will be in part a function of our business mix. General insurance, health insurance and fund management tend to raise the overall Group ratio, so as we reallocate resources to those businesses, the overall Group expense ratio may rise. But so should profits and capital generation. We continue to believe that there is more room to rationalise our property, IT, overhead and other costs, especially in the UK and the Group centre.

³ Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

⁴ Excludes the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

⁵ Europe excludes Eurovita, CxG and Turkey GI and Asia excludes South Korea.

Capital generation

In 2015, operating capital generation (OCG) was £2.5 billion (*FY14: £1.9 billion*) under the former regulatory capital regime. This no longer drives our capital management policies, and we will not report this figure in the future. It is also not directly comparable to our economic surplus generation (ESG) under the new Solvency II capital rules.

Although Solvency II did not apply during 2015, we estimate, based on unaudited figures, that Aviva generated approximately £2.7 billion of economic surplus in 2015, primarily from management actions and operating activity, partly offset by adverse economic variances. This figure is before dividends paid, centre costs and external interest paid, and excludes the impact of both hybrid debt financing in 2015 and the impact of the Friends Life acquisition.

We expect to realise a further £0.8 billion of capital benefits in UK Life, with liquidity benefits to follow. This should enable UK Life to remit an extra £1 billion of cash, over and above its normal level of remittances, to the Group centre over the next three years. We expect to reallocate and reinvest some of this cash to support growth in other business units. The actions to achieve these capital benefits include Part VII transfers to combine our UK Life business (subject to PRA and court approvals), moving Friends Life to an internal model, Solvency II optimisation and hedging of the Friends Life business.

Since our Solvency II model application was approved in December, we have turned our attention to optimising our business. We start with a Solvency II cover ratio¹ of 180% to begin the year. Additional management actions and operating activities should enable us to add 5 to 10 points to this ratio in 2016 after paying a progressive dividend and before the impact of economic variances.

Dividend policy

Our commitment is to deliver on the Aviva investment thesis of cash flow plus growth. After rebasing the shareholder dividend in 2013, we have increased it by 21% and 15% over the last two years. This rate of increase exceeds our return on equity and our rate of reinvestment in the business, so we expect dividend increases to moderate in the future.

In 2014 our dividend cover was 2.7x³ and our payout ratio was 37.5%. In 2015 we improved this to a payout ratio of 42.3% with a cover ratio of 2.4x. As we reduce spending on Solvency II costs, integration and other restructuring costs in the coming years, this cover ratio should move towards our target of approximately 2:1 coverage.

This cover ratio target is neither a floor nor a ceiling. Rather, it indicates a balance between yield and growth over time, seeking to pay out approximately 50% of operating EPS as a current dividend. Accordingly, once we reach our target coverage ratio, dividend growth will more closely align to our growth of operating EPS and economic surplus generation.

Aviva plans on delivering stable, secure dividend growth for many years to come. Our capital generation may be uneven over time, and we may extract capital from businesses or product lines that do not make the cut under our "Not Everywhere" focus on excellence. In that case, we will consider a range of options including reinvesting in our business and additional distributions to shareholders. The potential for additional distributions will also depend on economic conditions, our view of markets, and having excess capital and liquidity. We are not there yet.

¹ The estimated Solvency II ratio represents the shareholder view. This ratio excludes the contribution to Group SCR and Group Own Funds of fully ring-fenced with-profits funds (£2.7 billion) and staff pension schemes in surplus (£0.7 billion) – these exclusions have no impact on Solvency II surplus. The impact from internal reinsurance arrangements between UK Life, UK and Ireland General Insurance and Aviva International Insurance Limited and the securitisation of equity release mortgages held by UK Life, effective 1 January 2016, have also been reflected in the Solvency II position.

³ Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

Future Earnings Growth

We now have strong businesses backed by a stronger balance sheet. In 2016, our focus will be on Solvency II optimisation and increasing operating profit after integration and restructuring costs.

Based on our current positioning, and subject to all the usual caveats about weather and economic conditions, we would normally expect Aviva's operating EPS to average in the mid-single digit growth rates annually. In 2016 operating EPS will suffer the dilutive impact of a full year of shares outstanding from the Friends Life acquisition, which closed 10 April 2015.

To deliver earnings growth and increase economic surplus generation, management will prioritise (1) additional expense efficiencies in all our markets, (2) business mix shift to less capital intensive products, (3) realising volume and margin benefits from our True Customer Composite and Digital strategies, (4) reallocating capital, (5) Solvency II optimisation, and (6) growth in Aviva Investors and our growth markets of Poland, Turkey and Asia. We are not satisfied with normal results, and will keep repositioning Aviva to outperform.

Financial reporting

In November 2014, the Financial Conduct Authority removed the requirement in the Disclosure and Transparency Rules to publish quarterly interim management statements (IMS). After careful consideration, the Board has determined that Aviva should no longer provide IMS disclosures for 1Q and 3Q, with immediate effect.



Thomas D. Stoddard
Chief Financial Officer

Notes to editors

All comparators are for the full year 2014 position unless otherwise stated.

Income and expenses of foreign entities are translated at average exchange rates while their assets and liabilities are translated at the closing rates on 31 December 2015. The average rates employed in this announcement are 1 euro = £0.72 (12 months to 31 December 2014: 1 euro = £0.81) and CAD\$1 = £0.51 (12 months to 31 December 2014: CAD\$1 = £0.55).

Growth rates in the press release have been provided in sterling terms unless stated otherwise. The following supplement presents this information on both a sterling and constant currency basis.

Cautionary statements:

This should be read in conjunction with the documents filed by Aviva plc (the "Company" or "Aviva") with the United States Securities and Exchange Commission ("SEC"). This announcement contains, and we may make other verbal or written "forward-looking statements" with respect to certain of Aviva's plans and current goals and expectations relating to future financial condition, performance, results, strategic initiatives and objectives. Statements containing the words "believes", "intends", "expects", "projects", "plans", "will", "seeks", "aims", "may", "could", "outlook", "likely", "target", "goal", "guidance", "trends", "future", "estimates", "potential" and "anticipates", and words of similar meaning, are forward-looking. By their nature, all forward-looking statements involve risk and uncertainty. Accordingly, there are or will be important factors that could cause actual results to differ materially from those indicated in these statements. Aviva believes factors that could cause actual results to differ materially from those indicated in forward-looking statements in the announcement include, but are not limited to: the impact of ongoing difficult conditions in the global financial markets and the economy generally; the impact of simplifying our operating structure and activities; the impact of various local political, regulatory and economic conditions; market developments and government actions regarding the referendum on UK membership of the European Union; the effect of credit spread volatility on the net unrealised value of the investment portfolio; the effect of losses due to defaults by counterparties, including potential sovereign debt defaults or restructurings, on the value of our investments; changes in interest rates that may cause policyholders to surrender their contracts, reduce the value of our portfolio and impact our asset and liability matching; the impact of changes in short or long-term inflation; the impact of changes in equity or property prices on our investment portfolio; fluctuations in currency exchange rates; the effect of market fluctuations on the value of options and guarantees embedded in some of our life insurance products and the value of the assets backing their reserves; the amount of allowances and impairments taken on our investments; the effect of adverse capital and credit market conditions on our ability to meet liquidity needs and our access to capital; changes in, or restrictions on, our ability to initiate capital management initiatives; changes in or inaccuracy of assumptions in pricing and reserving for insurance business (particularly with regard to mortality and morbidity trends, lapse rates and policy renewal rates), longevity and endowments; a cyclical downturn of the insurance industry; the impact of natural and man-made catastrophic events on our business activities and results of operations; our reliance on information and

technology and third-party service providers for our operations and systems; the inability of reinsurers to meet obligations or unavailability of reinsurance coverage; increased competition in the UK and in other countries where we have significant operations; regulatory approval of extension of use of the Group's internal model for calculation of regulatory capital under the European Union's Solvency II rules; the impact of actual experience differing from estimates used in valuing and amortising deferred acquisition costs ("DAC") and acquired value of in-force business ("AVIF"); the impact of recognising an impairment of our goodwill or intangibles with indefinite lives; changes in valuation methodologies, estimates and assumptions used in the valuation of investment securities; the effect of legal proceedings and regulatory investigations; the impact of operational risks, including inadequate or failed internal and external processes, systems and human error or from external events (including cyber attack); risks associated with arrangements with third parties, including joint ventures; our reliance on third-party distribution channels to deliver our products; funding risks associated with our participation in defined benefit staff pension schemes; the failure to attract or retain the necessary key personnel; the effect of systems errors or regulatory changes on the calculation of unit prices or deduction of charges for our unit-linked products that may require retrospective compensation to our customers; the effect of fluctuations in share price as a result of general market conditions or otherwise; the effect of simplifying our operating structure and activities; the effect of a decline in any of our ratings by rating agencies on our standing among customers, broker-dealers, agents, wholesalers and other distributors of our products and services; changes to our brand and reputation; changes in government regulations or tax laws in jurisdictions where we conduct business, including decreased demand for annuities in the UK due to changes in UK law; the inability to protect our intellectual property; the effect of undisclosed liabilities, integration issues and other risks associated with our acquisitions; and the timing/regulatory approval impact, integration risk and other uncertainties, such as non-realisation of expected benefits or diversion of management attention and other resources, relating to announced acquisitions and pending disposals and relating to future acquisitions, combinations or disposals within relevant industries; the policies, decisions and actions of government or regulatory authorities in the UK, the EU, the US or elsewhere, including the implementation of key legislation and regulation. For a more detailed description of these risks, uncertainties and other factors, please see Item 3d, "Risk Factors", and Item 5, "Operating and Financial Review and Prospects" in Aviva's most recent Annual Report on Form 20-F as filed with the SEC on 16 March 2015 and also the risk factors contained in the Euro Note Programme prospectus published on 1 May 2015. Aviva undertakes no obligation to update the forward looking statements in this announcement or any other forward-looking statements we may make. Forward-looking statements in this presentation are current only as of the date on which such statements are made.

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		Live webcast: 08:30 hrs GMT http://www.avivawebcast.com/prelim2015/

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Cash

	Cash remitted to Group			Operating capital generation		
	2015 £m	2014 £m	Sterling% change	2015 £m	2014 £m	Sterling% change
United Kingdom & Ireland Life	667	437	53%	1,465	888	65%
United Kingdom & Ireland General Insurance & Health ¹	358	294	22%	370	425	(13)%
Europe	431	473	(9)%	424	499	(15)%
Canada ²	6	138	(96)%	154	136	13%
Asia and Other	45	89	(49)%	114	(8)	—
Total	1,507	1,431	5%	2,527	1,940	30%

Operating profit: IFRS basis

	2015 £m	Restated ³ 2014 £m	Sterling% change
Life business	2,419	2,019	20%
General insurance and health ⁴	765	808	(5)%
Fund management	106	86	23%
Other*	(625)	(700)	11%
Operating profit before tax⁴	2,665	2,213	20%
Operating earnings per share^{4 **}	49.2p	48.3p	2%

* Includes other operations, corporate centre costs and group debt and other interest costs.

** Net of tax, non-controlling interests, preference dividends, coupon payments in respect of the direct capital instrument (DCI) and tier 1 notes (net of tax).

Expenses

	2015 £m	2014 £m	Sterling% change
Operating expenses	3,030	2,795	8%
Integration & restructuring costs	379	140	—
Expense base	3,409	2,935	16%
Operating expense ratio³	50.0%	51.1%	(1.1)pp

Value of new business

	2015 £m	2014 £m	Sterling % change ⁵	Constant currency % change ⁵
United Kingdom & Ireland	625	482	30%	30%
France	198	205	(4)%	7%
Poland ⁶	65	64	2%	13%
Italy ⁶	79	63	26%	40%
Spain ⁶	31	30	5%	17%
Turkey	27	30	(10)%	4%
Asia ⁶	151	122	23%	22%
Aviva Investors	16	9	79%	79%
Value of new business⁶	1,192	1,005	19%	24%

General insurance combined operating ratio

	2015	2014	Change
United Kingdom & Ireland ⁴	95.0%	94.9%	0.1pp
Europe	95.4%	97.7%	(2.3)pp
Canada	93.8%	96.1%	(2.3)pp
General insurance combined operating ratio⁴	94.6%	95.7%	(1.1)pp

IFRS profit after tax

	2015 £m	2014 £m	Sterling% change
IFRS profit after tax	1,079	1,738	(38)%

Dividend

	2015	2014	Sterling% change
Final dividend per share	14.05p	12.25p	15%
Total dividend per share	20.80p	18.10p	15%

Capital position

	2015	2014	Sterling% change
Estimated Solvency II cover ratio ⁷	180%		
Estimated economic capital surplus ⁸	£11.6bn	£8.0bn	45%
Estimated IGD solvency surplus ⁸	£6.0bn	£3.2bn	88%
IFRS net asset value per share	389p	340p	14%
MCEV net asset value per share ⁹	515p	527p	(2)%

¹ Cash remittances include amounts of £351 million received from UK & Ireland GI in February 2016 in respect of 2015 activity and £273 million received from UKGI in February 2015 in respect of 2014 activity.

² CAD\$230 million in respect of 2015 activity has been retained at the Canadian holding company in order to part-fund the proposed RBC General Insurance Company acquisition.

³ Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

⁴ Excludes the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

⁵ Currency movements are calculated using unrounded numbers so minor rounding differences may exist.

⁶ Poland includes Lithuania, Italy excludes Eurovita, Spain excludes CxG and Asia excludes South Korea.

⁷ The estimated Solvency II ratio represents the shareholder view. This ratio excludes the contribution to Group Solvency Capital Requirement ('SCR') and Group Own Funds of fully ring-fenced with-profits funds (£2.7 billion) and staff pension schemes in surplus (£0.7 billion) – these exclusions have no impact on Solvency II surplus. The impact from internal reinsurance arrangements between UK Life, UK and Ireland General Insurance and Aviva International Insurance Limited and the securitisation of equity release mortgages held by UK Life, effective 1 January 2016, have also been reflected in the Solvency II position.

⁸ The economic capital and IGD solvency surpluses represent an estimated position. The economic capital requirement is based on Aviva's own internal assessment and capital management policies. The term 'economic capital' does not imply capital as required by regulators or other third parties.

⁹ In preparing the MCEV information, the directors have done so in accordance with the European Insurance CFO Forum MCEV Principles. No allowance for the impact of Solvency II has been made as permitted by the additional guidance issued in October 2015 by the European Insurance CFO Forum.

1.i – Cash remitted to Group

The flow of sustainable cash remittances from the Group's businesses is a key financial priority. The cash remittances for FY15 were £1,507 million (FY14: £1,431 million) including dividends and interest remitted on internal loans. The 2015 totals include amounts received from Aviva Insurance Limited in February 2016 in respect of 2015 activity in that business and its subsidiaries.

	2015		2014	
	Operating Capital Generation £m	Cash Remittances £m	Operating Capital Generation £m	Cash Remittances £m
United Kingdom & Ireland Life	1,465	667	888	437
United Kingdom & Ireland General Insurance & Health ¹	370	358	425	294
France	255	252	259	264
Poland	99	81	136	106
Italy	30	45	77	32
Spain	36	49	40	68
Other Europe	4	4	(13)	3
Europe	424	431	499	473
Canada ²	154	6	136	138
Asia	65	21	23	23
Other ³	49	24	(31)	66
Group	2,527	1,507	1,940	1,431

¹ Cash remittances include amounts of £351 million received from UK & Ireland GI in February 2016 in respect of 2015 activity and £273 million in FY14 received from UKGI in February 2015 in respect of 2014 activity.

² CAD\$230 million in respect of 2015 activity has been retained at the Canadian holding company in order to part-fund the proposed RBC General Insurance Company acquisition.

³ Other includes Aviva Investors and Group Reinsurance.

Cash remitted to Group has increased primarily driven by the UK and Ireland life and general insurance businesses as a result of management actions during the year and the benefit from the internal interest received on Friends Life intercompany loans following its acquisition in April 2015. Cash generated in Canada was largely retained in the business to part-fund the proposed acquisition of Royal Bank of Canada General Insurance Company ('RBC General Insurance Company'), which is expected to close in the third quarter of 2016. In addition, lower Europe cash remittances mainly reflect the impact of adverse foreign exchange movements.

1.ii – Excess centre cash flow

Excess centre cash flow represents cash remitted by business units to the Group centre less central operating expenses and debt financing costs. It is an important measure of the cash that is available to pay dividends, reduce debt, pay exceptional charges or invest back into our business units. It does not include non-operating cash movements such as disposal proceeds or capital injections.

	2015 £m	2014 £m
Dividends received ¹	1,378	1,412
Internal interest received	129	19
Cash remitted to Group	1,507	1,431
External interest paid	(554)	(425)
Internal interest paid	(138)	(170)
Central spend	(252)	(173)
Other operating cash flows ²	136	29
Excess centre cash flow³	699	692

¹ This excludes a £150 million dividend paid by Friends Life holdings prior to the acquisition.

² Other operating cash flows include central investment income and group tax relief payments and other financial cash flows previously reported under central spend.

³ Before non-operating items and capital injections.

Excess centre cash flow of £699 million has remained broadly stable compared with the prior period. Increased internal interest received was driven by Friends Life intercompany loans and foreign exchange movement gains on Group centre holdings offset by an increase in external interest, largely due to the inclusion of Friends Life external debt, as well as higher central spend mainly relating to Friends Life and investment in our digital capability. In addition, the total excess centre cash flow is reduced as a result of the dividend payment retained in Canada to part-fund the proposed acquisition of RBC General Insurance Company.

1.iii – Operating capital generation

The active management of the generation and utilisation of capital is a primary Group focus, balancing new business investment and shareholder distribution to deliver our 'cash flow plus growth' investment thesis.

	2015 £m	2014 £m
Operating capital generation¹		
Life in-force business ²	2,293	1,715
General insurance, fund management and other operations	552	544
Operating capital generated before investment in new business	2,845	2,259
Capital invested in new business	(318)	(319)
Operating capital generated after investment in new business – Group as reported	2,527	1,940

¹ Operating capital generation comprises the following components:

- Operating free surplus emergence, including release of required capital, for the life in-force business (net of tax and non-controlling interests);
- Operating profits for the general insurance and other non-life businesses net of tax and non-controlling interests from non-covered business only, where non-covered business represents business which is outside the scope of Life MCEV methodology; and
- Capital invested in new business. For life business this is the impact of initial and required capital on free surplus. For general insurance business this reflects the movement in required capital, which has been assumed to equal the regulatory minimum multiplied by the local management target level. Where appropriate, movements in capital requirements exclude the impact of foreign exchange and other movements deemed to be non-operating in nature. The amount of operating capital remitted to Group depends on a number of factors including non-operating items and local regulatory requirements.

² During 2014, internal reinsurance arrangements were undertaken by the UK Annuity business to reinsure an additional 10% to Aviva International Insurance Limited and an additional 12.5% to Aviva UK Life & Pensions. At FY14 these arrangements had an adverse impact on Group MCEV free surplus of £204 million. On an economic capital basis these transactions improved the UK Life position and as a result the adverse impact on MCEV free surplus was excluded from OCG to reflect the economic substance of the management action.

1.iii – Operating capital generation continued

The analysis of OCG by market, product and service is set out below.

2015 £m	Life & Other Covered Business OCG					Non-life OCG				
	Free surplus emergence	New business strain	Other/ management actions	Life OCG	General insurance and health ¹	Fund management ¹	Non- insurance ¹	Non-life Usage ²	Non-life OCG	Total OCG
United Kingdom & Ireland Life	830	19	618	1,467	—	—	(2)	—	(2)	1,465
United Kingdom & Ireland General Insurance & Health	—	—	—	—	300	—	27	43	370	370
Europe	579	(271)	62	370	66	—	(9)	(3)	54	424
Canada	—	—	—	—	157	—	(1)	(2)	154	154
Asia	131	(94)	40	77	2	1	(17)	2	(12)	65
Fund Management	19	(6)	7	20	—	32	—	(10)	22	42
Other	7	—	—	7	13	—	(17)	4	—	7
Total Group operating capital generation	1,566	(352)	727	1,941	538	33	(19)	34	586	2,527

2014 £m	Life & Other Covered Business OCG					Non-life OCG				
	Free surplus emergence	New business strain	Other/ management actions ³	Life OCG	General insurance and health ¹	Fund management ¹	Non- insurance ¹	Non-life Usage ²	Non-life OCG	Total OCG
United Kingdom & Ireland Life	462	(15)	441	888	—	—	(1)	1	—	888
United Kingdom & Ireland General Insurance & Health	—	—	—	—	384	—	—	41	425	425
Europe	693	(272)	32	453	67	—	(11)	(10)	46	499
Canada	—	—	—	—	140	—	—	(4)	136	136
Asia	98	(58)	(15)	25	1	1	(8)	4	(2)	23
Fund Management	14	(5)	(10)	(1)	—	9	—	(7)	2	1
Other	—	—	—	—	9	—	(47)	6	(32)	(32)
Total Group operating capital generation	1,267	(350)	448	1,365	601	10	(67)	31	575	1,940

¹ Operating profit net of tax and non-controlling interests from non-covered businesses only, where non-covered business is that which is outside the scope of life MCEV methodology.

² This reflects the movement in required capital, which has been assumed to equal the regulatory minimum multiplied by the local management target level. Where appropriate, movements in capital requirements exclude the impact of foreign exchange and other movements deemed to be non-operating in nature.

³ During 2014, internal reinsurance arrangements were undertaken by the UK Annuity business to reinsure an additional 10% to Aviva International Insurance Limited and an additional 12.5% to Aviva UK Life & Pensions. At FY14 these arrangements had an adverse impact on Group MCEV free surplus of £204 million. On an economic capital basis these transactions improved the UK Life position and as a result the adverse impact on MCEV free surplus was excluded from OCG to reflect the economic substance of the management action.

Operating capital generation (OCG) is £2,527 million, £587 million higher than in the prior year (FY14: £1,940 million), with OCG from our life businesses generating £1,941 million (FY14: £1,365 million).

Free surplus emergence in the Life OCG was £1,566 million, £299 million higher than in the prior year (FY14: £1,267 million). This increase relates primarily to the acquisition of Friends Life which contributed £463 million in 2015, partially offset by a reduction in Europe of £114 million, reflecting adverse foreign exchange movements, the disposal of Eurovita and Caixa Galicia (CxG) in 2014 together with a one-off benefit in the prior year from regulatory pension changes in Poland. The expected free surplus emergence in future years is shown in note 1.iv.

New business strain of £352 million was broadly in line with the prior year (FY14: £350 million). Within this total, new business strain in Friends UK was £124 million, which offset improved new business strain in the rest of the UK and Ireland business reflecting strong performance from annuity and equity release business in 2015.

Other/management actions were £727 million (FY14: £448 million). This mainly reflects benefits of c.£370 million due to a release of longevity margins on the regulatory basis in our UK Life business and c.£200 million arising from the portfolio transfer of our Irish Life business, Aviva Life and Pensions Ireland Limited, to Aviva Life and Pensions UK Limited on 1 January 2015, which resulted in reduced regulatory capital requirements and reserve releases from alignment with the UK reserving basis. In addition, Asia benefitted from the acquisition of Friends Provident International and a change to the regulatory reserving basis for retail health business in Singapore to align with IFRS and Solvency II, partly offset by cessation of a quota share reinsurance arrangement.

Capital generation in our General Insurance and Health businesses was £538 million (FY14: £601 million). In the UK and Ireland capital generation decreased to £300 million (FY14: £384 million) reflecting a lower return on the intercompany loan balance, principally as a result of strategic actions to reduce the level of debt between Aviva Insurance Limited and Group. In Canada, capital generation of £157 million (FY14: £140 million) benefitted from the improvement in operating results and the decrease in capital requirements reflecting favourable changes to the local capital requirements rules effective from 1st January 2015.

1.iv – Free surplus emergence

Maturity profile of undiscounted free surplus emergence equivalent embedded value cash flows

Total in-force business

Release of future profits and required capital	2015 £m	2014 £m
Year 1	1,690	1,137
Year 2	1,490	1,059
Year 3	1,468	1,071
Year 4	1,542	1,204
Year 5	1,509	1,169
Year 6	1,462	1,157
Year 7	1,409	1,088
Year 8	1,455	1,060
Year 9	1,370	981
Year 10	1,336	922
Years 11-15	5,797	4,232
Years 16-20	4,503	3,547
Years 20+	8,118	7,583
Total net of non-controlling interests^{1,2}	33,149	26,210

¹ 2015 includes £8,041 million of free surplus emergence related to the recently acquired Friends Life business.

² Free surplus emergence is on a Solvency I basis (including allowances for Economic Capital), but not Solvency II.

The table above shows the expected future emergence of profits from the existing business implicit in the equivalent embedded value calculation for life covered in-force business. The cash flows have been split for the first ten years followed by five year tranches depending on the date when the profit is expected to emerge. These profits, which arise from the release of margins in the regulatory reserves as the business runs off over time, are expected to emerge through operating capital generation (OCG) in future years. The cash flows are real world cash flows, i.e. they are based on the non-economic assumptions used in the MCEV and normalised investment returns. Normalised investment returns are equal to the MCEV risk-free rates in addition to a risk premium to allow for the actual return expected to be achieved in the market.

For existing business, the cash flows will generally reduce over time due to lapses, maturities and other benefit payments. Each year new business will increase these profits, following the initial strain at point of sale. This table only includes the business currently in-force.

The total Group OCG for the Life business is £1,941 million (see note 1.iii). Excluding the recently acquired Friends Life business, the expected free surplus emergence in the OCG of £1,103 million is broadly equal to the year 1 cash flow from 31 December 2014 of £1,137 million. The FY15 total free surplus emergence (including the Friends Life business) of £1,566 million includes the expected transfers from the value of in-force (VIF) and required capital to free surplus of £1,558 million (MCEV – Note F5) and also the free surplus component of the expected return on net worth which equals £8 million.

The total real world cash flows, excluding the recently acquired Friends Life businesses have reduced by £1,102 million over 2015, largely reflecting the positive new business additions net of the run off of existing business, the impact from a reduction in PRA longevity margins in the UK, which has reduced VIF and increased free surplus, adverse investment returns in the UK and Europe and adverse foreign exchange movements in Europe of £518 million.

The 2015 cash flows above include an increase of £8,041 million as a result of the acquisition of the Friends Life business on 10 April 2015.

The free surplus emergence in the table above only includes business written in the RIEESA when conditions for its release to shareholders are expected to have been met.

2 – Operating Profit: IFRS basis

Group operating profit: IFRS basis

For the year ended 31 December 2015

	2015 £m	Restated ¹ 2014 £m
Operating profit before tax attributable to shareholders' profits		
Life business		
United Kingdom & Ireland	1,432	1,049
France	395	412
Poland	129	183
Italy	139	148
Spain	92	126
Turkey	11	13
Europe	766	882
Asia	244	87
Other	(23)	1
Total life business (note 7.i)	2,419	2,019
General insurance and health		
United Kingdom & Ireland ²	430	499
Europe	114	113
Canada	214	189
Asia	(6)	(2)
Other	13	9
Total general insurance and health² (note 7.ii)	765	808
Fund management		
Aviva Investors ³	105	79
United Kingdom ³	—	6
Asia	1	1
Total fund management	106	86
Other		
Other operations (note A1)	(84)	(105)
Market operating profit²	3,206	2,808
Corporate centre (note A2)	(180)	(132)
Group debt costs and other interest (note A3)	(361)	(463)
Operating profit before tax attributable to shareholders' profits²	2,665	2,213
Tax attributable to shareholders' profits	(598)	(563)
Non-controlling interests	(152)	(143)
Preference dividends and other ⁴	(74)	(86)
Operating profit attributable to ordinary shareholders²	1,841	1,421
Operating earnings per share^{2,5}	49.2p	48.3p

¹ Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

² Excludes the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

³ The UK Retail fund management business was transferred from UK Life to Aviva Investors on 9 May 2014 and hence is included in Aviva Investors from 9 May 2014 onwards.

⁴ Other includes coupon payments in respect of the direct capital instrument (DCI) and tier 1 notes (net of tax).

⁵ Net of tax, non-controlling interests, preference dividends, coupon payments in respect of the direct capital instrument (DCI) and tier 1 notes (net of tax). The calculation of basic earnings per share uses a weighted average of 3,741 million (FY14: 2,943 million) ordinary shares in issue, after deducting treasury shares.

Overall operating profit was £2,665 million (FY14: £2,213 million). Excluding the contribution from the Friends Life businesses acquired in April 2015 of £554 million, adverse foreign exchange movements of £117 million, impact of disposals of £30 million and non-recurring items of c.£58 million, operating profit improved by £103 million.

The life business result was £2,419 million (FY14: 2,019 million), up 26% on a constant currency basis. The life result includes an adverse foreign exchange impact of £92 million. Friends Life contributed £358 million to UK Life and £151 million to Asia through Friends Provident International ('FPI'). UK Life, excluding Friends UK, includes a net benefit to operating profit of £259 million (FY14: £282 million) from non-recurring items relating to expense reserve releases following actions taken to reduce the current and future cost base. In Poland, FY14 operating profit included a non-recurring benefit of £35 million¹ from a regulatory pension change.

The general insurance and health business result was £765 million (FY14: £808 million). Within this, overall LTIR reduced to £396 million (FY14: £477 million), with £41 million of this decrease due to the lower balance on the UKGI internal loan which is neutral at an overall Group level, while the remainder mainly reflects lower investment yields. The general insurance and health underwriting result was £374 million (FY14: £341 million) benefitting from broadly stable weather experience despite the December floods in the UK and higher positive prior year development of £236 million (FY14: £131 million benefit to operating profit).

Fund management operating profit was £106 million (FY14: £86 million) including a contribution of £9 million from Friends Life Investments ('FLI'). Excluding FLI, the increase was driven by increased performance fees partly offset by higher operating expenses incurred to support the growth and development of the business.

Operating earnings per share has increased to 49.2p (FY14: 48.3p), mainly driven by post tax operating profit growth partly offset by the increase in the weighted average number of shares following the Friends Life acquisition (3,741 million at FY15 compared to 2,943 million at FY14).

¹ On a constant currency basis.

3 – Expenses

a) Expenses

	2015 £m	2014 £m
United Kingdom & Ireland Life	815	565
United Kingdom & Ireland General Insurance & Health	697	755
Europe	526	596
Canada	298	316
Asia	141	80
Aviva Investors	345	298
Other Group activities	208	185
Operating cost base	3,030	2,795
Integration & restructuring costs	379	140
Expense base	3,409	2,935

The table below shows the lines of the IFRS consolidated income statement in which operating expenses have been included:

	2015 £m	2014 £m
Claims handling costs ¹	303	345
Non-commission acquisition costs ²	818	828
Other expenses	1,909	1,622
Operating cost base	3,030	2,795

¹ As reported within net claims and benefits paid of £21,985 million (FY14: £19,474 million).

² As reported within fee and commission expense of £3,347 million (FY14: £3,389 million).

Overall operating expenses for FY15 were £3,030 million (FY14: £2,795 million), including £350 million of expenses from Friends Life, following its acquisition in April 2015. Excluding Friends Life, operating expenses reduced by £115 million to £2,680 million (FY14: £2,795 million). Within this total, there was a £100 million benefit from foreign exchange movements, meaning that underlying expenses were slightly lower compared with FY14, with cost reductions (primarily in the UK) offset by investment to support growth (mainly in Aviva Investors and Asia).

In the **UK and Ireland**, both the life and general insurance businesses have achieved savings by reducing headcount, mainly as a result of process automation and simplification and realised continued benefits from previous cost reduction initiatives. The total costs of £815 million in UK and Ireland Life included Friends UK operating expenses of £286 million in FY15.

Total operating expenses of our **European markets** reduced to £526 million (FY14: £596 million) and remained broadly stable in constant currency. In **Canada**, operating expenses were £298 million (FY14: £316 million), an increase of 1% on a constant currency basis as a result of the continued investment in business growth.

Total operating expenses for **Asia** increased by £61 million to £141 million (FY14: £80 million), with £46 million of this increase resulting from the inclusion of FPI in the current year, while the remainder was mostly driven by investment to support business growth in Singapore.

In **Aviva Investors**, operating expenses increased to £345 million (FY14: £298 million), mainly due to higher expenses incurred to support the growth and further development of the business and the inclusion of Friends Life Investments (£11 million).

Other Group activities, which include Group centre costs, were £208 million (FY14: £185 million). This includes centre costs relating to Friends Life and increased spending on digital initiatives across the Group.

Integration and restructuring costs were £379 million (FY14: £140 million), principally driven by transaction and integration activities in relation to the acquisition of Friends Life and Solvency II costs of £82 million (FY14: £94 million).

b) Operating expense ratios

	2015	Restated ¹ 2014
Life ²	32.2%	29.7%
General insurance ³	13.9%	14.8%
Health ³	14.5%	15.7%
Fund management ⁴	13bps	12bps
Group total⁵	50.0%	51.1%

¹ Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

² Life non-commission acquisition and administration expenses gross of DAC on new business expressed as a percentage of Life operating income.

³ Written expenses including claims handling costs expressed as a percentage of net written premiums.

⁴ Aviva Investors' operating expenses expressed as a percentage of average funds under management.

⁵ Group operating expenses expressed as a percentage of operating profit before operating expenses and group debt costs.

4 – Value of new business by market

Gross of tax and non-controlling interests	2015 £m	2014 £m
United Kingdom	609	473
Ireland	16	9
United Kingdom & Ireland	625	482
France	198	205
Poland	65	64
Italy – excluding Eurovita	79	63
Spain – excluding CxG	31	30
Turkey	27	30
Europe	400	392
Asia – excluding South Korea	151	122
Aviva Investors ¹	16	9
Value of new business – excluding Eurovita, CxG & South Korea	1,192	1,005
Eurovita, CxG & South Korea	—	4
Total value of new business	1,192	1,009

¹ UK Retail fund management business was transferred from UK Life to Aviva Investors on 9 May 2014 and hence is included in Aviva Investors from 9 May 2014 onwards.

The Group's **value of new business**^{2,3} (VNB) increased to £1,192 million (*FY14: £1,005 million*), up 24% on a constant currency basis, primarily driven by strong performances in the UK, Italy and Asia. This includes a £96 million contribution to FY15 VNB from Friends Life, following the acquisition of this business in April 2015. Overall VNB³ excluding Friends Life grew by 9% to £1,096 million (*FY14: £1,005 million*), an increase of 14% on a constant currency basis.

In the **UK**, VNB was £609 million (*FY14: £473 million*). The current period benefitted from £91 million VNB from Friends UK, principally arising from sales of protection business as the individual annuities market continues to decline. Excluding Friends UK, VNB in the UK improved 10% to £518 million (*FY14: £473 million*), mainly reflecting higher margins on pension and health business, together with increased sales and improved margins on bulk purchase annuities. This increase was partly offset by the lower contribution from individual annuities compared to the prior period following the announcements made in the 2014 UK budget. Ireland's VNB almost doubled as a result of higher sales and improved margins on pensions and annuities, partially offset by lower volumes on protection business.

VNB in **Europe** increased 14%^{3,4} with improvement across all markets on a constant currency basis. VNB in France was up 7%⁴ mostly due to volume growth and an improved margin on protection business, partly offset by lower risk-free rates increasing the cost of guarantees on with-profits business. In Poland, VNB increased by 13%^{3,4}. 2014 included an £8 million one-off benefit from regulatory pension changes in Lithuania. Excluding this, Polish VNB grew by 29%^{3,4} reflecting increased sales of higher margin protection business. VNB in Italy was up by 40%^{3,4} mainly driven by higher margins on with-profits products following management actions to reduce the cost of guarantees, together with an improved mix of business away from with-profits products towards protection business. In Spain, VNB increased by 17%^{3,4} mainly driven by an improved mix within protection business, partly offset by reduced sales of with-profits savings business following management actions to reduce guarantees available. In Turkey, VNB increased by 4%⁴ despite the impact of a reduction in our share of the business following the partial IPO in 2014. Excluding the effect of this dilution, VNB in Turkey grew 24%⁴ mainly driven by higher sales of pension products.

In **Asia**, VNB³ was £151 million (*FY14: £122 million*), reflecting a continued focus on sales of higher margin products, particularly protection products in China and Singapore as well as retail health business in Singapore. In addition, the current period includes a £5 million contribution from FPI.

VNB in **Aviva Investors** was £16 million (*FY14: £9 million*) following the transfer of the UK retail fund management business from UK Life in May 2014.

² The trend analysis of VNB and present value of new business premiums (PVNBP) are included in Financial supplement, section E: VNB & sales analysis.

³ Poland includes Lithuania, Italy excludes Eurovita, Spain excludes CxG and Asia excludes South Korea.

⁴ On a constant currency basis.

5 – General insurance combined operating ratio (COR)

	Net written premiums		Claims ratio ³		Commission and expense ratio ⁴		Combined operating ratio ⁵	
	2015 £m	2014 £m	2015 %	2014 %	2015 %	2014 %	2015 %	2014 %
United Kingdom ^{1,2}	3,685	3,663	64.7	61.0	30.4	33.8	95.1	94.8
Ireland	282	272	67.9	67.1	26.7	29.5	94.6	96.6
United Kingdom & Ireland	3,967	3,935	64.9	61.4	30.1	33.5	95.0	94.9
Europe	1,200	1,313	66.2	69.7	29.2	28.0	95.4	97.7
Canada	1,992	2,104	63.3	65.5	30.5	30.6	93.8	96.1
Asia	12	13	62.6	65.3	39.0	32.5	101.6	97.8
Other ⁶	—	7						
Total²	7,171	7,372	64.5	64.0	30.1	31.7	94.6	95.7

1 United Kingdom excluding Aviva Re and agencies in run-off.

2 Excludes the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

3 Claims ratio: incurred claims expressed as a percentage of net earned premiums.

4 Commission and expense ratio: written commissions and expenses expressed as a percentage of net written premiums.

5 Combined operating ratio: aggregate of claims ratio and commission and expense ratio.

6 Other includes Aviva Re.

Group **combined operating ratio (COR)** for the period was 94.6% (FY14: 95.7%) with improvements in Canada and Europe.

In the **UK and Ireland**, GI COR was broadly flat at 95.0% (FY14: 94.9%) reflecting an increase in the claims ratio, offset by a lower commission and expense ratio. In the UK, the claims ratio has increased to 64.7% (FY14: 61.0%) as the adverse impact of the December storms more than offset higher prior year reserve releases. The lower commission and expense ratio of 30.4% (FY14: 33.8%) reflected expense savings and lower sales commissions following selected exits from elements of personal lines and a shift in mix of business. In Ireland, the COR has improved to 94.6% (FY14: 96.6%), reflecting an improvement in the commission and expense ratio and the favourable weather experience, partly offset by lower prior year reserve releases.

Europe's GI COR has improved by 2.3pp to 95.4% (FY14: 97.7%) mostly driven by a lower claims ratio, partly offset by an adverse commission and expense ratio. Excluding the Turkish general insurance business disposed of in December 2014, Europe's GI COR was 0.6pp better (FY14: 96.0%). Improvements in the claims ratio were largely driven by better weather experience in France compared with the adverse weather events in the prior year and favourable prior year claims development in Italy. The commission and expense ratio was impacted by a shift in business mix in France and Italy and growth in higher commission lines in Poland.

In **Canada** GI COR has improved by 2.3pp to 93.8% (FY14: 96.1%), primarily driven by an overall improvement in the claims ratio. The claims ratio has improved by 2.2pp to 63.3% (FY14: 65.5%) primarily reflecting more benign weather conditions compared to last year and higher positive prior year development.

We continue to apply our reserving policy consistently and to focus on understanding the true cost of claims to ensure that reserves are maintained at an appropriate level. Prior year reserve movements will vary year to year but our business is predominantly short tail in nature and the loss development experience is generally stable. In FY15 we have had a positive prior year development in our GI & Health business benefitting operating profit by £236 million (FY14: £131 million benefit to operating profit), mainly in the UK and Canada.

Underlying combined operating ratio

	UK & Ireland ²		Europe		Canada		Total ²	
	2015 %	2014 %	2015 %	2014 %	2015 %	2014 %	2015 %	2014 %
Underlying claims ratio ^{1,2}	67.1	64.2	69.0	67.2	68.4	67.0	67.8	65.4
Prior year reserve strengthening/(release) ³	(2.4)	(1.4)	(2.7)	0.3	(4.4)	(3.5)	(3.2)	(1.6)
Weather over/(under) long-term average ⁴	0.2	(1.4)	(0.1)	2.2	(0.7)	2.0	(0.1)	0.2
Claims ratio ²	64.9	61.4	66.2	69.7	63.3	65.5	64.5	64.0
Commission and expense ratio ⁵	30.1	33.5	29.2	28.0	30.5	30.6	30.1	31.7
Combined operating ratio²	95.0	94.9	95.4	97.7	93.8	96.1	94.6	95.7

1 Underlying claims ratio represents the claims ratio adjusted to exclude prior year claims development and weather variations vs. expectations, gross of the impact of profit sharing arrangements.

2 Excludes the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

3 Prior year reserve strengthening/(release) represents the changes in the ultimate cost of the claims incurred in prior years, gross of the impact of profit sharing arrangements.

4 Weather over/(under) long-term average represents the difference between the reported net incurred cost of general insurance claims that have occurred as a result of weather events and the equivalent long-term average expected net costs, gross of the impact of profit sharing arrangements.

5 Commission and expense ratio includes the impact of profit sharing arrangements.

Group underlying claims ratio for the period has deteriorated by 2.4pp to 67.8% (FY14: 65.4%) with adverse movements across all markets. The underwriting actions to improve profitability in the UK were more than offset by the impact of personal motor rate reductions earning through into 2015 and adverse large losses, primarily in commercial property. Actions taken in Canada to improve underwriting in personal property and commercial SME business improved the underlying loss ratio however this was more than offset by higher large losses across the portfolio. In Europe, the underlying claims ratio was 69.0% (FY14: 67.2%). Excluding Turkey GI, the underlying claims ratio worsened by 1.3pp to 69.0% (FY14: 67.7%), mainly driven by higher large losses in France.

6.i – United Kingdom and Ireland Life

	2015 £m	2014 £m
Cash remitted to Group	667	437
Life operating profit: IFRS basis (restated)¹	1,432	1,049
Expenses		
Operating expenses	815	565
Integration and restructuring costs	215	28
	1,030	593
Value of new business	625	482

¹ Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

Cash

During the year total cash remitted to Group was £667 million, up 53% from 2014. This includes interest on internal loans in Friends UK of £101 million.

Operating profit: IFRS basis

UK and Ireland life operating profit was £1,432 million (*FY14: £1,049 million*), a £383 million increase compared with the prior year. This includes a contribution of £358 million from Friends UK following its acquisition in April 2015.

Overall UK Life operating profit was £1,408 million (*FY14: £1,025 million*). Excluding Friends UK, UK Life operating profit has increased 2% to £1,050 million (*FY14: £1,025 million*). FY15 included a £259 million benefit from expense reserve releases following actions taken to reduce the current and future cost base - this does not yet reflect the benefit of integration savings. 2014 benefitted from non-recurring items of £282 million, mainly relating to longevity assumption changes and expense reserve releases. Excluding these items, profit increased by 6% mainly due to a reduction in operating expenses as well as improved new business profitability.

In Ireland, life operating profit remained stable at £24 million (*FY14: £24 million*) but was up 14% in constant currency. This was largely due to the one-off benefit of the portfolio transfer to UK Life.

Expenses

Overall UK operating expenses were £788 million (*FY14: £529 million*), including £286 million of expenses from Friends UK in FY15 following its acquisition. Excluding Friends UK, UK operating expenses decreased by 5% to £502 million (*FY14: £529 million*) reflecting cost savings as a result of process automation and simplification. Overall UK integration and restructuring costs were £204 million (*FY14: £21 million*), including Solvency II costs and £113 million costs from integration activity.

Ireland operating expenses reduced to £27 million (*FY14: £36 million*) as a result of cost saving initiatives, while integration and restructuring costs increased to £11 million (*FY14: £7 million*).

Value of new business

Value of new business (VNB) was £625 million (*FY14: £482 million*).

In the UK, VNB was £609 million (*FY14: £473 million*). VNB in UK Life excluding Friends UK improved 10% to £518 million (*FY14: £473 million*), mainly reflecting higher margins on pension and health business, together with increased sales and improved margins on bulk purchase annuities. This increase was partly offset by the lower level of individual annuity volumes compared to the prior period following the announcements made in the 2014 UK budget. Friends UK VNB was £91 million since acquisition and is principally protection business as the individual annuities market continues to decline.

In Ireland, VNB increased to £16 million (*FY14: £9 million*) as a result of higher sales and improved margins on pensions and annuities, partially offset by lower volumes on protection business.

6.ii – United Kingdom and Ireland general insurance & health

	2015 £m	2014 £m
Cash remitted to Group¹	358	294
Operating profit: IFRS basis²	430	499
Expenses		
Operating expenses	697	755
Integration and restructuring costs	26	11
	723	766
Combined operating ratio^{2,3}	95.0%	94.9%

¹ Cash remittances include amounts of £351 million received from UK & Ireland GI in February 2016 in respect of 2015 activity and £273 million received from UKGI in February 2015 in respect of 2014 activity.

² Excludes the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

³ General insurance business only.

Cash

Total cash remitted to Group was £358 million (*FY14: £294 million*), reflecting management actions during the year. Cash remittances include £351 million received in February 2016 relating to UK & Ireland general insurance in respect of 2015 activity.

Operating profit: IFRS basis

UK and Ireland general insurance and health operating profit was £430 million (*FY14: £499 million*).

In UK general insurance, operating profit was £368 million (*FY14: £455 million*). Within this, longer-term investment return (LTIR) reduced by £45 million to £215 million (*FY14: £260 million*) mainly as a result of the lower intercompany loan balance (which is neutral at an overall Group level).

The UK general insurance underwriting result was £154 million (*FY14: £199 million*) with the adverse weather experience due to the December floods being partly offset by the benefit of expense savings and more favourable prior year claims development. Our personal lines underwriting result remained stable at £97 million (*FY14: £96 million*). The underwriting result in commercial lines decreased to £57 million (*FY14: £103 million*), mainly reflecting the adverse impact from the December floods and higher large losses, partly offset by more favourable reserve releases. UKGI net written premium (NWP) increased 1% to £3,685 million (*FY14: £3,663 million*), primarily driven by growth in personal motor, partly offset by selected exits in personal property lines.

In Ireland, general insurance and health operating profit increased to £41 million (*FY14: £33 million*) mainly driven by favourable weather experience partly offset by lower prior year claims reserve releases.

In UK Health, operating profit was up £10 million to £21 million (*FY14: £11 million*) due to lower expenses and the benefit of pricing actions.

Expenses

UK general insurance operating expenses have reduced by 8% to £604 million (*FY14: £658 million*) reflecting the impact of a reduction in headcount and continued focus on cost control. In Ireland, operating expenses decreased to £93 million (*FY14: £97 million*).

UK and Ireland's integration and restructuring costs increased to £26 million (*FY14: £11 million*) as a result of operational restructuring to simplify the business and reduce property costs by focusing on a smaller number of core locations.

Combined operating ratio^{2,3}

	Claims ratio		Commission and expense ratio		Combined operating ratio	
	2015 %	2014 %	2015 %	2014 %	2015 %	2014 %
United Kingdom & Ireland						
Personal	65.8	62.4	28.8	33.9	94.6	96.3
Commercial	63.6	59.9	32.1	32.9	95.7	92.8
Total	64.9	61.4	30.1	33.5	95.0	94.9

² Excludes the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

³ General insurance business only.

The UK & Ireland general insurance combined operating ratio (COR) was broadly flat at 95.0% (*FY14: 94.9%*) reflecting an increase in the claims ratio, offset by a lower commission and expense ratio. In the UK, the claims ratio has increased to 64.7% (*FY14: 61.0%*) as higher prior year reserve releases were more than offset by the December storms and higher large losses, primarily in commercial property and the adverse impact of personal motor rate reductions earning through into 2015. The lower commission and expense ratio of 30.4% (*FY14: 33.8%*) resulted from expense savings and lower sales commissions following selected exits from elements of personal lines and a shift in mix of business. In Ireland, the COR has improved to 94.6% (*FY14: 96.6%*), reflecting an improvement in the commission and expense ratio and the favourable weather experience, partly offset by lower prior year reserve releases.

6.iii – Europe¹

	2015 £m	2014 £m
Cash remitted to Group	431	473
Operating profit: IFRS basis (restated)²		
Life (restated) ²	766	882
General insurance & health	114	113
	880	995
Expenses		
Operating expenses	526	596
Integration and restructuring costs	22	17
	548	613
Value of new business		
Value of new business – excluding Eurovita & CxG	400	392
Effects of disposals/Assets held for sale (Eurovita & CxG)	—	(1)
	400	391
Combined operating ratio³	95.4%	97.7%
Combined operating ratio³ – excluding Turkey	95.4%	96.0%

¹ Our European business includes life and general insurance business written in France, Poland, Italy, and Turkey (GI business disposed of in December 2014), life business in Spain and health business in France.

² Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

³ General insurance business only.

There has been a weakening of the euro, the Polish zloty and the Turkish lira by 11%, 11% and 16% respectively (average rate) over the year which has impacted all metrics except combined operating ratio.

Cash

Cash remitted to Group during the period was £431 million (*FY14: £473 million*), with remittances from all markets impacted by adverse foreign exchange movements. Excluding foreign exchange movements, remittances were up 1%.

Life operating profit: IFRS basis

Life operating profit was £766 million (*FY14: £882 million*), a reduction of £116 million, of which £90 million was due to adverse foreign exchange movements in the year. Excluding foreign exchange movements, the adverse impact of the disposals of Eurovita and CxG, as well as the one-off benefit in FY14 from regulatory pension changes in Poland, overall life operating profit improved by 6% despite continuing low interest rates.

In France, operating profit was 4% lower at £395 million (*FY14: £412 million*) but up 7% on a constant currency basis, mainly from portfolio growth and a continued improvement in mix towards unit-linked and protection products, together with strong results from UFF, our majority-owned broker business. Italy's operating profit⁴ increased to £139 million (*FY14: £135 million*), up 15% on a constant currency basis, mostly due to improved margins on with-profits business driven by management actions to reduce the costs of guarantees. Operating profit⁴ in Poland reduced to £129 million (*FY14: £183 million*), down 21% on a constant currency basis largely due to a £39 million one-off regulatory pension change which benefitted the prior period. In Spain, operating profit⁴ decreased to £92 million (*FY14: £101 million*) but was 2% higher on a constant currency basis. Operating profit⁵ in Turkey was broadly stable at £11 million despite a lower ownership share of the business following the partial IPO in the second half of 2014.

General insurance & health operating profit: IFRS basis

Operating profit was £114 million (*FY14: £113 million*), up 12% on a constant currency basis mainly driven by the disposal of the loss-making Turkey GI business in December 2014. Operating profit in Poland increased to £10 million (*FY14: £8 million*).

Operating profit in France was £71 million (*FY14: £78 million*), up 2% in constant currency due to better weather experience compared with the prior year, partly offset by higher large losses and lower investment returns. Italy's operating profit was £33 million (*FY14: £40 million*), down 8% in constant currency mainly due to lower longer-term investment return reflecting market conditions.

Expenses

Operating expenses improved to £526 million (*FY14: £596 million*) and were broadly stable in constant currency. Integration and restructuring costs of £22 million (*FY14: £17 million*) relate largely to Solvency II costs.

Value of new business

Europe's value of new business⁴ (VNB) was £400 million (*FY14: £392 million*), an increase of 14% in constant currency, with improvement across all markets. VNB in France was up 7%⁵ mostly due to volume growth and an improved margin on protection business, partly offset by lower risk-free rates increasing the cost of guarantees on with-profits business. In Poland, excluding an £8 million one-off benefit in FY14 from regulatory pension changes in Lithuania, VNB was up 29%^{4,5} due to increased sales of higher margin protection business. VNB in Italy was up by 40%^{4,5} mainly driven by higher margins on with-profits products following management actions to reduce the cost of guarantees, together with an improved mix of business away from with-profits products towards protection business. In Spain, VNB increased by 17%^{4,5} mainly driven by an improved mix within protection business, partly offset by reduced sales of with-profits savings business following management actions to reduce guarantees available. In Turkey, VNB increased by 4%⁵ despite the impact of a reduction in our share of the business following the partial IPO in 2014. Excluding the effect of this dilution, VNB in Turkey grew 24%⁵ mainly driven by higher sales of pension products.

⁴ Poland includes Lithuania, Italy excludes Eurovita and Spain excludes CxG.

⁵ On a constant currency basis.

6.iii – Europe continued

Combined operating ratio¹

	Claims ratio		Commission and expense ratio		Combined operating ratio	
	2015 %	2014 %	2015 %	2014 %	2015 %	2014 %
Europe						
France	67.8	70.1	27.9	26.8	95.7	96.9
Poland	54.4	57.6	40.3	38.4	94.7	96.0
Italy	64.1	66.6	30.2	27.4	94.3	94.0
Turkey	—	101.5	—	45.4	—	146.9
Total	66.2	69.7	29.2	28.0	95.4	97.7

¹ General Insurance business only.

Combined operating ratio (COR) has improved to 95.4% (FY14: 97.7%), mostly driven by a lower claims ratio following the disposal of the Turkish general insurance business in December 2014. Excluding Turkey GI, COR improved 0.6pp (FY14: 96.0%). Improvements in the claims ratio were largely driven by better weather experience in France compared with the adverse weather events in the prior year and favourable prior year claims development in Italy. The commission and expense ratio was impacted by a shift in business mix in France and Italy and growth in higher commission lines in Poland.

Net written premiums (NWP) for the general insurance and health business were £1,410 million (FY14: £1,556 million), an increase of 1% in constant currency. Excluding Turkey GI, NWP improved 3% on a constant currency basis driven by growth in the motor and commercial property businesses in France and the creditor business in Italy.

6.iv – Canada

	2015 £m	2014 £m
Cash remitted to Group	6	138
General Insurance operating profit: IFRS basis	214	189
Expenses		
Operating expenses	298	316
Integration and restructuring costs	7	4
	305	320
Combined operating ratio	93.8%	96.1%

Cash

Cash generated in 2015 was largely retained in order to part-fund the proposed acquisition of Royal Bank of Canada General Insurance Company, which is expected to close in the third quarter of 2016. The cash remittance of £6 million paid in 2015 reflects the interest incurred on internal debt.

Operating profit: IFRS basis

General insurance operating profit was £214 million (*FY14: £189 million*), an increase of £25 million (up 22% on a constant currency basis) compared with the prior year. Within this, the underwriting result of £120 million (*FY14: £83 million*) benefitted from more benign weather conditions compared to last year and higher positive prior year reserve development in personal lines. Longer-term investment return reduced 13% to £98 million (*FY14: £112 million*), primarily as a result of lower reinvestment yields.

Expenses

Operating expenses were £298 million (*FY14: £316 million*), a 1% increase on a constant currency basis driven by volume growth, with gross written premiums 4% higher in constant currency. Integration and restructuring costs were £7 million (*FY14: £4 million*).

Combined operating ratio

	Claims ratio		Commission and expense ratio		Combined operating ratio	
	2015 %	2014 %	2015 %	2014 %	2015 %	2014 %
Canada						
Personal	66.8	68.1	27.8	28.3	94.6	96.4
Commercial	57.1	61.1	35.4	34.4	92.5	95.5
Total	63.3	65.5	30.5	30.6	93.8	96.1

Combined operating ratio has improved 2.3pp to 93.8% (*FY14: 96.1%*) driven by an overall improvement in the claims and commission and expense ratios. The commercial lines COR improved 3pp, principally due to improved risk selection in our SME business and improved weather, which reduced claims frequency. The personal lines COR of 94.6% (*FY14: 96.4%*) benefitted from higher reserve releases, principally in the motor segment as well as improved weather.

Net written premiums were £1,992 million (*FY14: £2,104 million*), up 1% on a constant currency basis. The increase predominantly reflects improved rates and retention on personal lines.

6.v – Asia

	2015 £m	2014 £m
Cash remitted to Group	21	23
Operating profit: IFRS basis		
Life	244	87
General insurance & health	(6)	(2)
	238	85
Expenses		
Operating expenses	141	80
Integration and restructuring costs	7	1
	148	81
Value of new business		
Value of new business – excluding South Korea	151	122
Effects of disposals (South Korea)	—	5
	151	127
Combined operating ratio¹	101.6%	97.8%

¹ General insurance business only.

Cash

Total cash remitted to Group was £21 million (*FY14: £23 million*) from the Singapore life business.

Operating profit: IFRS basis

Overall operating profit from life and general insurance and health business was £238 million (*FY14: £85 million*). Life operating profits were £244 million (*FY14: £87 million*). Within this, FPI contributed £151 million to the life operating result (£15 million operating profit net of amortisation of acquired value of in-force business) since its acquisition in April 2015. Excluding FPI, life operating profit in Asia grew to £93 million (*FY14: £87 million*), mainly reflecting higher new business contribution in Singapore and profit emergence from China's in-force business. The non-life business reported a £6 million loss (*FY14: £2 million loss*), largely driven by adverse claims experience in the Singapore health business.

Expenses

Overall operating expenses were £141 million (*FY14: £80 million*), including £46 million of expenses from FPI in FY15. Operating expenses excluding FPI increased 19% to £95 million (*FY14: £80 million*), mostly due to investment to support business growth across Asia.

Value of New Business

Value of new business² (VNB) increased to £151 million (*FY14: £122 million*). Singapore's VNB increased £16 million to £103 million (*FY14: £87 million*), following higher sales of protection business. VNB in China improved by £11 million to £42 million (*FY14: £31 million*) largely driven by a continued shift towards higher margin protection products. The inclusion of FPI benefitted FY15 overall VNB by £5 million.

Combined Operating Ratio

Combined operating ratio for the general insurance business was 101.6% (*FY14: 97.8%*), mainly as a result of higher expenses. Net written premiums for the general insurance and health business increased to £107 million (*FY14: £87 million*), up 23% on a constant currency basis, as growth in the Singapore health business more than offset the adverse impact from a change in our shareholding of the Indonesian health business.

² Asia excludes South Korea.

6.vi – Fund management

	2015 £m	2014 £m
Cash remitted to Group¹	24	16
Fund management operating profit: IFRS basis		
Aviva Investors	105	79
United Kingdom	—	6
Asia	1	1
	106	86
Aviva Investors: Operating profit: IFRS basis		
Fund management	105	79
Other operations	—	(18)
	105	61
Expenses¹		
Operating expenses	345	298
Integration and restructuring costs	11	4
	356	302
Value of new business¹	16	9

¹ Only includes Aviva Investors.

Cash

Cash remitted to Group was £24 million (*FY14: £16 million*), primarily reflecting a higher remittance by Aviva Investors France.

Operating profit: IFRS basis

Fund management operating profit generated by Aviva Investors was £105 million (*FY14: £79 million*), including a contribution of £9 million from Friends Life Investments (FLI). Excluding FLI, the increase of £17 million was mainly driven by increased performance fees partly offset by higher operating expenses.

Expenses

Operating expenses in Aviva Investors were £345 million (*FY14: £298 million*), including £11 million expenses from Friends Life Investments. Excluding Friends Life Investments, operating expenses increased by £36 million to £334 million, primarily due to investment to support the growth and further development of the business.

Integration and restructuring costs increased to £11 million (*FY14: £4 million*), largely relating to the Friends Life integration.

Value of New Business

Value of new business in Aviva Investors has increased by £7 million to £16 million (*FY14: £9 million*) following the transfer of the UK retail fund management business from UK Life in May 2014.

Net flows and funds under management – Aviva Investors

	Internal £m	External £m	Total £m
Aviva Investors			
Funds under management at 1 January 2015	200,415	45,483	245,898
Gross Sales	17,231	5,946	23,177
Gross claims/redemptions	(21,995)	(6,255)	(28,250)
Market movements and other ¹	(3,556)	(1,438)	(4,994)
Acquisitions ²	54,079	—	54,079
Funds under management at 31 December 2015	246,174	43,736	289,910

¹ Market movements and other includes £3.0 billion of outflows within Internal for the Ark Life & Aviva Assurance Vita mandates (disposals). Within external market movements are liquidity outflows of £890 million.

² Acquisitions includes Friends Life, Real Estate Finance and France Real Estate.

Aviva Investors funds under management have increased by £44 billion to £289.9 billion (*FY14: £245.9 billion*) during the year. This was driven by acquisitions, partly offset by net outflows and adverse market and other movements including adverse euro exchange rate movements.

Acquisitions in 2015 include £22.3 billion of assets managed by FLI at acquisition, £22.8 billion of Friends Life assets transitioned to Aviva Investors, and £9.0 billion from the transfer of our Real Estate Finance and French Real Estate businesses.

Our flagship Aviva Investors multi-strategy (AIMS) fund range, which was launched in July 2014, has achieved net external inflows of £1 billion during the year and had £3.0 billion funds under management at the end of 2015.

7.i – Life business profit drivers

Life business operating profit before shareholder tax increased by 20% to £2,419 million (*FY14: £2,019 million*), including a contribution of £509 million from Friends Life. Excluding Friends Life, operating profit decreased by 5% to £1,910 million, with an adverse foreign exchange impact on the life business result of £92 million during the year largely driven by the weakening of the euro. On a constant currency basis excluding Friends Life businesses, life operating profit was largely stable.

	United Kingdom & Ireland		Europe		Asia		Total
	2015 £m	Restated ¹ 2014 £m	2015 £m	Restated ¹ 2014 £m	2015 £m	2014 £m	Restated ¹ 2014 £m
New business income	708	462	228	227	152	126	1,088
Underwriting margin	279	175	208	230	82	58	569
Investment return	1,208	738	989	1,113	90	50	2,287
Total Income	2,195	1,375	1,425	1,570	324	234	3,944
Acquisition expenses	(405)	(278)	(243)	(263)	(127)	(96)	(775)
Administration expenses	(584)	(364)	(434)	(467)	(73)	(36)	(1,091)
Total Expenses	(989)	(642)	(677)	(730)	(200)	(132)	(1,866)
DAC and other	226	316	18	42	120	(15)	364
	1,432	1,049	766	882	244	87	2,442
Other business ²						(23)	1
Total							2,419
							2,019

1 Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on total equity for any period presented as a result of this restatement.

2 Other business includes the total result for Aviva Investors Pooled Pensions and Aviva Life Reinsurance.

Income: New business income and underwriting margin

	United Kingdom & Ireland		Europe		Asia		Total
	2015 £m	2014 £m	2015 £m	2014 £m	2015 £m	2014 £m	2014 £m
New business income (£m)	708	462	228	227	152	126	815
APE (£m) ¹	2,075	1,409	947	1,071	356	285	2,765
As margin on APE (%)	34%	33%	24%	21%	43%	44%	29%
Underwriting margin (£m)	279	175	208	230	82	58	463
Analysed by:							
Expenses	65	44	44	55	39	30	129
Mortality and longevity	201	114	142	153	38	22	289
Persistence	13	17	22	22	5	6	45

1 APE excludes UK Retail Fund Management and Health business in UK & Ireland and Asia.

(a) New business income

New business income increased to £1,088 million (*FY14: £815 million*), mainly driven by the inclusion of the Friends Life contribution of £155 million.

The net contribution from new business is the new business income less associated acquisition expenses (see (g) below). This increased to a profit of £313 million (*FY14: profit of £178 million*).

In the UK & Ireland, excluding Friends UK, net contribution from new business increased to £304 million (*FY14: £184 million*) mainly driven by higher new Bulk Purchase Annuities (BPA) profit and lower acquisition expenses. Volumes based on APE (excluding Friends UK) decreased by 2% largely due to a decrease in individual annuities, partly offset by an increase in bulk purchase annuities. The net contribution from Friends UK new business was a loss of £1 million.

In Europe, net contribution improved to a loss of £15 million (*FY14: loss of £36 million*), up 54% on a constant currency basis. The increase is mainly driven by a change in business mix towards higher margin products and lower guarantees on with-profits products in Italy. Volumes based on APE decreased by 1% in constant currency, reflecting lower sales volumes in Italy and Spain (partly reflecting the disposal of Eurovita in June 2014 and CxG in December 2014), offset by an increase in volumes in France. New business margin on APE increased in Europe to 24% (*FY14: 21%*), driven by the change in business mix.

In Asia, net contribution decreased to a profit of £25 million (*FY14: profit of £30 million*) with the benefit of increased protection sales and cost control in Singapore offset by the inclusion of FPI which contributed a net loss of £13 million.

(b) Underwriting margin

The underwriting margin increased to £569 million (*FY14: £463 million*). In the UK & Ireland, underwriting margin increased to £279 million (*FY14: £175 million*) driven primarily by the inclusion of £106 million from Friends UK. In Europe, underwriting margin decreased to £208 million (*FY14: £230 million*) driven by adverse foreign currency movements (1% increase in constant currency).

In Asia, underwriting margin increased to £82 million (*FY14: £58 million*) mainly due to favourable expense margins in China driven by higher volumes and the inclusion of £15 million from FPI, partly offset by the sale of Korea at HY14.

7.i – Life business profit drivers continued**Income: Investment return**

	United Kingdom & Ireland		Europe		Asia		Total
	2015 £m	2014 £m	2015 £m	2014 £m	2015 £m	2014 £m	2015 £m
Unit-linked margin (£m)	763	434	435	439	70	13	1,268
As Annual management charge on average reserves (bps)	83	87	140	126	108	108	98
Average reserves (£bn)	92.4	49.8	31.0	34.8	6.5	1.2	129.9
Participating business (£m)	152	94	470	531	(3)	(1)	619
As bonus on average reserves (bps)	31	27	84	90	n/a	n/a	57
Average reserves (£bn)	49.5	34.4	55.9	59.3	2.7	1.7	108.1
Spread margin (£m)	198	136	7	25	10	26	215
As spread margin on average reserves (bps)	36	32	23	60	111	236	37
Average reserves (£bn)	54.6	42.1	3.1	4.2	0.9	1.1	58.6
Expected return on shareholder assets (£m)	95	74	77	118	13	12	185
Total (£m)	1,208	738	989	1,113	90	50	2,287

(c) Unit-linked margin

The unit-linked average reserves have increased to £130 billion (*FY14: £86 billion*), with the movement largely driven by the inclusion of total Friends Life reserves of £46 billion. The unit-linked margin increased to £1,268 million (*FY14: £886 million*) mainly driven by the acquisition of Friends Life businesses. The margin as a proportion of average unit-linked reserves decreased to 98 bps (*FY14: 103 bps*).

The improved unit-linked margin in UK & Ireland is driven by the inclusion of the Friends UK margin of £338 million. Unit-linked margin in Europe, on a constant currency basis, improved by 10% due to higher commission income and volumes in France. The increase in unit-linked margin in Asia is due to the inclusion of the FPI margin of £61 million.

(d) Participating business

The participating average reserves have increased to £108 billion (*FY14: £95 billion*), largely driven by the inclusion of total Friends Life reserves of £17 billion. Income from participating business reduced to £619 million (*FY14: £624 million*). In the UK & Ireland, the shareholder transfer from with-profits funds increased to £152 million (*FY14: £94 million*), including £57 million attributable to Friends UK. Excluding Friends UK, participating margin remained stable in the UK & Ireland. In Europe, income reduced to £470 million (*FY14: £531 million*) and was broadly stable on a constant currency basis. The majority of participating business income is earned in France, where there is a fixed management charge of around 50 bps on AFER business, which is the largest single component of this business.

(e) Spread margin

Spread business average reserves have increased to £59 billion (*FY14: £47 billion*), largely driven by the inclusion of total Friends Life reserves of £10 billion. Spread business income, which mainly relates to UK in-force immediate annuity and equity release business, improved to £215 million (*FY14: £187 million*). The spread margin was 37 bps (*FY14: 39 bps*). The increase in spread income in UK & Ireland is driven by the inclusion of Friends UK which contributed £60 million. Excluding Friends UK, spread income in UK & Ireland was stable. In Europe, spread income reduced by 7% on a constant currency basis largely due to lower reinvestment yields on assets in Spain. In Asia, spread business income reduced to £10 million (*FY14: £26 million*) mainly due to the disposal of South Korea in June 2014.

(f) Expected return on shareholder assets

Expected returns, representing investment income on surplus funds, reduced to £185 million (*FY14: £204 million*). Excluding Friends UK of £21 million, expected return in the UK and Ireland has remained stable. The reduction in Europe reflected lower investment yields.

7.i – Life business profit drivers continued

Expenses

	United Kingdom & Ireland		Europe		Asia		Total
	2015 £m	2014 £m	2015 £m	2014 £m	2015 £m	2014 £m	2015 £m
Acquisition expenses (£m)	(405)	(278)	(243)	(263)	(127)	(96)	(775)
APE (£m) ¹	2,075	1,409	947	1,071	356	285	3,378
As acquisition expense ratio on APE (%)	20%	20%	26%	25%	36%	34%	23%
Administration expenses (£m)	(584)	(364)	(434)	(467)	(73)	(36)	(1,091)
As existing business expense ratio on average reserves (bps)	30	29	48	48	72	90	37
Average reserves (£bn)	196.5	126.3	90.0	98.3	10.1	4.0	296.6

¹ APE excludes UK Retail Fund Management and Health business in UK & Ireland and Asia.

(g) Acquisition expenses

Acquisition expenses increased to £775 million (*FY14: £637 million*) primarily reflecting the inclusion of total Friends Life expenses of £169 million. In UK & Ireland, excluding Friends UK expenses of £155 million, lower acquisition costs reflect cost saving initiatives. Europe acquisition expenses have improved driven by beneficial exchange rate movements of £27 million, offset by increased expenses in France reflecting higher new business volumes. The increase in Asia is largely due to higher volumes in Singapore and China and the inclusion of FPI expenses of £14 million. The overall group-wide ratio of acquisition expenses to APE remained stable at 23% (*FY14: 23%*).

(h) Administration expenses

Administration expenses increased to £1,091 million (*FY14: £867 million*). The expense ratio was 37 bps (*FY14: 38 bps*) on average reserves of £297 billion (*FY14: £229 billion*). The increase in UK & Ireland is driven by the inclusion of Friends UK expenses of £230 million. In Europe, administration expenses were £434 million (*FY14: £467 million*), an increase of 4% in constant currency driven by higher commission related expenses in France. Asia administration expenses increased due to the inclusion of FPI costs of £37 million partly offset by the sale of Korea in 2014.

The overall increase in life business acquisition and administration expenses was £362 million, with additional costs from Friends Life of £436 million partly offset by foreign exchange movements.

(i) DAC and other

DAC and other items amounted to an overall positive contribution of £364 million (*FY14: £343 million*), which was mainly driven by the UK. In FY15, the UK included non-recurring items of £259 million, relating to expense reserve releases following actions taken to reduce the current and future cost base, excluding any integration synergy benefits. In FY14, the UK included non-recurring items of £282 million mainly from longevity assumption changes and expense reserve releases, which were partially offset by increased DAC amortisation charges on pension business. Other items in FY14 also reflected a £39 million one-off benefit in Poland from a regulatory pension change.

7.ii – General insurance and health

2015	UK Personal £m	UK Commercial £m	Total UK £m	Ireland £m	Total UK & Ireland £m	Canada Personal £m	Canada Commercial £m	Total Canada £m	Europe £m	Asia & Other ² £m	Total £m
General insurance											
Gross written premiums	2,253	1,719	3,972	291	4,263	1,324	785	2,109	1,263	12	7,647
Net written premiums ¹	2,168	1,517	3,685	282	3,967	1,282	710	1,992	1,200	12	7,171
Net earned premiums¹	2,160	1,493	3,653	262	3,915	1,258	719	1,977	1,171	16	7,079
Net claims incurred ¹	(1,413)	(950)	(2,363)	(177)	(2,540)	(840)	(411)	(1,251)	(775)	1	(4,565)
<i>Of which claims handling costs</i>			(170)	(7)	(177)			(74)	(45)	—	(296)
Written commission	(479)	(307)	(786)	(36)	(822)	(248)	(147)	(395)	(245)	—	(1,462)
Written expenses³	(153)	(182)	(335)	(39)	(374)	(108)	(105)	(213)	(105)	(7)	(699)
Movement in DAC and other	(18)	3	(15)	(1)	(16)	5	(3)	2	13	—	(1)
Underwriting result¹	97	57	154	9	163	67	53	120	59	10	352
Longer-term investment return ⁴			215	21	236			98	53	3	390
Other ⁵			(1)	—	(1)			(4)	—	—	(5)
Operating profit¹			368	30	398			214	112	13	737
Health insurance											
Underwriting result					27			—	1	(6)	22
Longer-term investment return					5			—	1	—	6
Operating profit					32			—	2	(6)	28
Total operating profit¹					430			214	114	7	765
General insurance combined operating ratio¹											
Claims ratio ¹	65.4%	63.6%	64.7%	67.9%	64.9%	66.8%	57.1%	63.3%	66.2%		64.5%
Commission ratio	22.1%	20.2%	21.3%	12.8%	20.7%	19.3%	20.7%	19.8%	20.4%		20.4%
Expense ratio	7.0%	12.0%	9.1%	13.9%	9.4%	8.5%	14.7%	10.7%	8.8%		9.7%
Combined operating ratio^{1,6}	94.5%	95.8%	95.1%	94.6%	95.0%	94.6%	92.5%	93.8%	95.4%		94.6%
Assets supporting general insurance and health business											
Debt securities			3,993	470	4,463			2,999	1,937	209	9,608
Equity securities			8	—	8			188	21	—	217
Investment property			198	—	198			—	137	—	335
Cash and cash equivalents			639	79	718			107	118	26	969
Other ⁷			2,559	104	2,663			135	209	1	3,008
Assets at 31 December 2015			7,397	653	8,050			3,429	2,422	236	14,137
Debt securities			4,429	825	5,254			3,261	2,140	203	10,858
Equity securities			7	—	7			222	22	—	251
Investment property			91	4	95			—	128	—	223
Cash and cash equivalents			865	79	944			123	185	48	1,300
Other ⁷			3,372	101	3,473			122	172	—	3,767
Assets at 31 December 2014			8,764	1,009	9,773			3,728	2,647	251	16,399
Average assets			8,080	831	8,911			3,578	2,535	244	15,268
LTIR as % of average assets			2.7%	2.5%	2.7%			2.7%	2.1%	1.2%	2.6%

¹ Excludes the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

² Asia & Other includes Aviva Re.

³ Operating expenses shown in note 3 includes claims handling costs and written expenses included in general insurance COR above, plus operating expenses of other non-insurance operations.

⁴ The UK & Ireland LTIR includes £115 million (FY14: £156 million) relating to the internal loan. This is lower than 2014 primarily as a result of the reduction in the balance of this loan during 2015.

⁵ Includes unwind of discount and pension scheme net finance costs.

⁶ COR is calculated as incurred claims expressed as a percentage of net earned premiums, plus written commissions and written expenses expressed as a percentage of net written premiums. COR is calculated using unrounded numbers so minor rounding differences may exist.

⁷ Includes loans and other financial investments.

7.ii – General insurance and health continued

2014	UK Personal £m	UK Commercial £m	Total UK £m	Ireland £m	Total UK & Ireland £m	Canada Personal £m	Canada Commercial £m	Total Canada £m	Europe £m	Asia & Other ¹ £m	Total £m
General insurance											
Gross written premiums	2,239	1,694	3,933	285	4,218	1,344	832	2,176	1,389	15	7,798
Net written premiums	2,152	1,511	3,663	272	3,935	1,325	779	2,104	1,313	20	7,372
Net earned premiums	2,202	1,511	3,713	267	3,980	1,280	770	2,050	1,308	23	7,361
Net claims incurred	(1,359)	(905)	(2,264)	(179)	(2,443)	(872)	(471)	(1,343)	(912)	(13)	(4,711)
<i>Of which claims handling costs</i>			(193)	(6)	(199)			(79)	(59)	—	(337)
Written commission	(564)	(309)	(873)	(36)	(909)	(259)	(157)	(416)	(250)	(1)	(1,576)
Written expenses²	(175)	(189)	(364)	(44)	(408)	(115)	(111)	(226)	(117)	(5)	(756)
Movement in DAC and other	(8)	(5)	(13)	(3)	(16)	15	3	18	1	—	3
Underwriting result	96	103	199	5	204	49	34	83	30	4	321
Longer-term investment return ³			260	18	278			112	74	6	470
Other ⁴			(4)	—	(4)			(6)	—	—	(10)
Operating profit			455	23	478			189	104	10	781
Health insurance											
Underwriting result					15			—	8	(3)	20
Longer-term investment return					6			—	1	—	7
Operating profit					21			—	9	(3)	27
Total operating profit					499			189	113	7	808
General insurance combined operating ratio											
Claims ratio	61.7%	59.9%	61.0%	67.1%	61.4%	68.1%	61.1%	65.5%	69.7%		64.0%
Commission ratio	26.2%	20.4%	23.8%	13.4%	23.1%	19.6%	20.2%	19.8%	19.1%		21.4%
Expense ratio	8.1%	12.5%	10.0%	16.1%	10.4%	8.7%	14.2%	10.8%	8.9%		10.3%
Combined operating ratio⁵	96.0%	92.8%	94.8%	96.6%	94.9%	96.4%	95.5%	96.1%	97.7%		95.7%
Assets supporting general insurance and health business											
Debt securities			4,429	825	5,254			3,261	2,140	203	10,858
Equity securities			7	—	7			222	22	—	251
Investment property			91	4	95			—	128	—	223
Cash and cash equivalents			865	79	944			123	185	48	1,300
Other ⁶			3,372	101	3,473			122	172	—	3,767
Assets at 31 December 2014			8,764	1,009	9,773			3,728	2,647	251	16,399
Debt securities			3,515	994	4,509			3,098	2,255	243	10,105
Equity securities			15	—	15			301	23	—	339
Investment property			1	6	7			—	133	—	140
Cash and cash equivalents			1,490	194	1,684			95	152	51	1,982
Other ⁶			5,088	109	5,197			79	159	—	5,435
Assets at 31 December 2013			10,109	1,303	11,412			3,573	2,722	294	18,001
Average assets			9,436	1,156	10,592			3,650	2,685	273	17,200
LTIR as % of average assets			2.8%	1.6%	2.7%			3.1%	2.8%	2.2%	2.8%

1 Asia & Other includes Aviva Re.

2 Operating expenses shown in note 3 includes claims handling costs and written expenses included in general insurance COR above, plus operating expenses of other non-insurance operations.

3 The UK & Ireland LTIR includes £156 million (FY13: £221 million) relating to the internal loan. This is lower than 2013 primarily as a result of a reduction in the balance of this loan during 2014.

4 Includes unwind of discount and pension scheme net finance costs.

5 COR is calculated as incurred claims expressed as a percentage of net earned premiums, plus written commissions and written expenses expressed as a percentage of net written premiums. COR is calculated using unrounded numbers so minor rounding differences may exist.

6 Includes loans and other financial investments.

7.iii – Fund flows

	Managed assets at 1 January 2015 £m	Acquisitions ¹ £m	Premiums and deposits, net of reinsurance £m	Claims and redemptions, net of reinsurance £m	Net flows ² £m	Effect of disposals, market and other movements £m	Managed assets at 31 December 2015 £m
Life and platform business							
UK – non-profit – platform	5,282	—	3,695	(461)	3,234	(140)	8,376
UK – non-profit – other	83,731	63,810	8,019	(10,799)	(2,780)	(1,231)	143,530
Ireland	5,518	—	515	(589)	(74)	(292)	5,152
United Kingdom & Ireland (excluding UK with-profits)	94,531	63,810	12,229	(11,849)	380	(1,663)	157,058
Europe	96,602	—	7,877	(6,868)	1,009	(2,979)	94,632
Asia	4,240	7,505	1,496	(1,231)	265	(526)	11,484
Other	1,862	—	28	(257)	(229)	119	1,752
UK – with-profits and other	197,235	71,315	21,630	(20,205)	1,425	(5,049)	264,926
	46,677						62,067
Total life and platform business	243,912						326,993

¹ For further details on the acquisition of Friends Life see note B4.

² Life business net flows in the table above are net of reinsurance and exclude flows related to UK equity release products.

United Kingdom & Ireland (excluding UK with-profits)

During 2015, net inflows in UK Life platform were £3,234 million reflecting growing market presence. Over the period, platform assets under management have increased by 59% to £8,376 million.

Other UK non-profit outflows were £2,780 million. Positive net flows in group pensions have been more than offset by higher claims and redemptions in traditional pension and savings products due to customers switching to adviser and consumer platforms, including the UK Life Platform, and taking advantage of pension freedom. Other movements mainly reflect unfavourable market movements driven by an increase in interest rates and fall in equities.

In Ireland, net outflows were £74 million reflecting reduced new business inflows due to the strategic withdrawal from unprofitable product lines. In addition, claims exceeded premiums in the Irish with-profits fund which is closed to new business.

Europe

Net inflows were £1,009 million. This was mainly driven by France reflecting increased AFER inflows plus increased unit-linked and protection sales. Other movements in Europe include unfavourable foreign exchange movement of £4.8 billion partially offset by favourable market and other movements.

Asia and other

Net inflows in Asia were £265 million arising mainly in Singapore and reflect increased sales volumes including through DBS Bank Ltd, where the bancassurance distribution agreement has now ceased. Market and other movements reflect adverse foreign exchange rate and market movements. Other business net outflows of £229 million primarily relate to Aviva Investors' Pooled Pensions business.

8.i – Summary of assets

The Group asset portfolio is invested to generate competitive investment returns for both policyholders and shareholders whilst remaining within the Group's appetite for market and credit risk.

The Group has a low appetite for interest rate risk and currency risk which means that the asset portfolios are well matched by duration and currency to the liabilities they cover. The Group also runs a low level of liquidity risk which results in a high proportion of income generating assets and a preference for more liquid assets where there is the potential need to realise those assets before maturity.

The Group seeks to diversify its asset portfolio in order to reduce risk and provide more attractive risk-adjusted returns. In order to achieve this there is a comprehensive risk limit framework in place. There is an allowance for diversification in our economic capital model, actions have been taken to reduce our exposure to the eurozone periphery, and we are broadening the investment portfolio in individual businesses.

Asset allocation decisions are taken at legal entity level and in many cases by fund within a legal entity in order to reflect the nature of the liabilities, customer expectations, the local accounting and regulatory treatment, and any local constraints. These asset allocation decisions are made in accordance with a group-wide framework that takes into account consensus investment views across the Group, prioritised Group objectives and metrics and Group risk limits and constraints. This framework is overseen by the Group Asset Liability Committee (ALCO) and facilitates a consistent approach to asset allocation across the business units in line with Group risk appetite and shareholder objectives.

The asset allocation as at 31 December 2015 across the Group, split according to the type of liability the assets are covering, is shown in the table below. This includes the acquisition of Friends Life on 10 April 2015 which has significantly increased the total assets across the Group compared with the prior year. Further information on these assets is given in the Analysis of Assets Section.

Carrying value in the statement of financial position	Shareholder business assets			Participating fund assets		Carrying value in the statement of financial position £m
	General Insurance & health & other ¹ £m	Annuity and non-profit £m	Policyholder (unit-linked assets) £m	UK style with-profits £m	Continental European-style Participating funds £m	
Debt securities						
Government bonds	5,956	12,799	13,018	19,553	24,635	75,961
Corporate bonds	4,036	22,366	8,221	14,393	24,994	74,010
Other	198	2,581	2,783	2,311	5,120	12,993
	10,190	37,746	24,022	36,257	54,749	162,964
Loans						
Mortgage loans	—	16,954	—	305	1	17,260
Other loans	142	1,868	83	2,355	725	5,173
	142	18,822	83	2,660	726	22,433
Equity securities						
Investment property	227	310	47,394	12,168	3,459	63,558
Other investments	366	172	6,647	3,139	977	11,301
	625	1,536	39,795	3,284	2,455	47,695
Total as at 31 December 2015	11,550	58,586	117,941	57,508	62,366	307,951
Total as at 31 December 2014	12,463	46,820	71,454	42,077	64,009	236,823

¹ Of the £11.6 billion of assets 7% relates to other shareholder business assets.

There is an internal loan between Aviva Insurance Limited (AIL) and Aviva Group Holdings Limited (AGH) that has a net value of zero at a consolidated level.

General insurance and health

All the investment risk is borne by shareholders and the portfolio held to cover these liabilities contains a high proportion of fixed and variable income securities, of which 84% are rated A or above. The assets are relatively short duration reflecting the short average duration of the liabilities. Liquidity, interest rate and FX risks are maintained at a low level.

Annuity and other non-profit

All the investment risk is borne by shareholders. The annuity liabilities have a long duration but are also illiquid as customers cannot surrender their policies. The assets are chosen to provide stable income with a good cash flow, FX and interest rate match to the liabilities. We are able to invest part of the portfolio in less liquid assets in order to improve risk-adjusted returns given the illiquid nature of the liabilities. The asset portfolio is principally comprised of long maturity bonds and loans including a material book of commercial mortgage loans. As at 31 December 2015, unrealised losses and impairments on the bond portfolio of £37.7 billion amounted to £1.8 billion or 5% of the portfolio. The equivalent figure for 31 December 2014 was 0.3%. Unrealised gains on the portfolio were £3.5 billion as at 31 December 2015 or 9% of the portfolio. The equivalent unrealised gains figure for 31 December 2014 was 17%. The other non-profit business assets are a smaller proportion of this portfolio and are generally shorter in duration and have a higher proportion invested in fixed income.

£10.6 billion of Shareholder loan assets are backing annuity liabilities and comprise of commercial mortgage loans (£6.3 billion), Healthcare, Infrastructure and PFI loans (£3.2 billion) and Primary Healthcare, Infrastructure and PFI other loans (£1.1 billion). The Group carries a valuation allowance within the liabilities against the risk of default of commercial mortgages, including Healthcare and PFI mortgages, of £0.6 billion which equates to 59bps at 31 December 2015 (FY14: 87bps). Commercial mortgages decreased during 2015 as a result of UK Life's commercial mortgage loans restructure and recovery programme which completed with the sale of £2.2 billion of commercial mortgage loans to Lone Star.

8.i – Summary of assets continued

Policyholder assets

These assets are invested in line with the fund choices made by our unit-linked policyholders and the investment risk is borne by the policyholder. This results in a high allocation to growth assets such as equity and property. Aviva's shareholder exposure to these assets arises from the fact that the income we receive is a proportion of the assets under management.

UK style with-profits (WP)

UK style with-profits funds hold relatively long-term contracts with policyholders participating in pooled investment performance subject to some minimum guarantees. Smoothed returns are used to declare bonuses to policyholders which increase the level of the guarantees through time. The part of the portfolio to which policyholder bonuses are linked is invested in line with their expectations and includes growth assets such as equity and property as well as fixed income. The remainder of the portfolio is invested to mitigate the resultant shareholder risk. This leads us to an overall investment portfolio that holds a higher proportion of growth assets (such as equity and property) than our other business lines although there are still material allocations to fixed income assets.

Continental European style participating funds

Continental European style participating funds hold relatively long-term contracts with policyholders participating in pooled investment performance subject to some minimum guarantees. Smoothed returns are used to declare bonuses to policyholders. Certain of the guarantees are subject to annual discretion declared at the start of the year. Other guarantees are subject to revision downwards at contractual dates. The investment portfolio holds a higher proportion of fixed income assets than the UK style equivalent. Fixed income assets also give rise to less volatility on the local statutory balance sheet than growth assets.

8.ii – Net asset value

At the end of 2015, IFRS net asset value per share was 389 pence (*FY14: 340 pence*). This increase was driven by a benefit from the acquisition of Friends Life of 55 pence per share (£5,975 million) and operating profits. This was partly offset by the dividend payment to shareholders, amortisation of acquired value of in-force business following the Friends Life acquisition, integration and restructuring costs principally driven by transaction and integration activities in relation to the Friends Life acquisition, adverse foreign exchange movements, adverse investment variances, remeasurements of pension schemes and the adverse impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL).

Total investment variances and economic assumption changes were £170 million adverse. This included a £184 million adverse variance in the non-life businesses, reflecting unfavourable short-term fluctuations in investment values and adverse economic assumption changes. This was principally driven by an increase in risk-free rates reducing fixed income security market values mainly in the UK, higher expected future inflation rates used to calculate reserves for periodic payment orders and the adverse impact of lower discount rates, partly offset by foreign exchange gains on Group Centre holdings.

In the life businesses, investment return variances were £14 million positive mainly driven by realised bond gains and equity outperformance in France and higher interest rates in Singapore, which have reduced liabilities by more than asset values. This was partially offset by widening credit spreads in Italy. The investment variance in the UK was broadly neutral.

The adverse movement on the Group's staff pension schemes of £142 million post tax is principally due to the main UK staff pension scheme. The surplus has decreased over the period largely as a result of a rise in interest rates and narrowing credit spreads.

The adverse foreign exchange movement of £325 million is due to the strengthening of sterling, particularly compared with the euro and Canadian dollar.

IFRS	31 December 2015 £m	pence per share ²	31 December 2014 £m	pence per share ²
Equity attributable to shareholders of Aviva plc at 1 January¹	10,018	340p	7,964	270p
Operating profit (restated) ³	2,665	66p	2,173	74p
Investment return variances and economic assumption changes on life and non-life business	(170)	(4)p	188	6p
Profit/(loss) on the disposal and remeasurements of subsidiaries and associates	2	—	232	8p
Goodwill impairment and amortisation of intangibles	(177)	(4)p	(114)	(4)p
Amortisation and impairment of acquired value of in-force business	(498)	(12)p	—	—
Integration and restructuring costs	(379)	(9)p	(140)	(5)p
Other ⁴	(53)	(1)p	—	—
Tax on operating profit and on other activities	(311)	(8)p	(601)	(20)p
Non-controlling interests	(161)	(4)p	(169)	(6)p
Profit after tax attributable to shareholders of Aviva plc	918	24p	1,569	53p
AFS securities (fair value) & other reserve movements	10	—	62	2p
Ordinary dividends	(635)	(16)p	(446)	(15)p
Direct capital instrument and tier 1 notes interest and preference share dividend	(74)	(2)p	(86)	(3)p
Foreign exchange rate movements	(325)	(8)p	(317)	(11)p
Remeasurements of pension schemes	(142)	(4)p	1,315	45p
Friends Life acquisition ⁵	5,975	55p	—	—
Other net equity movements	19	—	(43)	(1)p
Equity attributable to shareholders of Aviva plc at 31 December¹	15,764	389p	10,018	340p

¹ Excluding preference shares.

² Number of shares as at 31 December 2015: 4,048 million (31 December 2014: 2,950 million).

³ Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement. Amortisation and impairment of AVIF has been added as a separate line item outside of operating profit.

⁴ Comprises the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

⁵ Includes the dilution effect on IFRS NAV per share of the increase in number of shares arising as a result of the acquisition of Friends Life.

8.ii – Net asset value continued

MCEV net asset value per share reduced to 515 pence (*FY14: 527 pence*) over the period. This movement is driven by the operating benefits from the acquisition of Friends Life and operating profits, more than offset by adverse investment variances, adverse foreign exchange rate movements, the dividend payment to shareholders and the integration and restructuring costs following the acquisition of Friends Life.

Total MCEV investment variances were £926 million adverse. This comprises adverse variances of £743 million in the Group's life businesses and adverse investment variances in the non-life businesses of £183 million.

The adverse life investment variances are largely driven by the UK, reflecting widening corporate bond spreads on annuity business, partially offset by increases in liquidity premiums. In addition, equity market underperformance has reduced expected future unit-linked fund charges and shareholder transfers from with-profits funds. Adverse variances in Asia are mainly driven by falling interest rates in China increasing the cost of guarantees. Positive variances in France are mainly due to an increase in risk-free rates and falling swaption volatilities resulting in a reduction in the cost of guarantees. Economic assumption changes relating to capital and dividend apportionment for equity returns further added to the positive variance in France.

MCEV ¹	31 December 2015 £m	pence per share ³	31 December 2014 £m	pence per share ³
Equity attributable to shareholders of Aviva plc at 1 January²	15,547	527p	13,643	463p
Operating profit	2,582	64p	2,885	98p
Investment return variances and economic assumption changes on life and non-life business	(926)	(23)p	(36)	(1)p
Profit/(loss) on the disposal and remeasurements of subsidiaries and associates	—	—	178	6p
Goodwill impairment and amortisation of intangibles	(181)	(4)p	(130)	(4)p
Amortisation and impairment of acquired value of in-force business	—	—	—	—
Integration and restructuring costs	(382)	(9)p	(159)	(6)p
Other	174	4p	(198)	(7)p
Tax on operating profit and on other activities	(485)	(12)p	(674)	(23)p
Non-controlling interests	(161)	(4)p	(208)	(7)p
Profit after tax attributable to shareholders of Aviva plc	621	16p	1,658	56p
AFS securities (fair value) & other reserve movements	(1)	—	(1)	—
Ordinary dividends	(635)	(16)p	(446)	(15)p
Direct capital instruments and tier 1 notes interest and preference share dividend	(74)	(2)p	(86)	(3)p
Foreign exchange rate movements	(463)	(11)p	(546)	(19)p
Remeasurements of pension schemes	(142)	(4)p	1,315	45p
Friends Life acquisition ⁴	5,975	5p	—	—
Other net equity movements	19	—	10	—
Equity attributable to shareholders of Aviva plc at 31 December²	20,847	515p	15,547	527p

¹ In preparing the MCEV information, the directors have done so in accordance with the European Insurance CFO Forum MCEV Principles. No allowance for the impact of Solvency II has been made as permitted by the additional guidance issued in October 2015 by the European Insurance CFO Forum.

² Excluding preference shares.

³ Number of shares as at 31 December 2015: 4,048 million (31 December 2014: 2,950 million).

⁴ Includes the dilution effect on MCEV NAV per share of the increase in number of shares arising as a result of the acquisition of Friends Life. As the opening MCEV is greater than the opening IFRS, the dilution effect is more significant under MCEV. As a result the acquisition leads to a 5p increase in pence per share under MCEV compared to 55p under IFRS.

8.iii – Return on equity

Following the acquisition of Friends Life, management has changed the calculation of return on equity which is now calculated as net operating return on an IFRS basis expressed as a percentage of weighted average ordinary shareholders' equity (rather than opening ordinary shareholders' equity). Comparatives have been restated accordingly.

During 2015, return on equity has decreased to 14.0% (FY14: 16.2% restated), primarily reflecting the impact of the acquisition of Friends Life on weighted average shareholders' equity.

	2015 %	Restated ¹ 2014 %
United Kingdom & Ireland Life	14.2%	16.1%
United Kingdom & Ireland General Insurance and Health	7.9%	9.0%
Europe	12.7%	13.0%
Canada	16.9%	14.2%
Asia	22.0%	9.4%
Fund management	30.1%	23.2%
Corporate and Other Business	n/a	n/a
Return on total capital employed	10.7%	11.4%
Subordinated debt	4.4%	5.3%
Senior debt	3.5%	2.1%
Return on total equity	13.3%	14.2%
Less: Non-controlling interest	12.2%	10.5%
Direct capital instrument and tier 1 notes	6.6%	5.5%
Preference capital	8.5%	8.5%
Return on equity shareholders' funds²	14.0%	16.2%

¹ Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on total equity for any period presented as a result of this restatement. The combined impact of the operating profit restatement and the change to the calculation of return on equity has decreased the FY14 return on equity shareholders' funds from 17.4% to 16.2%.

² Return on equity including the impact of amortisation and impairment of acquired value of in-force business would be 10.5% (FY14: 15.8%).

8.iv – European Insurance Groups Directive (IGD)

	UK life funds £bn	Other business £bn	31 December 2015 £bn	31 December 2014 £bn
Insurance Groups Directive (IGD) capital resources	11.8	10.8	22.6	14.4
Less: capital resources requirement	(11.8)	(4.8)	(16.6)	(11.2)
Insurance Group Directive (IGD) excess solvency	—	6.0	6.0	3.2
Cover over EU minimum (calculated excluding UK life funds)			2.2 times	1.6 times

The EU Insurance Groups Directive (IGD) regulatory capital solvency surplus has increased by £2.8 billion since FY14 to £6.0 billion. The key drivers of the increase are the acquisition of Friends Life (£1.6 billion), operating profits (£1.6 billion) and the net issue of hybrid debt (£0.4 billion), offset by dividend payments and pension scheme funding (£0.5 billion).

The key movements over the period are set out in the following table:

	£bn
IGD solvency surplus at 31 December 2014	3.2
Acquisition of Friends Life	1.6
Operating profits net of integration and restructuring costs	1.6
Net hybrid debt issue ¹	0.4
Dividends and appropriations	(0.3)
Pension scheme funding	(0.2)
Outward reinsurance of latent reserves ²	0.2
Increase in capital resources requirement	(0.1)
Other regulatory adjustments	(0.4)
Estimated IGD solvency surplus at 31 December 2015	6.0

¹ Net hybrid debt issue includes £1 billion benefit of two new Tier 2 subordinated debt instruments issued on 4 June 2015; offset by £(0.6) billion derecognition of two instruments redeemed in the second half of 2015.

² Outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

8.v – Economic capital

The estimated economic capital surplus represents the excess of Available Economic Capital over Required Economic Capital. Available Economic Capital is based on MCEV net assets, adjusted for items to convert to an economic basis. Required Economic Capital is based on Aviva's own internal assessment and capital management policies. The term 'economic capital' does not imply capital as required by regulators or other third parties.

Summary of estimated economic capital position

	2015 £bn	2014 £bn
Available economic capital	25.9	18.6
Standalone required economic capital	(21.2)	(16.1)
Diversification benefit	6.9	5.9
Diversified required economic capital	(14.3)	(10.2)
Estimated economic capital position at 31 December before foreseeable dividend accrual	11.6	8.4
Cover Ratio	181%	182%
Foreseeable dividend accrual	—	(0.4)
Estimated economic capital position at 31 December	11.6	8.0
Cover Ratio	181%	178%

Analysis of change in economic capital

	2015 £bn	2014 £bn
Economic capital surplus position at 1 January	8.0	8.3
MCEV operating earnings	1.7	1.6
Economic variances (including FX)	(1.3)	(0.5)
Other non-operating items	(0.3)	(0.4)
Dividends and appropriations, and shares issued in lieu of dividends	(0.3)	(0.5)
Net hybrid debt issuance	0.4	(0.3)
Acquisition of Friends Life	7.3	—
Available capital benefits from acquisitions and disposals	—	0.2
Other	0.2	0.1
Change in available economic capital	7.7	0.2
Impact of trading operations and other	1.5	0.3
Other changes in methodology	(2.0)	(0.6)
Acquisition of Friends Life	(3.6)	—
Capital requirement impact from acquisitions and disposals	—	0.2
Change in diversified required economic capital	(4.1)	(0.1)
Estimated economic capital surplus position at 31 December before foreseeable dividend accrual	11.6	8.4
Foreseeable dividend accrual	—	(0.4)
Estimated economic capital surplus position at 31 December	11.6	8.0

The estimated economic capital position has increased by £3.6 billion to £11.6 billion at 31 December 2015 with a cover ratio of 181%. The change in available economic capital position is driven by the acquisition of Friends Life, operating profits and net issue of hybrid debt instruments, offset by economic variances and other non-operating items. The change in required economic capital position is driven by the acquisition of Friends Life and strengthening of correlations and calibration assumptions to align with Solvency II.

Diversified required economic capital

	2015 £bn	2014 £bn
Credit risk ¹	3.3	2.4
Equity risk ²	1.6	1.5
Interest rate risk ³	0.7	0.6
Other market risk ⁴	1.6	1.4
Life insurance risk ⁵	2.7	1.3
General insurance risk ⁶	0.7	0.8
Operational Risk	1.0	0.7
Other risk ⁷	2.7	1.5
Total	14.3	10.2

¹ Capital held in respect of credit risk recognises the Group's shareholder exposure to changes in the market value of assets and defaults.

² Capital held in respect of equity risk recognises the Group's shareholder exposure to changes in the market value of assets.

³ Capital held in respect of interest rate risk recognises the Group's shareholder exposure to changes in the market value of assets. A range of specific stresses are applied reflecting the difference in assumed risk relative to investment grade and duration.

⁴ Capital held in respect of other market risk recognises the Group's shareholder exposure to changes in the market value of commercial mortgages and property, but also captures risk in association with inflation and foreign exchange.

⁵ Capital held in respect of life insurance risk recognises the Group's shareholder exposure to life insurance specific risks, such as longevity and lapse.

⁶ Capital held in respect of general insurance risk recognises the Group's shareholder exposure to general insurance specific risks, such as claims volatility and catastrophe.

⁷ Capital held in respect of other risk recognises the Group's shareholder exposure to specific risks unique to particular business units and other items.

8.vi – Solvency II

The estimated coverage ratio on a Solvency II basis is 180%. Solvency II, the new prudential regulatory framework, came into force on 1 January 2016 with the objective of introducing a consistent solvency framework for insurers across Europe. Aviva's Solvency II Partial Internal Model Application was formally approved by the Prudential Regulation Authority in December 2015.

Summary of Solvency II position

	2015 £bn
Own Funds	21.8
Solvency Capital Requirement before diversification	(16.3)
Diversification benefit	4.2
Diversified Solvency Capital Requirement	(12.1)
Estimated Solvency II position at 31 December¹	9.7
Cover Ratio	180%

¹ The estimated Solvency II ratio represents the shareholder view. This ratio excludes the contribution to Group SCR and Group Own Funds of fully ring-fenced with-profits funds (£2.7 billion) and staff pension schemes in surplus (£0.7 billion) – these exclusions have no impact on Solvency II surplus. The impact from internal reinsurance arrangements between UK Life, UK and Ireland General Insurance and Aviva International Insurance Limited and the securitisation of equity release mortgages held by UK Life, effective 1 January 2016, have also been reflected in the Solvency II position.

Summary of analysis of diversified Solvency Capital Requirement

	2015 £bn
Credit risk ¹	2.5
Equity risk ²	1.1
Interest rate risk ³	0.7
Other market risk ⁴	1.3
Life insurance risk ⁵	3.4
General insurance risk ⁶	0.8
Operational risk	1.1
Other risk ⁷	1.2
Total	12.1

¹ Capital held in respect of credit risk recognises the Group's shareholder exposure to changes in the market value of assets and defaults.

² Capital held in respect of equity risk recognises the Group's shareholder exposure to changes in the market value of assets.

³ Capital held in respect of interest rate risk recognises the Group's shareholder exposure to changes in the market value of assets. A range of specific stresses are applied reflecting the difference in assumed risk relative to investment grade and duration.

⁴ Capital held in respect of other market risk recognises the Group's shareholder exposure to changes in the market value of commercial mortgages and property, but also captures risk in association with inflation and foreign exchange.

⁵ Capital held in respect of life insurance risk recognises the Group's shareholder exposure to life insurance specific risks, such as longevity and lapse.

⁶ Capital held in respect of general insurance risk recognises the Group's shareholder exposure to general insurance specific risks, such as claims volatility and catastrophe.

⁷ Capital held in respect of other risk recognises the Group's shareholder exposure to specific risks unique to particular business units and other items.

8.vi – Solvency II continued

Sensitivity analysis of Solvency II surplus

The following table shows the sensitivity of the Group's Solvency II surplus to:

Economic assumptions:

- 25 basis point increase and decrease in the risk-free rate, including all consequential changes (including assumed investment returns for all asset classes, market values of fixed interest assets, risk discount rates);
- 50 basis point increase and decrease in credit spreads for corporate bonds with credit rating A at 10 year duration, with the other ratings and durations stressed by the same proportion relative to the stressed capital requirement;
- 10% increase and decrease in market values of equity assets.

Non-Economic assumptions:

- 10% increase in maintenance expenses and investment expenses (a 10% sensitivity on a base expense assumption of £10 p.a. would represent an expense assumption of £11 p.a.);
- 10% increase in lapse rates (a 10% sensitivity on a base assumption of 5% p.a. would represent a lapse rate of 5.5% p.a.);
- 5% increase in both mortality and morbidity rates for life assurance;
- 5% decrease in mortality rates for annuity business;
- 5% increase in gross loss ratios for general insurance and health business.

All other assumptions remain unchanged for each sensitivity, except where these are directly affected by the revised economic conditions or where a management action that is allowed for in the Solvency Capital Requirement calculation is applicable for that sensitivity. For example, future bonus rates are automatically adjusted to reflect sensitivity changes to future investment returns.

Transitional relief on technical provisions is assumed to be recalculated in the interest rate sensitivities. The credit spread sensitivities assume that the fundamental spreads remain unchanged.

The table below shows the absolute change in cover ratio under each sensitivity, e.g. a 3% positive impact would result in a cover ratio of 183%.

Sensitivities		Impact on cover ratio %
Changes in Economic assumptions	25bps increase in interest rate	3%
	25bps decrease in interest rate	(4%)
	50bps increase in corporate bond spread	(1%)
	50bps decrease in corporate bond spread	1%
	10% increase in market value of equity	1%
	10% decrease in market value of equity ¹	0%
Changes in Non-Economic assumptions	10% increase in maintenance and investment expenses	(6%)
	10% increase in lapse rates	(2%)
	5% increase in mortality/morbidity rates - Life assurance	(1%)
	5% decrease in mortality rates - annuity business	(8%)
	5% increase in gross loss ratios	(2%)

¹ A 10% fall in equities results in a proportionate decrease in Group Own Funds and Group SCR with no overall impact on the rounded Group cover ratio.

Limitations of sensitivity analysis

The table above demonstrates the effect of a change in a key assumption while other assumptions remain unchanged. In reality, there is a correlation between the assumptions and other factors. It should also be noted that these sensitivities are non-linear, and larger or smaller impacts should not be interpolated or extrapolated from these results.

The sensitivity analysis does not take into consideration that the Group's assets and liabilities are actively managed. Additionally, the Solvency II position of the Group may vary at the time that any actual market movement occurs. For example, the Group's financial risk management strategy aims to manage the exposure to market fluctuations.

As investment markets move past various trigger levels, management actions could include selling investments, changing investment portfolio allocation, adjusting bonuses credited to policyholders, and taking other protective action.

Other limitations in the above sensitivity analysis includes the use of hypothetical market movements to demonstrate potential risk that only represent the Group's view of possible near-term market changes that cannot be predicted with any certainty, and the assumption that all interest rates move in an identical fashion.

8.vi – Solvency II continued

Reconciliation of IFRS total equity to Solvency II Own Funds

The reconciliation from total Group equity on an IFRS basis to Solvency II Own Funds is presented below. The valuation differences reflect moving from IFRS valuations to a Solvency II regulatory basis. The Solvency II Own Funds represents a shareholder view, excluding the impact of ring-fenced with-profits funds, and staff pension schemes in surplus.

	2015 £bn
Total Group equity on an IFRS basis	18.2
Elimination of goodwill and other intangible assets ¹	(9.9)
Liability valuation differences (net of transitional deductions)	20.5
Inclusion of risk margin (net of transitional deductions)	(4.0)
Net deferred tax ²	(1.3)
Revaluation of subordinated liabilities	(0.7)
Solvency II Net Assets (gross of non-controlling interests)	22.8
Difference between Solvency II Net Assets and Own Funds ³	(1.0)
Solvency II Own Funds⁴	21.8

¹ Includes £1.9 billion of goodwill and £8.0 billion of other intangible assets comprising acquired value of in-force business of £4.4 billion, deferred acquisition costs (net of deferred income) of £2.3 billion and other intangibles of £1.3 billion.

² Net deferred tax includes the tax effect of all other reconciling items in the table above which are shown gross of tax.

³ Regulatory adjustments to bridge from Solvency II Net Assets to Own Funds include recognition of subordinated debt capital and non-available non-controlling interests.

⁴ The estimated Solvency II position represents the shareholder view. It excludes the contribution to Group SCR and Group Own Funds of fully ring-fenced with-profits funds (£2.7 billion) and staff pension schemes in surplus (£0.7 billion) – these exclusions have no impact on Solvency II surplus. The impact from internal reinsurance arrangements between UK Life, UK and Ireland General Insurance and Aviva International Insurance Limited and the securitisation of equity release mortgages held by UK Life, effective 1 January 2016, have also been reflected in the Solvency II position.

Reconciliation of Group MCEV to Solvency II Own Funds

	2015 £bn
Total Group equity on a MCEV basis (net of tax and gross of non-controlling interests)	23.9
Removal of MCEV frictional costs ¹	0.5
Removal of MCEV cost of non-hedgeable risks ¹	1.4
Elimination of goodwill and other intangible assets	(3.6)
Liability valuation differences (net of transitional deductions)	5.2
Inclusion of risk margin (net of transitional deductions)	(4.0)
Net deferred tax ²	0.1
Revaluation of subordinated liabilities	(0.7)
Solvency II Net Assets (net of tax and gross of non-controlling interests)	22.8
Difference between Solvency II Net Assets and Own Funds ³	(1.0)
Solvency II Own Funds⁴	21.8

¹ The frictional cost and cost of non-hedgeable risks are shown gross of non-controlling interests. The numbers shown in disclosure F9 are net of non-controlling interests.

² Net deferred tax includes the tax effect of all other reconciling items in the table above which are shown gross of tax.

³ Regulatory adjustments to bridge from Solvency II Net Assets to Own Funds include recognition of subordinated debt capital and non-available non-controlling interests.

⁴ The estimated Solvency II position represents the shareholder view. It excludes the contribution to Group SCR and Group Own Funds of fully ring-fenced with-profits funds (£2.7 billion) and staff pension schemes in surplus (£0.7 billion) – these exclusions have no impact on Solvency II surplus. The impact from internal reinsurance arrangements between UK Life, UK and Ireland General Insurance and Aviva International Insurance Limited and the securitisation of equity release mortgages held by UK Life, effective 1 January 2016, have also been reflected in the Solvency II position.

Reconciliation from estimated economic capital surplus to estimated Solvency II surplus¹

	2015 £bn
Estimated economic capital surplus	11.6
Liability valuation differences (net of transitional deductions)	1.5
Inclusion of risk margin (net of transitional deductions)	(3.3)
Other valuation differences	(0.1)
Estimated Solvency II surplus	9.7

¹ The reconciliation items in the bridge above are presented on a net of tax basis.

Financial supplement

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Reconciliation of Group operating profit to profit after tax – IFRS basis

For the year ended 31 December 2015

	2015 £m	Restated ¹ 2014 £m
Operating profit before tax attributable to shareholders' profits		
Life business		
United Kingdom & Ireland	1,432	1,049
Europe	766	882
Asia	244	87
Other	(23)	1
Total life business	2,419	2,019
General insurance and health		
United Kingdom & Ireland	430	499
Europe	114	113
Canada	214	189
Asia	(6)	(2)
Other	13	9
Total general insurance and health	765	808
Fund management		
Aviva Investors	105	79
United Kingdom	—	6
Asia	1	1
Total fund management	106	86
Other		
Other operations (note A1)	(84)	(105)
Market operating profit	3,206	2,808
Corporate centre (note A2)	(180)	(132)
Group debt costs and other interest (note A3)	(361)	(463)
Operating profit before tax attributable to shareholders' profits	2,665	2,213
Integration and restructuring costs	(379)	(140)
Operating profit before tax attributable to shareholders' profits after integration and restructuring costs	2,286	2,073
Adjusted for the following:		
Investment return variances and economic assumption changes on long-term business (note A4)	14	72
Short-term fluctuation in return on investments backing non-long-term business (note A5)	(84)	261
Economic assumption changes on general insurance and health business (note A6)	(100)	(145)
Impairment of goodwill, joint ventures and associates and other amounts expensed (note A7)	(22)	(24)
Amortisation and impairment of intangibles	(155)	(90)
Amortisation and impairment of acquired value of in-force business (note A8)	(498)	(40)
Profit on the disposal and re-measurement of subsidiaries, joint ventures and associates (note A9)	2	174
Other (note A10)	(53)	—
Non-operating items before tax	(896)	208
Profit before tax attributable to shareholders' profits	1,390	2,281
Tax on operating profit	(598)	(563)
Tax on other activities	287	(38)
	(311)	(601)
Profit after tax	1,079	1,680
Profit from discontinued operations²	—	58
Profit for the year	1,079	1,738

¹ Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

² Discontinued operations relate to US life and related internal asset management businesses (US Life) sold in 2013.

Other Group Operating Profit Items

A1 – Other operations

	2015 £m	2014 £m
United Kingdom & Ireland Life	(29)	(4)
United Kingdom & Ireland General Insurance	5	4
Europe	(22)	(26)
Asia	(16)	(8)
Other Group operations ¹	(22)	(71)
Total	(84)	(105)

¹ Other Group operations include Group and head office costs.

Other operations relate to non insurance activities and include costs associated with our Group and regional head offices, pension schemes expenses, as well as non insurance income. Total costs in relation to non insurance activities have decreased by £21 million to £84 million (*FY14: £105 million*), mainly driven by a reduction in the operating loss in 'Other Group operations', partly offset by increased costs in the United Kingdom associated with continued investment into the platform business.

In FY14, 'Other Group Operations' costs included a provision relating to an FCA fine of £17.6 million (Aviva Investors).

A2 – Corporate centre

	2015 £m	2014 £m
Project spend	(6)	(9)
Central spend and share award costs	(174)	(123)
Total	(180)	(132)

Total corporate centre costs have increased to £180 million (*FY14: £132 million*), mainly as a result of increased spend on digital initiatives across the Group as well as the inclusion of Friends Life costs following the acquisition of this business.

A3 – Group debt costs and other interest

	2015 £m	2014 £m
External debt		
Subordinated debt	(335)	(289)
Other	(15)	(21)
Total external debt	(350)	(310)
Internal lending arrangements	(92)	(186)
Extinguishment of debt	(13)	—
Net finance income on main UK pension scheme	94	33
Total	(361)	(463)

Non-operating profit items

A4 – Life Business: Investment variances and economic assumption changes

(a) Definitions

Operating profit for life business is based on expected investment returns on financial investments backing shareholder and policyholder funds over the period, with consistent allowance for the corresponding expected movements in liabilities. Operating profit includes the effect of variance in experience for non-economic items, such as mortality, persistency and expenses, and the effect of changes in non-economic assumptions, where not treated as exceptional. Changes due to economic items, such as market value movement and interest rate changes, which give rise to variances between actual and expected investment returns, and the impact of changes in economic assumptions on liabilities, are disclosed separately outside operating profit.

(b) Economic volatility

The investment variances and economic assumption changes excluded from the life operating profit are as follows:

Life business	2015 £m	2014 £m
Investment variances and economic assumptions	14	72

Investment variances were £14 million positive (FY14: £72 million positive) with positive movements in France and Asia, partially offset by a negative variance in Italy. The positive variance in France reflects realised bond gains and equity outperformance, while the positive variance in Asia is driven by increasing interest rates in Singapore, which have reduced liabilities by more than asset values. The negative variance in Italy is driven by widening credit spreads. The investment variance was largely neutral in the UK, reflecting the positive variance from the reduction in equity release asset default provisions following favourable property market performance, offset by the negative impact of widening credit spreads.

In 2014, positive variances were mainly driven by lower risk-free rates and narrowing credit spreads on government and corporate bonds in Italy and Spain. Negative variances in the UK were due to the adverse impact of falling reinvestment yields net of improved underlying property values on commercial mortgages partly offset by a change to the model used to value certain equity release assets and the consequential impact on the liabilities that they back.

(c) Assumptions

The expected rate of investment return is determined using consistent assumptions between operations, having regard to local economic and market forecasts of investment return and asset classification under IFRS.

The principal assumptions underlying the calculation of the expected investment return for equities and properties are:

	Equities		Properties	
	2015 %	2014 %	2015 %	2014 %
United Kingdom	5.4%	6.6%	3.9%	5.1%
Eurozone	4.3%	5.7%	2.8%	4.2%

The expected return on equities and properties has been calculated by reference to the opening 10 year swap rate in the relevant currency plus an appropriate risk margin. These are the same assumptions as are used in MCEV reporting to calculate the longer-term investment return for the Group's life business.

For fixed interest securities classified as fair value through profit or loss, the expected investment returns are based on average prospective yields for the actual assets held less an adjustment for credit risks; this includes an adjustment for credit risk on all eurozone sovereign debt. Where such securities are classified as available for sale, the expected investment return comprises the expected interest or dividend payments and amortisation of the premium or discount at purchase.

A5 – Non-life business: Short-term fluctuation in return on investments

	2015 £m	2014 £m
General Insurance and health		
Analysis of investment income:		
– Net investment income	240	666
– Foreign exchange gains/losses and other charges	(10)	(8)
	230	658
Analysed between:		
– Longer-term investment return, reported within operating profit	396	477
– Short-term fluctuations in investment return, reported outside operating profit	(166)	181
	230	658
Short-term fluctuations:		
– General insurance and health	(166)	181
– Other operations ¹	82	80
Total short-term fluctuations	(84)	261

¹ Represents short-term fluctuation on assets backing non-life business in Group centre investments, including the centre hedging programme.

The longer-term investment return is calculated separately for each principal non-life business unit. In respect of equities and properties, the return is calculated by multiplying the opening market value of the investments, adjusted for sales and purchases during the year, by the longer-term rate of investment return. The longer-term rate of investment return is determined using consistent assumptions between operations, having regard to local economic and market forecasts of investment return. The allocated longer-term return for other investments is the actual income receivable for the year. Actual income and longer-term investment return both contain the amortisation of the discounts/premium arising on the acquisition of fixed income securities.

Market value movements which give rise to variances between actual and longer-term investment returns are disclosed separately in short-term fluctuations outside operating profit.

The impact of realised and unrealised gains and losses on Group centre investments, including the centre hedging programme which is designed to economically protect the total Group's capital against adverse equity and foreign exchange movements, is included in short-term fluctuations on other operations.

The adverse movement in short-term fluctuation during 2015 compared with 2014 is mainly due to an increase in risk-free rates reducing fixed income security market values.

The total assets supporting the general insurance and health business, which contribute towards the longer-term return, are:

	2015 £m	2014 £m
Debt securities	9,608	10,858
Equity securities	217	251
Properties	335	223
Cash and cash equivalents	969	1,300
Other ¹	3,008	3,767
Assets supporting general insurance and health business	14,137	16,399
Assets supporting other non-long-term business ²	538	562
Total assets supporting non-long-term business	14,675	16,961

¹ Includes the internal loan.

² Represents assets backing non-life business in Group centre investments, including the centre hedging programme.

The principal assumptions underlying the calculation of the longer-term investment return are:

	Longer-term rates of return on equities		Longer-term rates of return on property	
	2015 %	2014 %	2015 %	2014 %
United Kingdom	5.4%	6.6%	3.9%	5.1%
Eurozone	4.3%	5.7%	2.8%	4.2%
Canada	5.8%	6.8%	4.3%	5.3%

The underlying reference rates are shown in F2 within the MCEV financial supplement.

A6 – General insurance and health business: Economic assumption changes

Economic assumption changes of £100 million adverse arise as a result of an increase in the expected future inflation rates used to calculate reserves for periodic payment orders and a decrease in the swap rates used to discount latent claim reserves and periodic payment orders. In 2014 economic assumption changes were £145 million adverse due to a decrease in the swap rates used to discount latent claims reserves and periodic payment orders.

A7 – Impairment of goodwill, joint ventures, associates and other amounts expensed

Impairment of goodwill, joint ventures and associates from continuing operations is a charge of £22 million (*FY14: £24 million charge*) as management determined goodwill of £13 million in Asia and £9 million in Europe is not recoverable.

A8 – Amortisation and impairment of acquired value of in-force business

Amortisation of acquired value of in-force business is a charge of £498 million (*FY14: £40 million charge*) of which £479 million relates to Friends Life. There were no impairments of acquired value of in-force business in the current period (*FY14: £nil*).

A9 – Profit/loss on the disposal and re-measurement of subsidiaries, joint ventures and associates

The total profit on disposal and re-measurement of subsidiaries, joint ventures and associates from continuing operations is £2 million (*FY14: £174 million*). This includes a gain of £1 million (*FY14: £15 million*) recognised on the further sale of shares in the Turkey Life business and profits on the disposal of small reinsurance operations in Asia of £1 million. There was no profit or loss recognised relating to discontinued operations in 2015 (*FY14: £58 million profit*). Further detail is provided in note B4.

A10 – Other

Other items comprise a day one loss of £53 million resulting from an outward quota share reinsurance transaction, completed in 2015 by Aviva Insurance Limited, which includes provision of an additional c.£0.8 billion of adverse development cover for our UK General Insurance latent reserves. This provides significant protection against claims volatility from mesothelioma, industrial deafness and other long tail risks.

IFRS financial statements

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Consolidated income statement

For the year ended 31 December 2015

	Note	2015 £m	2014 £m
Income			
Gross written premiums		21,925	21,670
Premiums ceded to reinsurers		(2,890)	(1,614)
Premiums written net of reinsurance		19,035	20,056
Net change in provision for unearned premiums		(111)	1
Net earned premiums		18,924	20,057
Fee and commission income		1,797	1,230
Net investment income		2,825	21,889
Share of profit after tax of joint ventures and associates		180	147
Profit on the disposal and remeasurement of subsidiaries, joint ventures and associates		2	174
		23,728	43,497
Expenses			
Claims and benefits paid, net of recoveries from reinsurers		(21,985)	(19,474)
Change in insurance liabilities, net of reinsurance		6,681	(5,570)
Change in investment contract provisions		(1,487)	(6,518)
Change in unallocated divisible surplus		984	(3,364)
Fee and commission expense		(3,347)	(3,389)
Other expenses		(2,784)	(1,979)
Finance costs		(618)	(540)
		(22,556)	(40,834)
Profit before tax		1,172	2,663
Tax attributable to policyholders' returns	B6	218	(382)
Profit before tax attributable to shareholders' profits		1,390	2,281
Tax expense	B6	(93)	(983)
Less: tax attributable to policyholders' returns	B6	(218)	382
Tax attributable to shareholders' profits		(311)	(601)
Profit after tax		1,079	1,680
Profit from discontinued operations¹		—	58
Profit for the year		1,079	1,738
Attributable to:			
Equity holders of Aviva plc		918	1,569
Non-controlling interests		161	169
Profit for the year		1,079	1,738
Earnings per share			
Basic (pence per share)	B7	22.6p	50.4p
Diluted (pence per share)		22.3p	49.6p
Continuing operations – Basic (pence per share)			
		22.6p	48.4p
Continuing operations – Diluted (pence per share)			
		22.3p	47.7p

¹ Discontinued operations relates to the US Life and related internal asset management businesses (US Life) sold in 2013.

Consolidated statement of comprehensive income

For the year ended 31 December 2015

	Note	2015 £m	2014 £m
Profit for the year from continuing operations		1,079	1,680
Profit for the year from discontinued operations¹		—	58
Total profit for the year		1,079	1,738
Other comprehensive income from continuing operations:			
<i>Items that may be reclassified subsequently to income statement</i>			
Investments classified as available for sale			
Fair value (losses)/gains		(9)	62
Fair value losses transferred to profit on disposals		—	(7)
Share of other comprehensive income of joint ventures and associates		(14)	22
Foreign exchange rate movements		(378)	(396)
Aggregate tax effect – shareholder tax on items that may be reclassified into profit or loss		13	(9)
<i>Items that will not be reclassified to income statement</i>			
Owner-occupied properties – fair value gains		27	7
Remeasurements of pension schemes	B15	(235)	1,662
Aggregate tax effect – shareholder tax on items that will not be reclassified into profit or loss		93	(347)
Other comprehensive income, net of tax from continuing operations		(503)	994
Other comprehensive income, net of tax from discontinued operations¹		—	—
Total other comprehensive income, net of tax		(503)	994
Total comprehensive income for the year from continuing operations		576	2,674
Total comprehensive income for the year from discontinued operations¹		—	58
Total comprehensive income for the year		576	2,732
Attributable to:			
Equity holders of Aviva plc		460	2,642
Non-controlling interests		116	90
		576	2,732

¹ Discontinued operations relates to the US Life and related internal asset management businesses (US Life) sold in 2013.

IFRS

Consolidated statement of changes in equity

For the year ended 31 December 2015

	Ordinary share capital £m	Preference share capital £m	Share premium £m	Merger reserve £m	Treasury shares £m	Other Reserves £m	Retained earnings £m	Equity attributable to shareholders of Aviva plc £m	DCI and tier 1 notes £m	Non- controlling interests £m	Total equity £m
Balance at 1 January	737	200	1,172	3,271	(8)	229	4,617	10,218	892	1,166	12,276
Profit for the year	—	—	—	—	—	—	918	918	—	161	1,079
Other comprehensive income	—	—	—	—	—	(316)	(142)	(458)	—	(45)	(503)
Total comprehensive income for the year	—	—	—	—	—	(316)	776	460	—	116	576
Issue of share capital – acquisition of Friends Life	272	—	—	5,703	—	—	—	5,975	—	—	5,975
Non-controlling interests in acquired subsidiaries ¹	—	—	—	—	—	—	—	—	—	504	504
Reclassification of non-controlling interests to financial liabilities ²	—	—	—	—	—	—	—	—	—	(272)	(272)
Reclassification of non-controlling interests to tier 1 notes ³	—	—	—	—	—	—	—	—	231	(231)	—
Owner-occupied properties fair value gains transferred to retained earnings on disposals	—	—	—	—	—	(33)	33	—	—	—	—
Dividends and appropriations	—	—	—	—	—	—	(724)	(724)	—	—	(724)
Non-controlling interests share of dividends declared in the year	—	—	—	—	—	—	—	—	—	(142)	(142)
Transfer to profit on disposal of subsidiaries, joint ventures and associates	—	—	—	—	—	1	—	1	—	—	1
Capital contributions from non-controlling interests	—	—	—	—	—	—	—	—	—	5	5
Changes in non-controlling interests in subsidiaries	—	—	—	—	—	—	—	—	—	(1)	(1)
Treasury shares held by subsidiary companies	—	—	—	—	(27)	—	—	(27)	—	—	(27)
Reserves credit for equity compensation plans	—	—	—	—	—	40	—	40	—	—	40
Shares issued under equity compensation plans	3	—	13	—	6	(35)	19	6	—	—	6
Aggregate tax effect – shareholder tax	—	—	—	—	—	—	15	15	—	—	15
Balance at 31 December	1,012	200	1,185	8,974	(29)	(114)	4,736	15,964	1,123	1,145	18,232

¹ Includes Friends Life's Step-up Tier one Insurance Capital Securities ('STICS') issuances classified as equity instruments within non-controlling interests at the date of acquisition. See Note B4 for further detail.

² On 29 May 2015, notification was given that the Group would redeem the 2005 STICS issuance. At that date the instrument was reclassified as a financial liability. The instrument was redeemed on 1 July 2015, £272 million represents the fair value of instruments recognised on acquisition, made up of the £268 million outstanding principal redeemed on 1 July 2015 and £4 million amortised subsequent to the reclassification and included within finance costs in the income statement.

³ On 1 October 2015 Aviva plc replaced Friends Life Holdings plc as issuer of the 2003 STICS issuance which resulted in a reclassification of the STICS from non-controlling interests to DCI and tier 1 notes.

For the year ended 31 December 2014

	Ordinary share capital £m	Preference share capital £m	Share premium £m	Merger reserve £m	Treasury shares £m	Other Reserves £m	Retained earnings £m	Equity attributable to shareholders of Aviva plc £m	DCI and tier 1 notes £m	Non- controlling interests £m	Total equity £m
Balance at 1 January	736	200	1,165	3,271	(31)	475	2,348	8,164	1,382	1,471	11,017
Profit for the year	—	—	—	—	—	—	1,569	1,569	—	169	1,738
Other comprehensive income	—	—	—	—	—	(242)	1,315	1,073	—	(79)	994
Total comprehensive income for the year	—	—	—	—	—	(242)	2,884	2,642	—	90	2,732
Owner-occupied properties fair value gains transferred to retained earnings on disposals	—	—	—	—	—	(2)	2	—	—	—	—
Dividends and appropriations	—	—	—	—	—	—	(551)	(551)	—	—	(551)
Non-controlling interests share of dividends declared in the year	—	—	—	—	—	—	—	—	—	(189)	(189)
Transfer to profit on disposal of subsidiaries, joint ventures and associates	—	—	—	—	—	(13)	2	(11)	—	—	(11)
Changes in non-controlling interests in subsidiaries	—	—	—	—	—	—	(36)	(36)	—	(206)	(242)
Reserves credit for equity compensation plans	—	—	—	—	—	39	—	39	—	—	39
Shares issued under equity compensation plans	1	—	7	—	23	(28)	6	9	—	—	9
Aggregate tax effect – shareholder tax	—	—	—	—	—	—	19	19	—	—	19
Redemption of direct capital instrument ¹	—	—	—	—	—	—	(57)	(57)	(490)	—	(547)
Balance at 31 December	737	200	1,172	3,271	(8)	229	4,617	10,218	892	1,166	12,276

¹ £57 million relates to the foreign exchange loss on redemption of the €700 million direct capital instrument on 28 November 2014.

Consolidated statement of financial position

As at 31 December 2015

	Note	2015 £m	2014 £m
Assets			
Goodwill		1,955	1,302
Acquired value of in-force business and intangible assets	B21	5,731	1,028
Interests in, and loans to, joint ventures		1,590	1,140
Interests in, and loans to, associates		329	404
Property and equipment		449	357
Investment property		11,301	8,925
Loans		22,433	25,260
Financial investments		274,217	202,638
Reinsurance assets	B11	20,918	7,958
Deferred tax assets		131	76
Current tax assets		114	27
Receivables		6,875	5,933
Deferred acquisition costs and other assets		5,061	5,091
Prepayments and accrued income		3,094	2,466
Cash and cash equivalents	B16	33,676	23,105
Assets of operations classified as held for sale	B4	—	9
Total assets		387,874	285,719
Equity			
Capital			
Ordinary share capital		1,012	737
Preference share capital		200	200
		1,212	937
Capital reserves			
Share premium		1,185	1,172
Merger reserve		8,974	3,271
		10,159	4,443
Treasury shares		(29)	(8)
Other reserves		(114)	229
Retained earnings		4,736	4,617
Equity attributable to shareholders of Aviva plc		15,964	10,218
Direct capital instruments and tier 1 notes		1,123	892
Equity excluding non-controlling interests		17,087	11,110
Non-controlling interests		1,145	1,166
Total equity		18,232	12,276
Liabilities			
Gross insurance liabilities	B9	140,556	113,445
Gross liabilities for investment contracts	B10	181,173	117,245
Unallocated divisible surplus	B13	8,811	9,467
Net asset value attributable to unitholders		11,415	9,482
Provisions		1,416	879
Deferred tax liabilities		2,074	1,091
Current tax liabilities		177	169
Borrowings	B14	8,770	7,378
Payables and other financial liabilities		12,448	12,012
Other liabilities		2,802	2,273
Liabilities of operations classified as held for sale	B4	—	2
Total liabilities		369,642	273,443
Total equity and liabilities		387,874	285,719

IFRS

Consolidated statement of cash flows

For the year ended 31 December 2015

The cash flows presented in this statement cover all the Group's activities and include flows from both policyholder and shareholder activities. All cash and cash equivalents are available for use by the Group.

	Note	2015 £m	2014 £m
Cash flows from operating activities⁵			
Cash generated from/(used in) continuing operations		5,197	(87)
Tax paid		(442)	(457)
Net cash from/(used in) operating activities – continuing operations		4,755	(544)
Total net cash from/(used in) operating activities		4,755	(544)
Cash flows from investing activities			
Acquisitions of, and additions to, subsidiaries, joint ventures and associates, net of cash acquired		7,783	(79)
Disposals of subsidiaries, joint ventures and associates, net of cash transferred		(3)	110
New loans to joint ventures and associates		(21)	(73)
Repayment of loans to joint ventures and associates		—	33
Net new loans to joint ventures and associates		(21)	(40)
Purchases of property and equipment		(58)	(116)
Proceeds on sale of property and equipment		51	19
Other cash flow related to intangible assets		(111)	(122)
Net cash from/(used in) investing activities – continuing operations		7,641	(228)
Net cash from/(used in) investing activities – discontinued operations¹		—	(20)
Total net cash from/(used in) from investing activities		7,641	(248)
Cash flows from financing activities			
Redemption of Direct Capital Instrument		—	(547)
Proceeds from issue of ordinary shares		16	8
Treasury shares purchased for employee trusts		(1)	—
New borrowings drawn down, net of expenses		2,049	2,383
Repayment of borrowings ²		(1,979)	(2,442)
Net drawdown/(repayment) of borrowings		70	(59)
Interest paid on borrowings		(588)	(527)
Preference dividends paid	B8	(17)	(17)
Ordinary dividends paid ³	B8	(635)	(447)
Coupon payments on direct capital instruments and tier 1 notes	B8	(72)	(88)
Capital contributions from non-controlling interests of subsidiaries		5	—
Dividends paid to non-controlling interests of subsidiaries ⁴		(142)	(189)
Changes in controlling interest in subsidiaries		(1)	(89)
Net cash used in financing activities – continuing operations		(1,365)	(1,955)
Total net cash used in financing activities		(1,365)	(1,955)
Total net increase/(decrease) in cash and cash equivalents		11,031	(2,747)
Cash and cash equivalents at 1 January		22,564	25,989
Effect of exchange rate changes on cash and cash equivalents		(425)	(678)
Cash and cash equivalents at 31 December	B16	33,170	22,564

¹ Discontinued operations represent the results of the US life and related internal asset management businesses (US Life) sold in 2013.

² Includes redemption of 2005 STICS of £268 million.

³ Ordinary dividends paid amounted to £635 million (FY14: £449 million. £2 million of unclaimed and waived dividends has been set off against this above).

⁴ Dividends paid to non-controlling interests of subsidiaries included £7 million on the 2003 STICS and £17 million on the 2005 STICS prior to reclassification.

⁵ Cash flows from operating activities include interest received of £5,251 million (FY14: £4,986 million) and dividends received of £2,353 million (FY14: £1,442 million).

B1(i) Basis of preparation

(a) The results in this preliminary announcement have been taken from the Group's 2015 Annual report and accounts which will be available on the Company's website on 29 March 2016. The consolidated financial statements have been prepared and approved by the directors in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) and as endorsed by the European Union (EU), and those parts of the Companies Act 2006 applicable to those reporting under IFRS.

The basis of preparation and summary of accounting policies applicable to the Group's consolidated financial statements can be found in the Accounting policies section of the 2015 Annual report and accounts. The Group has made a presentation change related to the definition of operating profit detailed in Note B2 for which the comparative figures have been restated. There is no impact on reported profit or equity as result of this. In addition, the Group has adopted new amendments to published standards as described in B1(ii).

The preliminary announcement for the year ended 31 December 2015 does not constitute statutory accounts as defined in Section 434 of the Companies Act 2006. The results on an IFRS basis for full year 2015 and 2014 have been audited by PricewaterhouseCoopers LLP (PwC). PwC have reported on the 2015 and 2014 consolidated financial statements. Both reports were unqualified and neither contained a statement under section 498 (2) or (3) of the Companies Act 2006. The Group's 2014 report and accounts have been filed with the Registrar of Companies.

After making enquiries, the directors have a reasonable expectation that the Group as a whole has adequate resources to continue in operational existence over a period of at least 12 months from the date of approval of the financial statements. For this reason, they continue to adopt the going concern basis in preparing the financial statements.

b) Items included in the financial statements of each of the Group's entities are measured in the currency of the primary economic environment in which that entity operates (the functional currency). The consolidated financial statements are stated in pounds sterling, which is the Company's functional and presentational currency. Unless otherwise noted, the amounts shown in these financial statements are in millions of pounds sterling (£m).

c) The long-term nature of much of the Group's operations means that, for management's decision-making and internal performance management, short-term realised and unrealised investment gains and losses are treated as non-operating items. As a result, the Group focuses on an operating profit measure that incorporates an expected return on investments supporting its long-term and non-long-term businesses. Operating profit for long-term business is based on expected investment returns on financial investments backing shareholder and policyholder funds over the reporting period, with allowance for the corresponding expected movements in liabilities. Variances between actual and expected investment returns, and the impact of changes in economic assumptions on liabilities, are disclosed separately outside operating profit. For non-long-term business, the total investment income, including realised and unrealised gains, is analysed between that calculated using a longer-term return and short-term fluctuations from that level. Operating profit also excludes impairment of goodwill, associates and joint ventures; amortisation and impairment of other intangibles; amortisation and impairment of acquired value of in-force business; the profit or loss on disposal and remeasurement of subsidiaries, joint ventures and associates; integration and restructuring costs; and other.

B1(ii) New standards, interpretations and amendments to published standards that have been adopted by the Group

The Group has adopted the following amendments to standards which became effective for the annual reporting period beginning on 1 January 2015.

(i) **Amendments to IAS 19, Employee Benefits – Employee Contributions**

These narrow scope amendments simplify accounting for defined benefit plans that require contributions from employees or third parties. The adoption of the amendments has no impact on the Group's consolidated financial statements as the Group does not have defined benefit plans that require employees or third parties to contribute to the cost of the plan.

(ii) **Annual Improvements to IFRSs 2011-2013**

These improvements to IFRSs consist of amendments to four IFRSs including IFRS 3 Business Combinations and IFRS 13 Fair Value Measurement. The amendments clarify existing guidance and there is no impact on the Group's consolidated financial statements.

B2 – Presentation changes

Management has changed the definition of Group operating profit on an IFRS basis to exclude amortisation and impairment of acquired value of in-force business ('AVIF'), aligning the presentation of this item with the amortisation and impairment of intangible assets as non-operating items. Comparatives have been restated as shown below. This change in presentation had no impact on reported profit or loss or equity, the statement of financial position or the statement of cash flows.

Effect of restatements from change in definition of operating profit – IFRS basis

	As previously reported £m	Effect of change £m	2014
			Restated £m
Operating profit before tax attributable to shareholders' profits	2,173	40	2,213
Non-operating items before tax	108	(40)	68
Profit before tax attributable to shareholders' profits	2,281	—	2,281
Tax on operating profit	(561)	(2)	(563)
Tax on other activities	(40)	2	(38)
	(601)	—	(601)
Profit after tax	1,680	—	1,680
Operating profit per share (p)	47.0	1.3	48.3
Diluted operating profit per share (p)	46.3	1.3	47.6

As a result of this change comparative information in note B5 Segmental Information and note B7 Earnings per Share has been restated.

B3 – Exchange rates

The Group's principal overseas operations during the year were located within the eurozone, Canada and Poland. The results and cash flows of these operations have been translated into sterling at the average rates for the year and the assets and liabilities have been translated at the year end rates as follows:

	2015	2014
Eurozone		
Average rate (€1 equals)	£0.72	£0.81
Year end rate (€1 equals)	£0.74	£0.78
Canada		
Average rate (\$CAD1 equals)	£0.51	£0.55
Year end rate (\$CAD1 equals)	£0.49	£0.55
Poland		
Average rate (PLN1 equals)	£0.17	£0.19
Year end rate (PLN1 equals)	£0.17	£0.18

B4 – Subsidiaries

This note provides details of the acquisitions and disposals of subsidiaries, joint ventures and associates that the Group has made during the year, together with details of businesses held for sale at the year end.

(a) Acquisitions

(i) Friends Life

On 10 April 2015, the Group completed the acquisition of 100% of the outstanding ordinary shares of Friends Life Group Limited ('Friends Life') through an all share exchange which gave Friends Life shareholders 0.74 Group shares for every Friends Life share held. In total, 1,086,326,606 Group shares were issued and commenced trading on 13 April 2015.

Friends Life is a leading insurance business which provides a range of pension, investment and insurance products and services to both individual customers and corporates. Prior to the acquisition, Friends Life operated through three distinct divisions: the Heritage division which administers products which are no longer actively marketed for new business; the UK division whose main lines of business are corporate benefits, retirement income and protection; and the International division which provides savings, investment and protection products for customers in Asia and the Middle East. The acquisition accelerates the Group's investment thesis of cash flow plus growth and is expected to benefit the Group over time through the realisation of significant incremental capital, financial and revenue synergies as well as supporting the Group to secure its position as a leading insurance and savings business.

£768 million of the shares transferred to the shareholders of Friends Life represents the fair value of the liabilities, based on discounted cash flows substantiated against internally modelled and external market values, held by the Group related to the settlement of a pre-existing insurance contract between the Group and Friends Life held by the Friends Provident pension scheme (refer to note B15). The remaining £5,207 million represents the consideration exchanged for £4,536 million of net assets of Friends Life and £671 million of goodwill, as follows:

	Book Value £m	Fair Value and Accounting Policy Adjustments £m	Fair Value £m
Assets			
Acquired value of in-force business and intangible assets	3,055	2,219	5,274
Investment property	2,685	—	2,685
Financial investments	97,580	(11,314)	86,266
Reinsurance assets	1,254	11,251	12,505
Deferred tax assets	51	54	105
Other assets	2,619	(854)	1,765
Cash and cash equivalents	7,878	—	7,878
Total assets	115,122	1,356	116,478
Liabilities			
Insurance liabilities	36,068	12	36,080
Liability for investment contracts	68,778	(129)	68,649
Unallocated divisible surplus	724	—	724
Net asset value attributable to unitholders	212	—	212
Deferred tax liabilities	1,203	240	1,443
Borrowings	1,064	243	1,307
Other liabilities	2,355	668	3,023
Total liabilities	110,404	1,034	111,438
Net assets	4,718	322	5,040
Non-controlling interests (NCI) including tier 1 notes	329	175	504
Net assets excluding NCI	4,389	147	4,536
Goodwill arising on acquisition			671
Fair value of shares exchanged for net assets			5,207
Fair value of Group liabilities related to pre-existing relationship			768
Fair value of total shares exchanged¹			5,975

¹ Fair value of consideration based on the opening market price on the date of acquisition.

The issue of new shares in the Company in exchange for shares of Friends Life has attracted merger relief under section 612 of the Companies Act 2006. Of the £5,975 million, £272 million (25 pence per ordinary share) has been credited to share capital and the remaining £5,703 million has been credited to the merger reserve within equity, increasing the reserve from £3,271 million to £8,974 million.

Acquired value of in-force business and intangible assets

An asset of £4,790 million was recognised upon acquisition representing the present value of future profits from the acquired in-force business ('AVIF') as of 10 April 2015. This will be amortised in accordance with the Group's accounting policies. Deferred acquisition costs ('DAC') are not recognised upon acquisition.

Intangible assets of £484 million represent Friends Life's distribution agreements and customer contracts. These assets have been assessed as having a useful life of between five and ten years and will be amortised over that period in accordance with the Group's accounting policies, along with the corresponding release of the applicable deferred tax provision.

B4 – Subsidiaries continued**Fair value and accounting policy adjustments**

A reclassification of £11.3 billion was made from financial investments to reinsurance assets to align to the Group's presentation policy for reinsurance assets.

The adjustments to other liabilities are primarily related to a Group insurance contract held within the Friends Provident pension scheme (refer to note B15).

The adjustment to non-controlling interests represents the fair value adjustment of the 2003 and 2005 Step-up Tier one Insurance Capital Securities ('STICS') issuances based on the market quoted price which were classified as equity instruments within NCI on acquisition.

Goodwill

The residual goodwill on acquisition of £671 million, none of which is expected to be deductible for tax purposes, represents future synergies expected to arise from combining the operations of Friends Life with those of the Group as well as the value of the workforce in place and other future business value.

Profit and loss

In the period from 10 April 2015 to 31 December 2015 the acquired Friends Life subsidiaries contributed net earned premiums and fee and commission income of £1,338 million and a loss before tax attributable to shareholders of £371 million, including £160 million of integration and restructuring costs, to the consolidated results of the Group.

If the acquisition had been effective on 1 January 2015, on a pro-forma basis the Group's net earned premiums and fee and commission income is estimated at £21.1 billion and profit before tax attributable to shareholders is estimated at £1,391 million. In determining these amounts, management has assumed that the fair value adjustments that arose on the date of acquisition would have been the same if the acquisition occurred on 1 January 2015. The pro-forma results are provided for information purposes only and do not necessarily reflect the actual results that would have occurred had the acquisition taken place on 1 January 2015, nor are they necessarily indicative of the future results of the combined Group.

Acquisition costs of £29 million related to legal and professional fees incurred to support the transaction have been recognised within other expenses in the income statement.

(ii) Other acquisitions

The Group also completed other minor acquisitions in 2015. The aggregate consideration paid in these transactions was £97 million. Goodwill of £23 million and intangible assets of £29 million were recognised in relation to these transactions. With the exception of the acquisition of additional shares in unconsolidated Polish entities and the acquisition of an associate within Canada, the acquired entities were consolidated as subsidiaries. The acquired subsidiaries contributed no material profit or loss in 2015.

(b) Profit on the disposal and re-measurement of subsidiaries, joint ventures and associates

The profit on the disposal and re-measurement of subsidiaries, joint ventures and associates comprises:

	2015 £m	2014 £m
Spain – long-term business	—	132
Italy – long-term business	—	(6)
Korea	—	2
Turkey – general insurance	—	(16)
Aviva Investors	—	35
Turkey – long-term business	1	15
Indonesia	—	(3)
Other small operations	1	15
Profit on disposal and remeasurement from continuing operations	2	174
Profit on disposal and remeasurement from discontinued operations	—	58
Total profit on disposal and remeasurement	2	232

The total Group profit on disposal and re-measurement of subsidiaries, joint ventures and associates from continuing operations is £2 million (*FY14: £174 million*). This includes a gain of £1 million (*FY14: £15 million*) recognised on the further sale of shares in the Turkey Life business and profits on the disposal of small reinsurance operations in Asia of £1 million. There was no profit or loss recognised relating to discontinued operations in 2015 (*FY14: £58 million profit*).

B4 – Subsidiaries continued

(c) Assets and liabilities of operations classified as held for sale

There were no operations classified as held for sale as at 31 December 2015.

	2015 £m	2014 £m
Assets		
Cash and cash equivalents	—	9
Total assets	—	9
Liabilities		
Insurance liabilities	—	(1)
Other liabilities	—	(1)
Total liabilities	—	(2)
Net assets	—	7

(d) Subsequent events

On 21 January 2016, Aviva plc announced that its Canadian business Aviva Canada will acquire 100% ownership of RBC General Insurance Company, the existing home and motor insurance business of RBC Insurance, and enter into an exclusive 15 year strategic agreement with RBC Insurance. Aviva will pay £281 million (CAD\$581 million) upon completion, subject to customary completion adjustments. The proposed transaction is subject to closing conditions including receipt of required regulatory approvals and is expected to complete in the third quarter of 2016.

On 9 March 2016 the Group agreed to sell its entire 70% stake in its Irish private medical insurance business, Aviva Health Insurance Ireland Limited, to Irish Life Group Limited. The proposed transaction will be subject to customary closing conditions including receipt of required regulatory approvals and is expected to complete in the third quarter of 2016. The subsidiary has been classified as held for sale from 9 March 2016.

B5 – Segmental information

The Group's results can be segmented either by activity or by geography. Our primary reporting format is on market reporting lines, with supplementary information being given by business activity. This note provides segmental information on the consolidated income statement and consolidated statement of financial position.

The Group has determined its operating segments along market reporting lines. These reflect the management structure whereby a member of the Executive Management team is accountable to the Group CEO for the operating segment for which they are responsible.

United Kingdom & Ireland

United Kingdom and Ireland comprises two operating segments – Life and General Insurance. The principal activities of our UK and Ireland Life operations are life insurance, long-term health (in the UK) and accident insurance, savings, pensions and annuity business, and include the UK insurance operations acquired as part of the acquisition of Friends Life (refer to note B4). UK and Ireland General Insurance provides insurance cover to individuals and businesses, for risks associated mainly with motor vehicles, property and liability (such as employers' liability and professional indemnity liability) and medical expenses. UK & Ireland General Insurance includes the results of our Ireland Health business.

France

The principal activities of our French operations are long-term business and general insurance. The long-term business offers a range of long-term insurance and savings products, primarily for individuals, with a focus on the unit-linked market. The general insurance business predominantly sells personal and small commercial lines insurance products through agents and a direct insurer.

Poland

Activities in Poland comprise long-term business and general insurance operations, including our long-term business in Lithuania.

Italy, Spain and Other

These countries are not individually significant at a Group level, so have been aggregated into a single reporting segment in line with IFRS 8. This segment includes our operations in Italy (including Eurovita up until the date of disposal in June 2014) and Spain (including CxG up until the date of disposal in December 2014). The principal activities of our Italian operations are long-term business and general insurance. The life business offers a range of long-term insurance and savings products, and the general insurance business provides motor and home insurance products to individuals, as well as small commercial risk insurance to businesses. The principal activity of the Spanish operation is the sale of long-term business, accident and health insurance and a selection of savings products. Our Other European operations include our life operations in Turkey (including our reduced joint venture share following IPO in November 2014) and our Turkish general insurance business (up until the date of disposal in December 2014).

Canada

The principal activity of the Canadian operation is general insurance. In particular it provides personal and commercial lines insurance products principally distributed through insurance brokers.

Asia

Our activities in Asia principally comprise our long-term business operations in China, India, Singapore, Hong Kong, Vietnam, Indonesia, Taiwan and the international operations of Friends Life. This segment also includes general insurance and health operations in Singapore, health operations in Indonesia and the results of South Korea (until the date of disposal in June 2014).

Aviva Investors

Aviva Investors operates in most of the markets in which the Group operates, in particular the UK, France, North America, Asia Pacific and other international businesses, managing policyholders' and shareholders' invested funds, providing investment management services for institutional pension fund mandates and managing a range of retail investment products, including investment funds, unit trusts, OEICs and ISAs. This segment also includes the results of River Road Asset Management LLC until the date of its disposal in June 2014.

Other Group activities

Investment return on centrally held assets and head office expenses, such as Group treasury and finance functions, together with certain taxes and financing costs arising on central borrowings are included in 'Other Group activities', along with central operations of Friends Life, central core structural borrowings and certain tax balances in the segmental statement of financial position. The results of our internal reinsurance operations are also included in this segment.

Discontinued operations

In October 2013 the Group sold its US life operations (including the related internal asset management operations of Aviva Investors), which has been presented as a discontinued operation for the comparative periods in the income statement, statement of comprehensive income and statement of cash flows. In 2014 this represented the settlement of the purchase price adjustment, in conjunction with the aggregate development of other provisions in the year.

Measurement basis

The accounting policies of the segments are the same as those for the Group as a whole. Any transactions between the business segments are subject to normal commercial terms and market conditions. The Group evaluates performance of operating segments on the basis of:

- (i) profit or loss from operations before tax attributable to shareholders
- (ii) profit or loss from operations before tax attributable to shareholders, adjusted for non-operating items outside the segment management's control, including investment market performance and fiscal policy changes.

B5 – Segmental information continued

(a) (i) Segmental income statement for the year ended 31 December 2015

	United Kingdom & Ireland		Europe							
	Life £m	GI £m	France £m	Poland £m	Italy, Spain and Other £m	Canada £m	Asia £m	Aviva Investors ² £m	Other Group activities ³ £m	Total £m
Gross written premiums	5,402	4,503	5,777	484	2,733	2,109	917	—	—	21,925
Premiums ceded to reinsurers	(1,355)	(1,163)	(75)	(6)	(42)	(117)	(132)	—	—	(2,890)
Internal reinsurance revenue	(5)	(1)	—	(1)	(4)	—	(2)	—	13	—
Premiums written net of reinsurance	4,042	3,339	5,702	477	2,687	1,992	783	—	13	19,035
Net change in provision for unearned premiums	(1)	(53)	(11)	(13)	(7)	(15)	(14)	—	3	(111)
Net earned premiums	4,041	3,286	5,691	464	2,680	1,977	769	—	16	18,924
Fee and commission income	810	160	232	40	115	28	134	281	(3)	1,797
Net investment income/(expense)	4,851	3,446	5,923	504	2,795	2,005	903	281	13	20,721
Inter-segment revenue	448	159	1,949	(1)	444	49	(325)	155	(53)	2,825
Share of profit of joint ventures and associates	—	—	—	—	—	—	—	195	—	195
Profit/(loss) on the disposal and remeasurement of subsidiaries, joint ventures and associates	149	—	7	5	8	—	11	—	—	180
	2	—	—	—	(1)	—	1	—	—	2
Segmental income¹	5,450	3,605	7,879	508	3,246	2,054	590	631	(40)	23,923
Claims and benefits paid, net of recoveries from reinsurers	(10,663)	(2,533)	(4,454)	(302)	(2,343)	(1,240)	(415)	—	(35)	(21,985)
Change in insurance liabilities, net of reinsurance	7,070	492	(1,093)	17	264	(12)	(68)	—	11	6,681
Change in investment contract provisions	943	—	(1,915)	18	(702)	—	328	(159)	—	(1,487)
Change in unallocated divisible surplus	22	—	841	12	93	—	16	—	—	984
Fee and commission expense	(585)	(1,195)	(623)	(57)	(252)	(571)	(114)	(26)	76	(3,347)
Other expenses	(1,369)	(223)	(205)	(51)	(111)	(81)	(250)	(365)	(129)	(2,784)
Inter-segment expenses	(169)	(5)	(9)	(6)	—	(4)	—	—	(2)	(195)
Finance costs	(214)	(1)	(1)	—	(4)	(4)	(3)	—	(391)	(618)
Segmental expenses	(4,965)	(3,465)	(7,459)	(369)	(3,055)	(1,912)	(506)	(550)	(470)	(22,751)
Profit/(loss) before tax from continuing operations	485	140	420	139	191	142	84	81	(510)	1,172
Tax attributable to policyholders' returns	232	—	—	—	—	—	(14)	—	—	218
Profit/(loss) before tax attributable to shareholders' profits from continuing operations	717	140	420	139	191	142	70	81	(510)	1,390
Profit from discontinued operations										
Adjusted for non-operating items:										
Reclassification of corporate costs and unallocated interest	7	(1)	20	—	—	6	—	4	(36)	—
Investment return variances and economic assumption changes on long-term business	—	—	(17)	—	14	—	(11)	—	—	(14)
Short-term fluctuation in return on investments backing non-long-term business	53	84	2	(2)	31	47	—	—	(131)	84
Economic assumption changes on general insurance and health business	—	98	—	—	—	2	—	—	—	100
Impairment of goodwill, joint ventures and associates and other amounts expensed	—	—	—	—	9	—	13	—	—	22
Amortisation and impairment of intangibles	84	14	—	2	14	10	9	10	12	155
Amortisation and impairment of AVIF	350	—	5	2	5	—	136	—	—	498
(Profit)/loss on the disposal and remeasurement of subsidiaries, joint ventures and associates	(2)	—	—	—	1	—	(1)	—	—	(2)
Integration and restructuring costs	215	26	19	—	3	7	7	11	91	379
Adjusted for non-operating items from discontinued operations	—	—	—	—	—	—	—	—	—	—
Other ⁴	—	53	—	—	—	—	—	—	—	53
Operating profit/(loss) before tax attributable to shareholders	1,424	414	449	141	268	214	223	106	(574)	2,665

¹ Total reported income, excluding inter-segment revenue, includes £9,031 million from the United Kingdom (Aviva plc's country of domicile). Income is attributed on the basis of geographical origin which does not differ materially from revenue by geographical destination, as most risks are located in the countries where the contracts were written.

² Aviva Investors operating profit includes £1 million profit relating to the Aviva Investors Pooled Pensions business.

³ Other Group activities include Group Reinsurance.

⁴ Other items represents a day one loss upon the completion of an outwards reinsurance contract by the UK General Insurance business, which provides significant protection against claims volatility from mesothelioma, industrial deafness and other long tail risks. The £53 million loss comprises £712 million in premiums ceded less £659 million in reinsurance recoverables recognised.

B5 – Segmental information continued**(a) (ii) Segmental income statement for the year ended 31 December 2014**

	United Kingdom & Ireland		Europe							
	Life £m	GI £m	France £m	Poland £m	Italy, Spain and Other £m	Canada £m	Asia £m	Aviva Investors ² £m	Other Group activities ³ £m	Total £m
Gross written premiums	4,306	4,484	5,756	490	3,514	2,176	942	—	2	21,670
Premiums ceded to reinsurers	(784)	(454)	(70)	(7)	(68)	(70)	(161)	—	—	(1,614)
Internal reinsurance revenue	(7)	(2)	(2)	(1)	(2)	(2)	—	—	16	—
Premiums written net of reinsurance	3,515	4,028	5,684	482	3,444	2,104	781	—	18	20,056
Net change in provision for unearned premiums	23	43	(27)	6	10	(54)	(3)	—	3	1
Net earned premiums	3,538	4,071	5,657	488	3,454	2,050	778	—	21	20,057
Fee and commission income	398	160	203	87	115	15	9	243	—	1,230
	3,936	4,231	5,860	575	3,569	2,065	787	243	21	21,287
Net investment income/(expense)	13,301	362	5,174	147	2,392	180	125	267	(59)	21,889
Inter-segment revenue	—	—	—	—	—	—	—	158	—	158
Share of profit/(loss) of joint ventures and associates	139	—	7	4	9	—	(12)	—	—	147
Profit/(loss) on the disposal and remeasurement of subsidiaries, joint ventures and associates	—	—	—	—	125	14	(1)	35	1	174
Segmental income¹	17,376	4,593	11,041	726	6,095	2,259	899	703	(37)	43,655
Claims and benefits paid, net of recoveries from reinsurers	(7,522)	(2,745)	(4,594)	(331)	(2,572)	(1,276)	(362)	—	(72)	(19,474)
Change in insurance liabilities, net of reinsurance	(3,955)	88	(1,119)	(70)	(212)	(70)	(294)	—	62	(5,570)
Change in investment contract provisions	(3,036)	—	(1,881)	8	(1,347)	—	—	(262)	—	(6,518)
Change in unallocated divisible surplus	(62)	—	(2,182)	(6)	(1,055)	—	(59)	—	—	(3,364)
Fee and commission expense	(462)	(1,294)	(564)	(65)	(289)	(570)	(60)	(24)	(61)	(3,389)
Other expenses	(674)	(228)	(232)	(59)	(127)	(81)	(61)	(332)	(185)	(1,979)
Inter-segment expenses	(137)	(4)	(4)	(7)	—	(4)	—	—	(2)	(158)
Finance costs	(191)	(4)	(3)	—	(4)	(5)	—	(2)	(331)	(540)
Segmental expenses	(16,039)	(4,187)	(10,579)	(530)	(5,606)	(2,006)	(836)	(620)	(589)	(40,992)
Profit/(loss) before tax from continuing operations	1,337	406	462	196	489	253	63	83	(626)	2,663
Tax attributable to policyholders' returns	(357)	—	—	—	—	—	(25)	—	—	(382)
Profit/(loss) before tax attributable to shareholders' profits from continuing operations	980	406	462	196	489	253	38	83	(626)	2,281
Profit from discontinued operations ⁴									58	58
Adjusted for non-operating items:										
Reclassification of corporate costs and unallocated interest	—	11	16	—	1	—	—	—	(28)	—
Investment return variances and economic assumption changes on long-term business	13	—	9	(4)	(101)	—	11	—	—	(72)
Short-term fluctuation in return on investments backing non-long-term business	—	(82)	(50)	(1)	13	(65)	—	—	(76)	(261)
Economic assumption changes on general insurance and health business	—	145	—	—	—	3	—	—	(3)	145
Impairment of goodwill, joint ventures and associates and other amounts expensed	—	—	—	—	—	—	24	—	—	24
Amortisation and impairment of intangibles	31	1	—	—	17	10	3	11	17	90
Amortisation and impairment of AVIF ⁵	10	—	18	3	9	—	—	—	—	40
(Profit)/loss on the disposal and remeasurement of subsidiaries, joint ventures and associates	—	—	—	—	(125)	(14)	1	(35)	(1)	(174)
Integration and restructuring costs	28	11	15	1	1	4	1	4	75	140
Adjusted for non-operating items from discontinued operations ⁴	—	—	—	—	—	—	—	—	(58)	(58)
Operating profit/(loss) before tax attributable to shareholders⁵	1,062	492	470	195	304	191	78	63	(642)	2,213

¹ Total reported income, excluding inter-segment revenue, includes £20,816 million from the United Kingdom (Aviva plc's country of domicile). Income is attributed on the basis of geographical origin which does not differ materially from revenue by geographical destination, as most risks are located in the countries where the contracts were written.

² Aviva Investors operating profit includes £2 million profit relating to Aviva Investors Pooled Pensions business.

³ Other Group activities include Group Reinsurance.

⁴ In 2014 the Group paid a settlement of £200 million related to the purchase price adjustment relating to the disposal of the US Life business in 2013. The settlement and the aggregate development of other provisions related to the discontinued operations in 2014 resulted in a net £58 million gain which has been presented as profit on disposal of discontinued operations.

⁵ Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

B5 – Segmental information continued

(a) (iii) Segmental statement of financial position as at 31 December 2015

	United Kingdom & Ireland		Europe					Aviva Investors £m	Other Group activities £m	Total £m
	Life £m	GI £m	France £m	Poland £m	Italy, Spain and Other £m	Canada £m	Asia £m			
Goodwill	663	1,026	5	23	172	21	45	—	—	1,955
Acquired value of in-force business and intangible assets	3,600	139	86	12	539	69	1,206	15	65	5,731
Interests in, and loans to, joint ventures and associates	1,291	—	138	39	72	7	372	—	—	1,919
Property and equipment	130	27	225	3	5	10	8	1	40	449
Investment property	7,483	198	2,089	—	1	—	—	1,146	384	11,301
Loans	21,502	5	733	1	26	135	31	—	—	22,433
Financial investments	163,987	4,715	65,413	2,575	19,176	3,187	9,684	515	4,965	274,217
Deferred acquisition costs	1,394	418	227	32	77	255	57	4	—	2,464
Other assets	42,636	5,301	9,678	239	1,480	860	1,351	901	4,959	67,405
Assets of operations classified as held for sale	—	—	—	—	—	—	—	—	—	—
Total assets	242,686	11,829	78,594	2,924	21,548	4,544	12,754	2,582	10,413	387,874
Insurance liabilities										
Long-term business and outstanding claims provisions	99,435	5,439	16,487	2,308	7,699	2,058	2,865	—	18	136,309
Unearned premiums	226	2,083	393	45	237	1,016	48	—	—	4,048
Other insurance liabilities	—	76	44	—	—	77	—	—	2	199
Liability for investment contracts	114,143	—	47,834	2	9,770	—	7,681	1,743	—	181,173
Unallocated divisible surplus	2,575	—	4,941	55	1,047	—	193	—	—	8,811
Net asset value attributable to unitholders	203	—	2,863	—	413	—	—	—	7,936	11,415
External borrowings	1,903	—	—	—	49	—	—	—	6,818	8,770
Other liabilities, including inter-segment liabilities	12,261	(1,240)	4,066	99	715	596	565	370	1,485	18,917
Liabilities of operations classified as held for sale	—	—	—	—	—	—	—	—	—	—
Total liabilities	230,746	6,358	76,628	2,509	19,930	3,747	11,352	2,113	16,259	369,642
Total equity										18,232
Total equity and liabilities										387,874

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B5 – Segmental information continued**(a) (iv) Segmental statement of financial position as at 31 December 2014**

	United Kingdom & Ireland		Europe							
	Life £m	GI £m	France £m	Poland £m	Italy, Spain and Other £m	Canada £m	Asia £m	Aviva Investors £m	Other Group activities £m	Total £m
Goodwill	—	1,031	—	8	190	23	50	—	—	1,302
Acquired value of in-force business and intangible assets	127	103	96	5	581	60	2	25	29	1,028
Interests in, and loans to, joint ventures and associates	953	—	145	10	82	2	352	—	—	1,544
Property and equipment	74	33	214	3	6	9	4	1	13	357
Investment property	5,558	95	1,758	—	1	—	—	1,120	393	8,925
Loans	24,178	84	788	—	58	122	30	—	—	25,260
Financial investments	97,410	5,415	66,484	2,829	19,959	3,483	3,192	660	3,206	202,638
Deferred acquisition costs	1,310	438	227	23	89	280	4	7	—	2,378
Other assets	19,092	4,895	10,009	171	1,585	937	459	784	4,346	42,278
Assets of operations classified as held for sale	—	—	—	—	—	—	—	—	9	9
Total assets	148,702	12,094	79,721	3,049	22,551	4,916	4,093	2,597	7,996	285,719
Insurance liabilities										
Long-term business and outstanding claims provisions	71,619	5,515	16,179	2,444	8,414	2,317	2,598	—	36	109,122
Unearned premiums	225	2,038	402	34	247	1,114	46	—	1	4,107
Other insurance liabilities	—	79	46	—	—	89	—	—	2	216
Liability for investment contracts	57,201	—	48,316	10	9,867	—	—	1,851	—	117,245
Unallocated divisible surplus	1,879	—	6,104	71	1,202	—	211	—	—	9,467
Net asset value attributable to unitholders	19	—	2,928	—	317	—	—	—	6,218	9,482
External borrowings	2,016	—	—	—	52	—	—	—	5,310	7,378
Other liabilities, including inter-segment liabilities	9,539	(1,787)	3,673	120	662	404	388	377	3,048	16,424
Liabilities of operations classified as held for sale	—	—	—	—	—	—	—	—	2	2
Total liabilities	142,498	5,845	77,648	2,679	20,761	3,924	3,243	2,228	14,617	273,443
Total equity										12,276
Total equity and liabilities										285,719

(b) Further analysis by products and services

The Group's results can be further analysed by products and services which comprise long-term business, general insurance and health, fund management and other activities.

Long-term business

Our long-term business comprises life insurance, long-term health and accident insurance, savings, pensions and annuity business written by our life insurance subsidiaries, including managed pension fund business. Long-term business also includes our share of the other life and related business written in our associates and joint ventures, as well as lifetime mortgage business written in the UK.

General insurance and health

Our general insurance and health business provides insurance cover to individuals and to small and medium sized businesses, for risks associated mainly with motor vehicles, property and liability, such as employers' liability and professional indemnity liability, and medical expenses.

Fund management

Our fund management business invests policyholders' and shareholders' funds and provides investment management services for institutional pension fund mandates. It manages a range of retail investment products, including investment funds, unit trusts, OEICs and ISAs. Clients include Aviva Group businesses and third-party financial institutions, pension funds, public sector organisations, investment professionals and private investors.

Other

Other includes service companies, head office expenses such as Group treasury and finance functions, and certain financing costs and taxes not allocated to business segments.

B5 – Segmental information continued

(b) (i) Segmental income statement – products and services for the year ended 31 December 2015

	Long-term business £m	General insurance and health ² £m	Fund management £m	Other £m	Total £m
Gross written premiums ¹	13,187	8,738	—	—	21,925
Premiums ceded to reinsurers	(1,529)	(1,361)	—	—	(2,890)
Premiums written net of reinsurance	11,658	7,377	—	—	19,035
Net change in provision for unearned premiums	—	(111)	—	—	(111)
Net earned premiums	11,658	7,266	—	—	18,924
Fee and commission income	1,161	61	274	301	1,797
	12,819	7,327	274	301	20,721
Net investment income/(expense)	2,667	240	(5)	(77)	2,825
Inter-segment revenue	—	—	201	—	201
Share of profit of joint ventures and associates	177	3	—	—	180
Profit/(loss) on the disposal and remeasurement of subsidiaries, joint ventures and associates	1	1	—	—	2
Segmental income	15,664	7,571	470	224	23,929
Claims and benefits paid, net of recoveries from reinsurers	(16,809)	(5,176)	—	—	(21,985)
Change in insurance liabilities, net of reinsurance	6,205	476	—	—	6,681
Change in investment contract provisions	(1,487)	—	—	—	(1,487)
Change in unallocated divisible surplus	984	—	—	—	984
Fee and commission expense	(1,121)	(2,118)	(23)	(85)	(3,347)
Other expenses	(1,663)	(368)	(367)	(386)	(2,784)
Inter-segment expenses	(190)	(11)	—	—	(201)
Finance costs	(202)	(5)	—	(411)	(618)
Segmental expenses	(14,283)	(7,202)	(390)	(882)	(22,757)
Profit/(loss) before tax from continuing operations	1,381	369	80	(658)	1,172
Tax attributable to policyholder returns	218	—	—	—	218
Profit/(loss) before tax attributable to shareholders' profits	1,599	369	80	(658)	1,390
Adjusted for:					
Non-operating items from continuing operations	820	396	26	33	1,275
Operating profit/(loss) before tax attributable to shareholders' profits from continuing operations	2,419	765	106	(625)	2,665
Operating profit/(loss) before tax attributable to shareholders' profits	2,419	765	106	(625)	2,665

1 Gross written premiums include inward reinsurance premiums assumed from other companies amounting to £146 million, of which £80 million relates to property and liability insurance and £66 million relates to long-term business.

2 General insurance and health business segment includes gross written premiums of £1,092 million relating to health business. The remaining business relates to property and liability insurance.

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B5 – Segmental information continued**(b) (ii) Segmental income statement – products and services for the year ended 31 December 2014**

	Long-term business £m	General insurance and health ² £m	Fund management £m	Other £m	Total £m
Gross written premiums ¹	12,727	8,943	—	—	21,670
Premiums ceded to reinsurers	(971)	(643)	—	—	(1,614)
Premiums written net of reinsurance	11,756	8,300	—	—	20,056
Net change in provision for unearned premiums	—	1	—	—	1
Net earned premiums	11,756	8,301	—	—	20,057
Fee and commission income	705	54	256	215	1,230
	12,461	8,355	256	215	21,287
Net investment income/(expense)	21,295	666	5	(77)	21,889
Inter-segment revenue	—	—	158	—	158
Share of profit of joint ventures and associates	144	3	—	—	147
Profit/(loss) on the disposal and remeasurement of subsidiaries, joint ventures and associates	140	(16)	35	15	174
Segmental income	34,040	9,008	454	153	43,655
Claims and benefits paid, net of recoveries from reinsurers	(13,861)	(5,613)	—	—	(19,474)
Change in insurance liabilities, net of reinsurance	(5,604)	34	—	—	(5,570)
Change in investment contract provisions	(6,518)	—	—	—	(6,518)
Change in unallocated divisible surplus	(3,364)	—	—	—	(3,364)
Fee and commission expense	(977)	(2,247)	(26)	(139)	(3,389)
Other expenses	(920)	(402)	(321)	(336)	(1,979)
Inter-segment expenses	(148)	(10)	—	—	(158)
Finance costs	(191)	(11)	(2)	(336)	(540)
Segmental expenses	(31,583)	(8,249)	(349)	(811)	(40,992)
Profit/(loss) before tax from continuing operations	2,457	759	105	(658)	2,663
Tax attributable to policyholder returns	(382)	—	—	—	(382)
Profit/(loss) before tax attributable to shareholders' profits	2,075	759	105	(658)	2,281
Adjusted for:					
Non-operating items from continuing operations ³	(56)	49	(19)	(42)	(68)
Operating profit/(loss) before tax attributable to shareholders' profits from continuing operations³	2,019	808	86	(700)	2,213
Operating profit/(loss) before tax attributable to shareholders' profits³	2,019	808	86	(700)	2,213

¹ Gross written premiums include inward reinsurance premiums assumed from other companies amounting to £164 million, of which £81 million relates to property and liability insurance and £83 million relates to long-term business.

² General insurance and health business segment includes gross written premiums of £1,146 million relating to health business. The remaining business relates to property and liability insurance.

³ Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

B5 – Segmental information continued

(b) (iii) Segmental statement of financial position – products and services as at 31 December 2015

	Long-term business £m	General insurance and health £m	Fund management £m	Other £m	Total £m
Goodwill	862	1,035	—	58	1,955
Acquired value of in-force business and intangible assets	5,369	309	15	38	5,731
Interests in, and loans to, joint ventures and associates	1,878	34	—	7	1,919
Property and equipment	299	95	1	54	449
Investment property	10,582	335	—	384	11,301
Loans	22,292	141	—	—	22,433
Financial investments	258,995	10,280	23	4,919	274,217
Deferred acquisition costs	1,647	812	5	—	2,464
Other assets	52,844	7,315	769	6,477	67,405
Assets of operations classified as held for sale	—	—	—	—	—
Total assets	354,768	20,356	813	11,937	387,874
Gross insurance liabilities	127,050	13,506	—	—	140,556
Gross liabilities for investment contracts	181,173	—	—	—	181,173
Unallocated divisible surplus	8,811	—	—	—	8,811
Net asset value attributable to unitholders	3,479	—	—	7,936	11,415
External borrowings	1,857	—	—	6,913	8,770
Other liabilities, including inter-segment liabilities	15,387	(307)	346	3,491	18,917
Liabilities of operations classified as held for sale	—	—	—	—	—
Total liabilities	337,757	13,199	346	18,340	369,642
Total equity					18,232
Total equity and liabilities					387,874

(b) (iv) Segmental statement of financial position – products and services as at 31 December 2014

	Long-term business £m	General insurance and health £m	Fund management £m	Other £m	Total £m
Goodwill	216	1,043	—	43	1,302
Acquired value of in-force business and intangible assets	691	270	25	42	1,028
Interests in, and loans to, joint ventures and associates	1,526	16	—	2	1,544
Property and equipment	230	100	1	26	357
Investment property	8,310	223	—	392	8,925
Loans	25,053	207	—	—	25,260
Financial investments	188,094	11,435	23	3,086	202,638
Deferred acquisition costs	1,519	852	7	—	2,378
Other assets	29,839	6,270	657	5,512	42,278
Assets of operations classified as held for sale	—	9	—	—	9
Total assets	255,478	20,425	713	9,103	285,719
Gross insurance liabilities	99,453	13,992	—	—	113,445
Gross liabilities for investment contracts	117,245	—	—	—	117,245
Unallocated divisible surplus	9,467	—	—	—	9,467
Net asset value attributable to unitholders	3,264	—	—	6,218	9,482
External borrowings	2,068	—	—	5,310	7,378
Other liabilities, including inter-segment liabilities	12,689	(952)	354	4,333	16,424
Liabilities of operations classified as held for sale	—	2	—	—	2
Total liabilities	244,186	13,042	354	15,861	273,443
Total equity					12,276
Total equity and liabilities					285,719

B6 – Tax

This note analyses the tax charge for the year and explains the factors that affect it.

(a) Tax charged to the income statement

(i) The total tax charge comprises:

	2015 £m	2014 £m
Continuing operations		
Current tax		
For the year	500	680
Prior period adjustments	(68)	12
Total current tax	432	692
Deferred tax		
Origination and reversal of temporary differences	(227)	315
Changes in tax rates or tax laws	(82)	(17)
Write back of deferred tax assets	(30)	(7)
Total deferred tax	(339)	291
Total tax charged to income statement	93	983

(ii) The Group, as a proxy for policyholders in the UK, Ireland and Singapore, is required to record taxes on investment income and gains each year. Accordingly, the tax benefit or expense attributable to UK, Irish and Singapore life insurance policyholder returns is included in the tax charge. The tax credit attributable to policyholder returns included in the charge above is £218 million (FY14: charge of £382 million).

(iii) The tax charge above, comprising current and deferred tax, can be analysed as follows:

	2015 £m	2014 £m
UK tax	(294)	462
Overseas tax	387	521
	93	983

(iv) Unrecognised tax losses and temporary differences of previous years were used to reduce the current tax expense and deferred tax expense by £5 million and £30 million (FY14: £5 million and £nil), respectively.

(v) Deferred tax (credited)/charged to the income statement represents movements on the following items:

	2015 £m	2014 £m
Long-term business technical provisions and other insurance items	517	(1,209)
Deferred acquisition costs	(46)	34
Unrealised gains/(losses) on investments	(847)	1,254
Pensions and other post-retirement obligations	(4)	7
Unused losses and tax credits	34	32
Subsidiaries, associates and joint ventures	4	5
Intangibles and additional value of in-force long-term business	(149)	(7)
Provisions and other temporary differences	152	175
Total deferred tax (credited)/charged to income statement	(339)	291

(b) Tax (credited)/charged to other comprehensive income

(i) The total tax (credit)/charge comprises:

	2015 £m	2014 £m
Current tax from continuing operations		
In respect of pensions and other post-retirement obligations	(44)	(77)
In respect of foreign exchange movements	(7)	(12)
	(51)	(89)
Deferred tax from continuing operations		
In respect of pensions and other post-retirement obligations	(49)	424
In respect of unrealised (losses)/gains on investments	(6)	21
	(55)	445
Total tax (credited)/charged to other comprehensive income	(106)	356

(ii) The tax charge attributable to policyholders' returns included above is £nil (FY14: £nil).

B6 – Tax continued

(c) Tax credited to equity

Tax credited directly to equity in the year amounted to £15 million (*FY14: £19 million*). This is in respect of coupon payments on the direct capital instrument and tier 1 notes.

(d) Tax reconciliation

The tax on the Group's profit before tax differs from the theoretical amount that would arise using the tax rate of the home country of the Company as follows:

	Shareholder £m	Policyholder £m	2015 £m	Shareholder £m	Policyholder £m	2014 £m
Total profit/(loss) before tax	1,390	(218)	1,172	2,339	382	2,721
Tax calculated at standard UK corporation tax rate of 20.25% (<i>FY14: 21.5%</i>)	281	(44)	237	503	82	585
Reconciling items						
Different basis of tax – policyholders	—	(174)	(174)	—	302	302
Adjustment to tax charge in respect of prior periods	(46)	—	(46)	(36)	—	(36)
Non-assessable income and items not taxed at the full statutory rate	19	—	19	(22)	—	(22)
Non-taxable loss/(profit) on sale of subsidiaries and associates	1	—	1	(31)	—	(31)
Disallowable expenses	67	—	67	76	—	76
Different local basis of tax on overseas profits	126	—	126	138	(2)	136
Change in future local statutory tax rates	(82)	—	(82)	(17)	—	(17)
Movement in deferred tax not recognised	(52)	—	(52)	3	—	3
Tax effect of profit from joint ventures and associates	(6)	—	(6)	(4)	—	(4)
Other	3	—	3	(9)	—	(9)
Total tax charged/(credited) to income statement	311	(218)	93	601	382	983

The tax (credit)/charge attributable to policyholder returns is removed from the Group's total profits before tax in arriving at the Group's profit before tax attributable to shareholders' profits. As the net of tax profits attributable to with-profits and unit-linked policyholders is zero, the Group's pre-tax profit attributable to policyholders is an amount equal and opposite to the tax (credit)/charge attributable to policyholders included in the total tax charge. The difference between the policyholder tax (credit)/charge and the impact of this item in the tax reconciliation can be explained as follows:

	2015 £m	2014 £m
Tax attributable to policyholder returns	(218)	382
UK corporation tax at a rate of 20.25% (<i>FY14: 21.5%</i>) in respect of the policyholder tax deduction	44	(82)
Different local basis of tax of overseas profits	—	2
Different basis of tax – policyholders per tax reconciliation	(174)	302

UK legislation was substantively enacted in July 2013 to reduce the main rate of corporation tax from 21% to 20% from 1 April 2015, resulting in an effective rate for the year ended 31 December 2015 of 20.25%.

As legislated in Finance (No 2) Act 2015, which was substantively enacted on 26 October 2015, the UK corporation tax rate will reduce further to 19% from 1 April 2017 and to 18% from 1 April 2020. The reductions in rate from 20% to 19% and then to 18% have been used in the calculation of the UK's deferred tax assets and liabilities as at 31 December 2015. In addition, the calculation of deferred tax assets and liabilities in France and Italy reflect the reduction in corporation tax rates from 38% to 34.43% (effective 1 January 2016) and from 34.3% to 30.8% (effective 1 January 2017) respectively. The effect of the reduction in the future corporation tax rates in the UK, France and Italy on the Group's net deferred tax liabilities is £120 million, comprising an £82 million credit included in the income statement and a £38 million credit included in the statement of comprehensive income.

B7 – Earnings per share

This note shows how we calculate earnings per share, based both on the present shares in issue (the basic earnings per share) and the potential future shares in issue, including conversion of share options granted to employees (the diluted earnings per share). We have also shown the same calculations based on our operating profit as we believe this gives a better indication of operating performance.

(a) Basic earnings per share

(i) The profit attributable to ordinary shareholders is:

	2015			Restated ¹ 2014		
	Operating profit £m	Non-operating items £m	Total £m	Operating profit ¹ £m	Non-operating items ¹ £m	Total £m
Continuing operations						
Profit before tax attributable to shareholders' profits	2,665	(1,275)	1,390	2,213	68	2,281
Tax attributable to shareholders' profit	(598)	287	(311)	(563)	(38)	(601)
Profit for the year	2,067	(988)	1,079	1,650	30	1,680
Amount attributable to non-controlling interests	(152)	(9)	(161)	(143)	(26)	(169)
Cumulative preference dividends for the year	(17)	—	(17)	(17)	—	(17)
Coupon payments in respect of direct capital instruments (DCI) and tier 1 notes (net of tax)	(57)	—	(57)	(69)	—	(69)
Profit/(loss) attributable to ordinary shareholders from continuing operations	1,841	(997)	844	1,421	4	1,425
Profit/(loss) attributable to ordinary shareholders from discontinued operations	—	—	—	—	58	58
Profit/(loss) attributable to ordinary shareholders	1,841	(997)	844	1,421	62	1,483

¹ Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

(ii) Basic earnings per share is calculated as follows:

	2015			Restated ¹ 2014		
	Before tax £m	Net of tax, non-controlling interests, preference dividends and DCI ² £m	Per share p	Before tax £m	Net of tax, non-controlling interests, preference dividends and DCI ² £m	Per share p
Continuing operations						
Operating profit attributable to ordinary shareholders	2,665	1,841	49.2	2,213	1,421	48.3
Non-operating items:						
Investment return variances and economic assumption changes on long-term business	14	(37)	(1.0)	72	4	0.1
Short-term fluctuation in return on investments backing non-long-term business	(84)	(62)	(1.7)	261	197	6.7
Economic assumption changes on general insurance and health business	(100)	(80)	(2.1)	(145)	(114)	(3.9)
Impairment of goodwill, joint ventures and associates and other amounts expensed	(22)	(22)	(0.6)	(24)	(24)	(0.8)
Amortisation and impairment of intangibles	(155)	(121)	(3.2)	(90)	(61)	(2.1)
Amortisation and impairment of acquired value of in-force business ¹	(498)	(376)	(10.1)	(40)	(38)	(1.3)
Profit on disposal and remeasurement of subsidiaries, joint ventures and associates	2	2	0.1	174	170	5.8
Integration and restructuring costs and other	(432)	(301)	(8.0)	(140)	(130)	(4.4)
Profit attributable to ordinary shareholders from continuing operations	1,390	844	22.6	2,281	1,425	48.4
Profit attributable to ordinary shareholders from discontinued operations	—	—	—	58	58	2.0
Profit attributable to ordinary shareholders	1,390	844	22.6	2,339	1,483	50.4

¹ Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

² DCI includes the direct capital instrument and tier 1 notes.

(iii) The calculation of basic earnings per share uses a weighted average of 3,741 million (*FY14: 2,943 million*) ordinary shares in issue, after deducting treasury shares. The actual number of shares in issue at 31 December 2015 was 4,048 million (*FY14: 2,950 million*) and 4,042 million (*FY14: 2,948 million*) excluding treasury shares.

B7 – Earnings per share continued

(b) Diluted earnings per share

(i) Diluted earnings per share is calculated as follows:

	2015			2014		
	Total £m	Weighted average number of shares million	Per share p	Total £m	Weighted average number of shares million	Per share p
Profit attributable to ordinary shareholders	844	3,741	22.6	1,425	2,943	48.4
Dilutive effect of share awards and options	—	39	(0.3)	—	44	(0.7)
Diluted earnings per share from continuing operations	844	3,780	22.3	1,425	2,987	47.7
Profit attributable to ordinary shareholders	—	3,741	—	58	2,943	2.0
Dilutive effect of share awards and options	—	39	—	—	44	(0.1)
Diluted earnings per share from discontinued operations	—	3,780	—	58	2,987	1.9
Diluted earnings per share	844	3,780	22.3	1,483	2,987	49.6

(ii) Diluted earnings per share on operating profit attributable to ordinary shareholders is calculated as follows:

	2015			Restated ¹ 2014		
	Total £m	Weighted average number of shares million	Per share p	Total ¹ £m	Weighted average number of shares million	Per share p
Operating profit attributable to ordinary shareholders	1,841	3,741	49.2	1,421	2,943	48.3
Dilutive effect of share awards and options	—	39	(0.5)	—	44	(0.7)
Diluted operating profit per share from continuing operations	1,841	3,780	48.7	1,421	2,987	47.6
Operating profit attributable to ordinary shareholders	—	3,741	—	—	2,943	—
Dilutive effect of share awards and options	—	39	—	—	44	—
Diluted operating profit per share from discontinued operations	—	3,780	—	—	2,987	—
Diluted operating profit per share	1,841	3,780	48.7	1,421	2,987	47.6

¹ Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on the result or the total equity for any period presented as a result of this restatement.

B8 – Dividends and appropriations

This note analyses the total dividends and other appropriations we paid during the year. The table below does not include the final dividend proposed after the year end because it is not accrued in these financial statements.

	2015 £m	2014 £m
Ordinary dividends declared and charged to equity in the year		
Final 2014 – 12.25 pence per share, paid on 15 May 2015	362	—
Final 2013 – 9.40 pence per share, paid on 16 May 2014	—	277
Interim 2015 – 6.75 pence per share, paid on 17 November 2015	273	—
Interim 2014 – 5.85 pence per share, paid on 17 November 2014	—	172
	635	449
Dividends waived/unclaimed returned to the Company	—	(3)
Preference dividends declared and charged to equity in the year	17	17
Coupon payments on direct capital instruments and tier 1 notes	72	88
	724	551

Subsequent to 31 December 2015, the directors proposed a final dividend for 2015 of 14.05 pence per ordinary share (FY14: 12.25 pence), amounting to £569 million (FY14: £362 million) in total. Subject to approval by shareholders at the AGM, the dividend will be paid on 17 May 2016 and will be accounted for as an appropriation of retained earnings in the year ending 31 December 2016.

Interest on the direct capital instrument and tier 1 notes is treated as an appropriation of retained profits and, accordingly, is accounted for when paid. Tax relief is obtained at a rate of 20.25% (FY14: 21.50%).

B9 – Insurance liabilities

This note analyses the Group insurance contract liabilities by type of product and describes how the Group calculates these liabilities and the assumptions used.

(a) Carrying amount**(i) Insurance liabilities (gross of reinsurance) at 31 December comprise:**

	2015			2014		
	Long-term business £m	General insurance and health £m	Total £m	Long-term business £m	General insurance and health £m	Total £m
Long-term business provisions						
Participating	53,875	—	53,875	44,834	—	44,834
Unit-linked non-participating	14,768	—	14,768	7,963	—	7,963
Other non-participating	56,705	—	56,705	45,313	—	45,313
	125,348	—	125,348	98,110	—	98,110
Outstanding claims provisions	1,702	7,063	8,765	1,343	7,298	8,641
Provision for claims incurred but not reported	—	2,383	2,383	—	2,578	2,578
	1,702	9,446	11,148	1,343	9,876	11,219
Provision for unearned premiums	—	4,048	4,048	—	4,107	4,107
Provision arising from liability adequacy tests	—	12	12	—	10	10
Total	127,050	13,506	140,556	99,453	13,993	113,446
Less: Amounts classified as held for sale	—	—	—	—	(1)	(1)
	127,050	13,506	140,556	99,453	13,992	113,445

(ii) Change in insurance liabilities recognised as an expense

The purpose of the following table is to reconcile the change in insurance liabilities, net of reinsurance, shown on the income statement, to the change in insurance liabilities recognised as an expense in the relevant movement tables in this note. The components of the reconciliation are the change in provision for outstanding claims on long-term business (which is not included in a separate movement table), and the unwind of discounting on GI reserves (which is included within finance costs within the income statement). For general insurance and health business, the change in the provision for unearned premiums is not included in the reconciliation, as within the income statement, this is included within earned premiums.

	Gross £m	Reinsurance ¹ £m	Net £m
2015			
Long-term business liabilities			
Change in long-term business provisions (note B9b(iv))	(6,640)	252	(6,388)
Change in provision for outstanding claims	179	4	183
	(6,461)	256	(6,205)
General insurance and health liabilities			
Change in insurance liabilities (note B9c(iv) and B11c(ii))	29	(504)	(475)
Less: Unwind of discount on GI reserves and other	(10)	9	(1)
	19	(495)	(476)
Total change in insurance liabilities	(6,442)	(239)	(6,681)

¹ The change in reinsurance assets for general insurance and health business includes the impact of the £659 million reinsurance asset recognised on completion of an outward reinsurance contract by the UK general insurance business, which provides significant protection against claims volatility from mesothelioma, industrial deafness and other long tail risks.

	Gross £m	Reinsurance £m	Net £m
2014			
Long-term business liabilities			
Change in long-term business provisions (note B9b(iv))	5,847	(376)	5,471
Change in provision for outstanding claims	128	4	132
	5,975	(372)	5,603
General insurance and health liabilities			
Change in insurance liabilities (note B9c(iv) and B11c(ii))	(76)	49	(27)
Less: Unwind of discount on GI reserves and other	(9)	3	(6)
	(85)	52	(33)
Total change in insurance liabilities	5,890	(320)	5,570

B9 – Insurance liabilities continued

(b) Long-term business liabilities

(i) Business description

The Group underwrites long-term business in a number of countries as follows:

- In the UK mainly in:
 - New With-Profits Sub-Fund (NWPSF) of Aviva Life & Pensions UK (UKLAP), where the with-profit policyholders are entitled to at least 90% of the distributed profits, with the shareholders receiving the balance. Any surplus or deficit emerging in NWPSF that is not distributed as bonus will be transferred from this sub-fund to the Reattributed Inherited Estate External Support Account (RIEESA) (see below).
 - Old With-Profits Sub-Fund (OWPSF), With-Profits Sub-Fund (WPSF) and Provident Mutual Sub-Fund (PMSF) of UKLAP, where the with-profit policyholders are entitled to at least 90% of the distributed profits, with the shareholders receiving the balance.
 - ‘Non-profit’ funds of Aviva Annuity UK, UKLAP, Friends Life Limited and Friends Life and Pensions Limited where shareholders are entitled to 100% of the distributed profits. Shareholder profits on unitised with-profits business written by WPSF and on stakeholder unitised with-profits business are derived from management fees and policy charges, and emerge in the non-profits funds.
 - The RIEESA of UKLAP, which is a non-profits fund where shareholders are entitled to 100% of the distributed profits, but these cannot be distributed until the ‘lock-in’ criteria set by the Reattribution Scheme have been met. The RIEESA has been used to write non-profit business and also to provide capital support to NWPSF.
 - The Friends Provident With-Profits Fund (FP WPF) where shareholders are entitled to 10% of the distributed profits, plus 60% of the surplus arising on pre-demutualisation non-profit and unitised business and non-investment sources of surplus on policies held by post-demutualisation policyholders. The Friends Provident demutualisation occurred in 2001.
 - The Friends Provident Life Assurance Limited With-Profits Fund (FPLAL WPF), which is closed to new business and where policyholders are entitled to 100% of the distributed profits.
 - The Friends Life Company Limited New With-Profits Fund (FLC New WPF), the Friends Life Company Limited Old With-Profits Fund (FLC Old WPF), the Friends Life WL Limited (formally known as Winterthur Life UK Limited) With-Profits Fund (WL WPF) and Friends Life Assurance Society With-Profits Fund (FLAS WPF) which are closed to new business and where policyholders are entitled to 90% of the distributed profits aside from certain policies in the FLC New WPF and the FLC Old WPF with guaranteed bonus rates, where the shareholders do not receive one-ninth of the bonus.
- In France, the majority of policyholders’ benefits are determined by investment performance, subject to certain guarantees, and shareholders’ profits are derived largely from management fees. In addition, a substantial number of policies participate in investment returns, with the balance being attributable to shareholders.
- In other operations in Europe and Asia, a range of long-term insurance and savings products are written.

(ii) Group practice

The long-term business provision is calculated separately for each of the Group’s life operations. The provisions for overseas subsidiaries have generally been included on the basis of local regulatory requirements, modified where necessary to reflect the requirements of the Companies Act 2006.

Material judgement is required in calculating the provisions and is exercised particularly through the choice of assumptions where discretion is permitted. In turn, the assumptions used depend on the circumstances prevailing in each of the life operations. Provisions are most sensitive to assumptions regarding discount rates and mortality/morbidity rates. Where discount rate assumptions are based on current market yields on fixed interest securities, allowance is made for default risk implicit in the yields on the underlying assets.

Bonuses paid during the year are reflected in claims paid, whereas those allocated as part of the bonus declaration are included in the movements in the long-term business provision.

For UK with-profits life funds falling within the scope of the PRA realistic capital regime, and hence FRS 27, an amount is recognised for the present value of future profits (PVFP) on non-participating business written in a with-profits fund where the determination of the realistic value of liabilities in that with-profits fund takes account, directly or indirectly, of this value. For our UK with-profits funds, other than FLAS, FLC and WL WPFs, no adjustment for this value is made to the participating insurance and investment contract liabilities or the unallocated divisible surplus. For FLAS, FLC and WL WPFs the non-profit PVFP is offset against the related participating insurance and investment contract liabilities.

(iii) Methodology and assumptions

There are two main methods of actuarial valuation of liabilities arising under long-term insurance contracts – the net premium method and the gross premium method – both of which involve the discounting of projected premiums and claims.

Under the net premium method, the premium taken into account in calculating the provision is determined actuarially, based on the valuation assumptions regarding discount rates, mortality and disability. The difference between this premium and the actual premium payable provides a margin for expenses. This method does not allow for voluntary early termination of the contract by the policyholder, and so no assumption is required for persistency.

The gross premium method uses the amount of contractual premiums payable and includes explicit assumptions for interest and discount rates, mortality and morbidity, persistency and future expenses. These assumptions can vary by contract type and reflect current and expected future experience.

B9 – Insurance liabilities continued**(a) UK*****With-profits business***

The valuation of with-profits business uses the methodology developed for the Realistic Balance Sheet, adjusted to remove the shareholders' share of future bonuses. The key elements of the Realistic Balance Sheet methodology are the with-profits benefit reserve (WPBR) and the present value of the expected cost of any payments in excess of the WPBR (referred to as the cost of future policy-related liabilities). The realistic liability for any contract is equal to the sum of the WPBR and the cost of future policy-related liabilities, which includes the value of any planned enhancements to benefits agreed by the company. The WPBR for an individual contract is generally calculated on a retrospective basis, and represents the accumulation of the premiums paid on the contract, allowing for investment return, taxation, expenses and any other charges levied on the contract.

For a small proportion of business, a prospective valuation approach is used, including allowance for anticipated future regular and final bonuses.

The items included in the cost of future policy-related liabilities include:

- Maturity Guarantees;
- Guarantees on surrender, including no-MVR (Market Value Reduction) Guarantees and Guarantees linked to inflation;
- Guaranteed Annuity Options;
- GMP (Guaranteed Minimum Pension) underpin on Section 32 transfers; and
- Expected payments under Mortgage Endowment Promise.

The cost of future policy-related liabilities is determined using a market-consistent approach and, in the main, this is based on a stochastic model calibrated to market conditions at the end of the reporting period. Non-market-related assumptions (for example, persistency, mortality and expenses) are based on experience, adjusted to take into account future trends.

The principal assumptions underlying the cost of future policy-related liabilities are as follows:

Future investment return

A risk-free rate equal to the spot yield on UK swaps is used for the valuation of with-profits business. The rates vary according to the outstanding term of the policy, with a typical rate as at 31 December 2015 of 2.04% (*FY14: 1.88%*) for a policy with ten years outstanding.

Volatility of investment return

Volatility assumptions are set with reference to implied volatility data on traded market instruments, where available, or on a best estimate basis where not.

Volatility	2015	2014
Equity returns	22.6%	22.3%
Property returns	16.0%	15.0%
Fixed interest yields	30.6%	27.2%

The equity volatility used depends on term, money-ness and region. The figure shown is for a sample UK equity, at the money, with a ten-year term. Fixed interest yield volatility is also dependent on term and money-ness. The figure shown is for a ten-year swap option with ten-year term, currently at the money.

Future regular bonuses

Annual bonus assumptions for 2015 have been set consistently with the year-end 2014 declaration. Future annual bonus rates reflect the principles and practices of each fund. In particular, the level is set with regard to the projected margin for final bonus and the change from one year to the next is limited to a level consistent with past practice.

Mortality

Mortality assumptions for with-profits business are set with regard to recent Company experience and general industry trends. The mortality tables used in the valuation are summarised below:

Mortality table used	2015	2014
Assurances, pure endowments and deferred annuities before vesting	Nil or Axx00 adjusted	Nil or Axx00 adjusted
	PCMA00/PCFA00 adjusted plus allowance for future mortality improvement	PCMA00/PCFA00 adjusted plus allowance for future mortality improvement
Pensions business after vesting and pensions annuities in payment		

Allowance for future mortality improvement is in line with the rates shown for non-profit business below.

B9 – Insurance liabilities continued

Non-profit business

The valuation of non-profit business is based on regulatory requirements, adjusted to remove certain regulatory reserves and margins in assumptions, notably for annuity business. Conventional non-profit contracts, including those written in the with-profits funds, are valued using gross premium methods which discount projected future cash flows. The cash flows are calculated using the amount of contractual premiums payable, together with explicit assumptions for investment returns, inflation, discount rates, mortality, morbidity, persistency and future expenses. These assumptions vary by contract type and reflect current and expected future experience.

For unit-linked and some unitised with-profits business, the provisions are valued by adding a prospective non-unit reserve to the bid value of units. The prospective non-unit reserve is calculated by projecting the future non-unit cash flows on the assumption that future premiums cease, unless it is more onerous to assume that they continue. Where appropriate, allowance for persistency is based on actual experience.

Valuation discount rate assumptions are set with regard to yields on the supporting assets and the general level of long-term interest rates as measured by gilt yields. An explicit allowance for risk is included by restricting the yields for equities and properties with reference to a margin over long-term interest rates or by making an explicit deduction from the yields on corporate bonds, mortgages and deposits, based on historical default experience of each asset class. A further margin for risk is then deducted for all asset classes.

The provisions held in respect of guaranteed annuity options are a prudent assessment of the additional liability incurred under the option on a basis and method consistent with that used to value basic policy liabilities, and includes a prudent assessment of the proportion of policyholders who will choose to exercise the option.

Valuation discount rates for business in the non-profit funds are as follows:

Valuation discount rates	2015	2014
Assurances		
Life conventional non-profit	1.8%	1.7%
Pensions conventional non-profit	2.3%	2.1%
Annuities		
Conventional immediate and deferred annuities	0.9% to 3.6%	1.3% to 3.3%
Non-unit reserves on Unit Linked business		
Life	1.8% to 2.9%	1.7%
Pensions	1.8% to 3.5%	2.1%
Income Protection		
Active lives	2.0%	1.8%
Claims in payment – level	2.0%	1.8%
Claims in payment – index linked	0.0%	(0.9%)

The above valuation discount rates are after reduction for investment expenses and credit risk. For conventional immediate annuity business the allowance for credit risk comprises long-term assumptions for defaults and downgrades, which vary by asset category and rating. The credit risk allowance made for corporate bonds and mortgages, including healthcare mortgages, held by Aviva Annuity UK Limited equated to 58bps and 59bps respectively at 31 December 2015 (*FY14: 55 bps and 87 bps respectively*). For corporate bonds, the allowance represented approximately 32% of the average credit spread for the portfolio (*FY14: 40%*). The reduction in the credit allowance for mortgages is primarily driven by UK Life's commercial mortgage loans restructure and recovery programme which completed in 2015 with the sale of £2.2 billion of commercial mortgage loans to Lone Star. The total valuation allowance held by Aviva Annuity UK Limited in respect of corporate bonds and mortgages, including healthcare mortgages, was £1.5 billion (*FY14: £1.9 billion*) over the remaining term of the UK Life corporate bond and mortgage portfolio. Total liabilities for the annuity business were £47 billion at 31 December 2015 (*FY14: £34 billion*), with the £13 billion increase mainly due to the acquisition of Friends Life business.

Mortality assumptions for non-profit business are set with regard to recent Company experience and general industry trends. The mortality tables used in the valuation are summarised below:

Mortality tables used	2015	2014
Assurances		
Non-profit	AM00/AF00 or TM00/TF00 adjusted for smoker status and age/sex specific factors	AM00/AF00 or TM00/TF00 adjusted for smoker status and age/sex specific factors
Pure endowments and deferred annuities before vesting	AM00/AF00 adjusted	AM00/AF00 adjusted
Annuities in payment		
Pensions business and general annuity business	PCMA00/PCFA00 adjusted plus allowance for future mortality improvement	PCMA00/PCFA00 adjusted plus allowance for future mortality improvement

B9 – Insurance liabilities continued

For the main pensions annuity business in Aviva Annuity UK Limited, the underlying mortality assumptions for Males are 101.5% of PCMA00 (FY14: 101.5% of PCMA00) with base year 2000; for Females the underlying mortality assumptions are 96.5% of PCFA00 (FY14: 96.5% of PCFA00) with base year 2000. Improvements are based on CMI_2013 with a long-term improvement rate of 1.75% (2014: 1.75%) for males and 1.5% (2014: 1.5%) for females, both with an addition of 0.5% (2014: 0.5%) to all future annual improvement. Year-specific adjustments are made to allow for selection effects due to the development of the Enhanced Annuity market.

(b) France

The majority of reserves arise from single premium savings products and are based on the accumulated fund values, adjusted to maintain consistency with the value of the assets backing the policyholder liabilities. For traditional business, the net premium method is used for prospective valuations, in accordance with local regulation, where the valuation assumptions depend on the date of issue of the contract. The valuation discount rate also depends on the original duration of the contract and mortality rates are based on industry tables.

	Valuation discount rates	Mortality tables used
	2015 and 2014	2015 and 2014
Life assurances	0% to 4.5%	TD73-77, TD88-90, TH00-02 TF00-02, H_AVDBS, F_AVDBS
Annuities	0% to 4.5%	H_SSDBS, F_SSDBS TGF05/TGH05

(c) Other countries

In all other countries, local generally accepted interest rates and published standard mortality tables are used for different categories of business as appropriate. The tables are based on relevant experience and show mortality rates, by age, for specific groupings of people.

(iv) Movements

The following movements have occurred in the gross long-term business provisions during the year:

	2015 £m	2014 £m
Carrying amount at 1 January	98,110	94,972
Provisions in respect of new business	4,059	4,796
Expected change in existing business provisions	(8,180)	(5,806)
Variance between actual and expected experience	428	1,383
Impact of operating assumption changes	(735)	(1,118)
Impact of economic assumption changes	(2,242)	6,819
Other movements	30	(227)
Change in liability recognised as an expense (note B9a(ii))	(6,640)	5,847
Effect of portfolio transfers, acquisitions and disposals ^{1,2}	35,099	(805)
Foreign exchange rate movements	(1,221)	(1,904)
Carrying amount at 31 December	125,348	98,110

1 The movement during 2015 relates to Friends Life, as at the acquisition date.

2 The movement during 2014 includes £103 million related to the disposal of Eurovita, £696 million related to the disposal of CxG and £6 million related to the restructuring of our operations in Indonesia.

For many types of long-term business, including unit-linked and participating funds, movements in asset values are offset by corresponding changes in liabilities, limiting the net impact on profit.

The impact of operating assumption changes of £(0.7) billion in 2015 reduces the carrying value of insurance liabilities and relates mainly to expense and mortality releases in the UK business (with the impact on profit significantly offset by a corresponding reduction in reinsurance assets).

The £(2.2) billion impact of economic assumption changes reflects an increase in valuation interest rates in response to increased interest rates and widening spreads, primarily in respect of immediate annuity and participating insurance contracts in the UK.

For participating business, a movement in liabilities is generally offset by a corresponding adjustment to the unallocated divisible surplus and does not impact on profit. Where assumption changes do impact on profit, these are included in the effect of changes in assumptions and estimates during the year shown in note B12, together with the impact of movements in related non-financial assets.

(c) General insurance and health liabilities

(i) Provisions for outstanding claims

Delays occur in the notification and settlement of claims and a substantial measure of experience and judgement is involved in assessing outstanding liabilities, the ultimate cost of which cannot be known with certainty at the statement of financial position date. The reserves for general insurance and health business are based on information currently available. However, it is inherent in the nature of the business written that the ultimate liabilities may vary as a result of subsequent developments.

Provisions for outstanding claims are established to cover the outstanding expected ultimate liability for losses and loss adjustment expenses (LAE) in respect of all claims that have already occurred. The provisions established cover reported claims and associated LAE, as well as claims incurred but not yet reported and associated LAE.

B9 – Insurance liabilities continued

The Group only establishes loss reserves for losses that have already occurred. The Group therefore does not establish catastrophe equalisation reserves that defer a share of income in respect of certain lines of business from years in which a catastrophe does not occur to future periods in which catastrophes may occur. When calculating reserves, the Group takes into account estimated future recoveries from salvage and subrogation, and a separate asset is recorded for expected future recoveries from reinsurers after considering their collectability.

The table below shows the split of total general insurance and health outstanding claim provisions and IBNR provisions, gross of reinsurance, by major line of business.

	As at 31 December 2015			As at 31 December 2014		
	Outstanding claim provisions £m	IBNR provisions £m	Total claim provisions £m	Outstanding claim provisions £m	IBNR provisions £m	Total claim provisions £m
Motor	3,509	1,055	4,564	3,510	1,130	4,640
Property	1,339	158	1,497	1,402	67	1,469
Liability	1,776	1,106	2,882	1,916	1,224	3,140
Creditor	23	18	41	25	21	46
Other	416	46	462	445	136	581
	7,063	2,383	9,446	7,298	2,578	9,876

(ii) Discounting

Outstanding claims provisions are based on undiscounted estimates of future claim payments, except for the following classes of business for which discounted provisions are held:

Class	Rate		Mean term of liabilities	
	2015	2014	2015	2014
Reinsured London Market business	2.0%	2.1%	9 years	10 years
Latent claims	0.00% to 2.30%	0.16% to 2.75%	6 to 15 years	6 to 15 years
Structured settlements	2.1%	2.0%	38 years	35 years

The gross outstanding claims provision before discounting was £9,911 million (*FY14: £10,326 million*). The period of time which will elapse before the liabilities are settled has been estimated by modelling the settlement patterns of the underlying claims.

The discount rate that has been applied to latent claims reserves is based on the relevant swap curve in the relevant currency having regard to the expected settlement dates of the claims. The range of discount rates used depends on the duration of the claims and is given in the table above. The duration of the claims span over 35 years, with the average duration being between 6 and 15 years depending on the geographical region. Any change in discount rates between the start and the end of the accounting period is reflected outside of operating profit as an economic assumption change.

During 2015, the propensity for new bodily injury claims settled by periodic payment orders (PPOs) or structured settlements, which are reserved for on a discounted basis, has remained fairly stable.

(iii) Assumptions

Outstanding claims provisions are estimated based on known facts at the date of estimation. Case estimates are set by skilled claims technicians and established case setting procedures. Claim technicians apply their experience and knowledge to the circumstances of individual claims. They take into account all available information and correspondence regarding the circumstances of the claim, such as medical reports, investigations and inspections. Claims technicians set case estimates according to documented claims department policies and specialise in setting estimates for certain lines of business or types of claim. Claims above certain limits are referred to senior claims handlers for estimate authorisation.

No adjustments are made to the claims technicians' case estimates included in booked claim provisions, except for rare occasions when the estimated ultimate cost of individual large or unusual claims may be adjusted, subject to internal reserve committee approval, to allow for uncertainty regarding, for example, the outcome of a court case. The ultimate cost of outstanding claims is then estimated by using a range of standard actuarial claims projection techniques, such as the Chain Ladder and Bornhuetter-Ferguson methods. The main assumption underlying these techniques is that a company's past claims development experience can be used to project future claims development and hence ultimate claims costs. As such, these methods extrapolate the development of paid and incurred losses, average costs per claim and claim numbers based on the observed development of earlier years and expected loss ratios. Historical claims development is mainly analysed by accident period, although underwriting or notification period is also used where this is considered appropriate.

Claim development is separately analysed for each geographic area, as well as by each line of business. Certain lines of business are also further analysed by claim type or type of coverage. In addition, large claims are usually separately addressed, either by being reserved at the face value of loss adjuster estimates or separately projected in order to reflect their future development.

The assumptions used in most non-life actuarial projection techniques, including future rates of claims inflation or loss ratio assumptions, are implicit in the historical claims development data on which the projections are based. Additional qualitative judgement is used to assess the extent to which past trends may not apply in the future, for example, to reflect one-off occurrences, changes in external or market factors such as public attitudes to claiming, economic conditions, levels of claims inflation, judicial decisions and legislation, as well as internal factors such as portfolio mix, policy conditions and claims handling procedures in order to arrive at a point estimate for the ultimate cost of claims that represents the likely outcome, from a range of possible outcomes, taking account of all the uncertainties involved. The range of possible outcomes does not, however, result in the quantification of a reserve range.

B9 – Insurance liabilities continued

The following explicit assumptions are made which could materially impact the level of booked net reserves:

UK mesothelioma claims

The level of uncertainty associated with latent claims is considerable due to the relatively small number of claims and the long-tail nature of the liabilities. UK mesothelioma claims account for a large proportion of the Group's latent claims. The key assumptions underlying the estimation of these claims include claim numbers, the base average cost per claim, future inflation in the average cost of claims and legal fees.

The best estimate of the liabilities reflects the latest available market information and studies. Many different scenarios can be derived by flexing these key assumptions and applying different combinations of the different assumptions. An upper and lower scenario can be derived by making reasonably likely changes to these assumptions, resulting in an estimate £30 million (FY14: £245 million) greater than the best estimate, or £60 million (FY14: £75 million) lower than the best estimate. The upper scenario has reduced significantly during 2015 due to reinsurance purchased by the UK general insurance business to cover a large proportion of these liabilities. These scenarios do not, however, constitute an upper or lower bound on these liabilities.

Interest rates used to discount latent claim liabilities

The discount rates used in determining our latent claim liabilities are based on the relevant swap curve in the relevant currency at the reporting date, having regard to the duration of the expected settlement of latent claims. The range of discount rates used is shown in section (ii) above and depends on the duration of the claim and the reporting date. At 31 December 2015, it is estimated that a 1% fall in the discount rates used would increase net claim reserves by approximately £60 million (FY14: £120 million), excluding the offsetting effect on asset values as assets are not hypothecated across classes of business. The impact has reduced significantly during 2015 due to reinsurance purchased by the UK general insurance business to cover a large proportion of these liabilities. The impact of a 1% fall in interest rates across all assets and liabilities of our general insurance and health businesses is shown in note B18.

Allowance for risk and uncertainty

The uncertainties involved in estimating loss reserves are allowed for in the reserving process and by the estimation of explicit reserve uncertainty distributions. The reserve estimation basis for non-life claims requires all non-life businesses to calculate booked claim provisions as the best estimate of the cost of future claim payments, plus an explicit allowance for risk and uncertainty. The allowance for risk and uncertainty is calculated by each business unit in accordance with the requirements of the Group non-life reserving policy, taking into account the risks and uncertainties specific to each line of business and type of claim in that territory. The requirements of the Group non-life reserving policy also seek to ensure that the allowance for risk and uncertainty is set consistently across both business units and reporting periods.

Changes to claims development patterns can materially impact the results of actuarial projection techniques. However, allowance for the inherent uncertainty in the assumptions underlying reserving projections is automatically allowed for in the explicit allowance for risk and uncertainty included when setting booked reserves.

Lump sum payments in settlement of bodily injury claims decided by the UK courts are calculated in accordance with the Ogden Tables. The Ogden Tables contain a discount rate that is set by the Lord Chancellor and that is applied when calculating the present value of loss of earnings for claims settlement purposes. The process for setting this discount rate is under review.

The timing of the conclusion of this review is unclear and it is still uncertain whether or by how much the rate will change. However, an allowance has been included in provisions to reflect the potential for a change in the Ogden discount rates. A reduction in the Ogden discount rates would increase lump sum payments to UK bodily injury claimants.

(iv) Movements

The following changes have occurred in the general insurance and health claims provisions during the year:

	2015 £m	2014 £m
Carrying amount at 1 January	9,876	10,298
Impact of changes in assumptions	115	211
Claim losses and expenses incurred in the current year	5,889	5,950
Decrease in estimated claim losses and expenses incurred in prior periods	(463)	(329)
Incurred claims losses and expenses	5,541	5,832
Less:		
Payments made on claims incurred in the current year	(3,153)	(3,253)
Payments made on claims incurred in prior periods	(2,650)	(2,933)
Recoveries on claim payments	281	269
Claims payments made in the period, net of recoveries	(5,522)	(5,917)
Unwind of discounting	10	9
Changes in claims reserve recognised as an expense (note B9a(iii))	29	(76)
Effect of portfolio transfers, acquisitions and disposals	(64)	(121)
Foreign exchange rate movements	(395)	(222)
Other movements	—	(3)
Carrying amount at 31 December	9,446	9,876

The effect of changes in the main assumptions is given in note B12.

B9 – Insurance liabilities continued

(d) Loss development tables

(i) Description of tables

The tables that follow present the development of claim payments and the estimated ultimate cost of claims for the accident years 2006 to 2015. The upper half of the tables shows the cumulative amounts paid during successive years related to each accident year. For example, with respect to the accident year 2006, by the end of 2015 £7,077 million had actually been paid in settlement of claims. In addition, as reflected in the lower section of the table, the original estimated ultimate cost of claims of £7,533 million was re-estimated to be £7,207 million at 31 December 2015.

The original estimates will be increased or decreased, as more information becomes known about the individual claims and overall claim frequency and severity.

The Group aims to maintain strong reserves in respect of its general insurance and health business in order to protect against adverse future claims experience and development. The Group establishes strong reserves in respect of the current accident year (2015) where the development of claims is less mature and there is much greater uncertainty attaching to the ultimate cost of claims. As claims develop and the ultimate cost of claims become more certain, the absence of adverse claims experience will result in a release of reserves from earlier accident years, as shown in the loss development tables and movements table (c)(iv) above. Releases from prior accident year reserves are also due to an improvement in the estimated cost of claims.

Key elements of the release from prior accident year general insurance and health net provisions during 2015 were:

- £166 million release from UK & Ireland due to favourable development on personal and commercial motor, commercial liability and commercial property claims.
- £109 million release from Canada mainly due to continued favourable experience on motor, following the legislative changes in Ontario.
- £52 million release from Europe mainly due to favourable development in France and Italy.

There was also a £659 million reduction in net claim reserves due to the reinsurance purchased during 2015 covering a large proportion of the Group's latent claim liabilities.

Key elements of the movement in prior accident year general insurance and health net provisions during 2014 were:

- £112 million release from UK & Ireland due to favourable development on personal and commercial motor, and commercial property claims.
- £97 million release from Canada mainly due to continued favourable experience on motor, following the legislative changes in Ontario.
- £15 million release from Europe mainly due to favourable development in France and Italy, partly offset by strengthening of motor third party claims in Turkey.

(ii) Gross figures

Before the effect of reinsurance, the loss development table is:

Accident year	All prior years £m	2006 £m	2007 £m	2008 £m	2009 £m	2010 £m	2011 £m	2012 £m	2013 £m	2014 £m	2015 £m	Total £m
Gross cumulative claim payments												
At end of accident year		(3,653)	(4,393)	(4,915)	(3,780)	(3,502)	(3,420)	(3,055)	(3,068)	(3,102)	(2,991)	
One year later		(5,525)	(6,676)	(7,350)	(5,464)	(5,466)	(4,765)	(4,373)	(4,476)	(4,295)		
Two years later		(5,971)	(7,191)	(7,828)	(6,102)	(5,875)	(5,150)	(4,812)	(4,916)			
Three years later		(6,272)	(7,513)	(8,304)	(6,393)	(6,163)	(5,457)	(5,118)				
Four years later		(6,531)	(7,836)	(8,607)	(6,672)	(6,405)	(5,712)					
Five years later		(6,736)	(8,050)	(8,781)	(6,836)	(6,564)						
Six years later		(6,936)	(8,144)	(8,906)	(6,958)							
Seven years later		(7,015)	(8,224)	(8,986)								
Eight years later		(7,062)	(8,257)									
Nine years later		(7,077)										
Estimate of gross ultimate claims												
At end of accident year		7,533	8,530	9,508	7,364	6,911	6,428	6,201	6,122	5,896	5,851	
One year later		7,318	8,468	9,322	7,297	7,006	6,330	6,028	6,039	5,833		
Two years later		7,243	8,430	9,277	7,281	6,950	6,315	6,002	6,029			
Three years later		7,130	8,438	9,272	7,215	6,914	6,292	5,952				
Four years later		7,149	8,409	9,235	7,204	6,912	6,262					
Five years later		7,167	8,446	9,252	7,239	6,906						
Six years later		7,167	8,381	9,213	7,217							
Seven years later		7,176	8,381	9,207								
Eight years later		7,184	8,378									
Nine years later		7,207										
Estimate of gross ultimate claims		7,207	8,378	9,207	7,217	6,906	6,262	5,952	6,029	5,833	5,851	
Cumulative payments		(7,077)	(8,257)	(8,986)	(6,958)	(6,564)	(5,712)	(5,118)	(4,916)	(4,295)	(2,991)	
Effect of discounting	2,329 (407)	130 (12)	121 (1)	221 (4)	259 (19)	342 (17)	550 3	834 (6)	1,113 (2)	1,538	2,860	10,297 (465)
Present value	1,922	118	120	217	240	325	553	828	1,111	1,538	2,860	9,832
Cumulative effect of foreign exchange movements	—	5	(1)	(28)	(32)	(47)	(65)	(76)	(77)	(76)	—	(397)
Effect of acquisitions	7	4	—	—	—	—	—	—	—	—	—	11
Present value recognised in the statement of financial position	1,929	127	119	189	208	278	488	752	1,034	1,462	2,860	9,446

B9 – Insurance liabilities continued**(iii) Net of reinsurance**

After the effect of reinsurance, the loss development table is:

Accident year	All prior years £m	2006 £m	2007 £m	2008 £m	2009 £m	2010 £m	2011 £m	2012 £m	2013 £m	2014 £m	2015 £m	Total £m
Net cumulative claim payments												
At end of accident year		(3,612)	(4,317)	(4,808)	(3,650)	(3,386)	(3,300)	(2,925)	(2,905)	(2,972)	(2,867)	
One year later		(5,442)	(6,542)	(7,165)	(5,286)	(5,242)	(4,578)	(4,166)	(4,240)	(4,079)		
Two years later		(5,881)	(7,052)	(7,638)	(5,885)	(5,637)	(4,963)	(4,575)	(4,649)			
Three years later		(6,181)	(7,356)	(8,094)	(6,177)	(5,905)	(5,263)	(4,870)				
Four years later		(6,434)	(7,664)	(8,356)	(6,410)	(6,137)	(5,485)					
Five years later		(6,625)	(7,852)	(8,515)	(6,568)	(6,278)						
Six years later		(6,724)	(7,942)	(8,626)	(6,657)							
Seven years later		(6,789)	(8,004)	(8,682)								
Eight years later		(6,831)	(8,033)									
Nine years later		(6,853)										
Estimate of net ultimate claims												
At end of accident year		7,430	8,363	9,262	7,115	6,650	6,202	5,941	5,838	5,613	5,548	
One year later		7,197	8,302	9,104	7,067	6,751	6,103	5,765	5,745	5,575		
Two years later		7,104	8,244	9,028	7,036	6,685	6,095	5,728	5,752			
Three years later		6,996	8,249	9,007	6,978	6,644	6,077	5,683				
Four years later		6,980	8,210	8,962	6,940	6,634	6,034					
Five years later		6,992	8,221	8,949	6,977	6,614						
Six years later		6,939	8,149	8,926	6,908							
Seven years later		6,938	8,143	8,894								
Eight years later		6,947	8,133									
Nine years later		6,948										
Estimate of net ultimate claims		6,948	8,133	8,894	6,908	6,614	6,034	5,683	5,752	5,575	5,548	
Cumulative payments		(6,853)	(8,033)	(8,682)	(6,657)	(6,278)	(5,485)	(4,870)	(4,649)	(4,079)	(2,867)	
Effect of discounting	761 (116)	95 (12)	100 (1)	212 (4)	251 (19)	336 (17)	549 3	813 (6)	1,103 (2)	1,496 —	2,681 —	8,397 (174)
Present value	645	83	99	208	232	319	552	807	1,101	1,496	2,681	8,223
Cumulative effect of foreign exchange movements	—	5	(1)	(28)	(31)	(45)	(62)	(74)	(74)	(73)	—	(383)
Effect of acquisitions	7	4	—	—	—	—	—	—	—	—	—	11
Present value recognised in the statement of financial position	652	92	98	180	201	274	490	733	1,027	1,423	2,681	7,851

In the loss development tables shown above, the cumulative claim payments and estimates of cumulative claims for each accident year are translated into sterling at the exchange rates that applied at the end of that accident year. The impact of using varying exchange rates is shown at the bottom of each table. Disposals are dealt with by treating all outstanding and IBNR claims of the disposed entity as 'paid' at the date of disposal.

The loss development tables above include information on asbestos and environmental pollution claims provisions from business written before 2006. The undiscounted claim provisions, net of reinsurance, in respect of this business at 31 December 2015 were £237 million (*FY14: £984 million*). The movement in the year reflects a reduction of £705 million due to the reinsurance purchased by the UK general insurance business during 2015 covering a large proportion of these liabilities, favourable claims development of £22 million, claim payments net of reinsurance recoveries and foreign exchange rate movements.

(e) Provision for unearned premiums**Movements**

The following changes have occurred in the provision for unearned premiums (UPR) during the year:

	2015 £m	2014 £m
Carrying amount at 1 January	4,107	4,226
Premiums written during the year	8,738	8,943
Less: Premiums earned during the year	(8,613)	(8,935)
Changes in UPR recognised as an (income)/expense	125	8
Gross portfolio transfers and acquisitions	—	(31)
Foreign exchange rate movements	(184)	(96)
Carrying amount at 31 December	4,048	4,107

B10 – Liability for investment contracts

This note analyses our investment contract liabilities by type of product and describes how the Group calculates these liabilities and the assumptions used.

(a) Carrying amount

The liability for investment contracts (gross of reinsurance) at 31 December comprised:

	2015 £m	2014 £m
Long-term business		
Participating contracts	78,048	67,232
Non-participating contracts at fair value	103,125	50,013
Total	181,173	117,245

(b) Long-term business investment liabilities

Investment contracts are those that do not transfer significant insurance risk from the contract holder to the issuer, and are therefore treated as financial instruments under IFRS.

Many investment contracts contain a discretionary participation feature in which the contract holder has a contractual right to receive additional benefits as a supplement to guaranteed benefits. These are referred to as participating contracts and are measured according to the methodology and Group practice for long-term business liabilities as described in note B9. They are not measured at fair value as there is currently no agreed definition of fair valuation for discretionary participation features under IFRS. In the absence of such a definition, it is not possible to provide a range of estimates within which a fair value is likely to fall. The IASB has deferred consideration of participating contracts to Phase II of its insurance contracts project.

For participating business, the discretionary participation feature is recognised separately from the guaranteed element and is classified as a liability, referred to as unallocated divisible surplus.

Investment contracts that do not contain a discretionary participation feature are referred to as non-participating contracts and the liability is measured at either fair value or amortised cost. We currently have no non-participating investment contracts measured at amortised cost.

Of the non-participating investment contracts measured at fair value, £101,216 million in 2015 are unit-linked in structure and the fair value liability is equal to the current unit fund value, including any unfunded units, plus if required, additional non-unit reserves based on a discounted cash flow analysis. These contracts are generally classified as 'Level 1' in the fair value hierarchy, as the unit reserve is calculated as the publicly quoted unit price multiplied by the number of units in issue, and any non-unit reserve is insignificant.

For unit-linked business, a deferred acquisition cost asset and deferred income reserve liability are recognised in respect of transaction costs and front-end fees respectively, that relate to the provision of investment management services, and which are amortised on a systematic basis over the contract term.

For non-participating investment contracts acquired in a business combination, an acquired value of in-force business asset is recognised in respect of the fair value of the investment management services component of the contracts, which is amortised on a systematic basis over the useful lifetime of the related contracts. The amount of the acquired value of in-force business asset is shown in note B21, which relates primarily to the acquisition of Friends Life in 2015.

For non-participating investment contracts, deposits collected and amounts withdrawn are not shown on the income statement, but are accounted for directly through the statement of financial position as an adjustment to the gross liabilities for investment contracts. The associated change in investment contract provisions shown on the income statement consists of the attributed investment return. Participating investment contracts are treated consistently with insurance contracts with the change in investment contract provisions primarily consisting of the movement in participating investment contract liabilities (net of reinsurance) over the reporting period.

(c) Movements in the year

The following movements have occurred in the gross provisions for investment contracts in the year:

(i) Participating investment contracts

	2015 £m	2014 £m
Carrying amount at 1 January	67,232	70,628
Provisions in respect of new business	3,710	4,144
Expected change in existing business provisions	(4,219)	(1,972)
Variance between actual and expected experience	1,590	713
Impact of operating assumption changes	43	14
Impact of economic assumption changes	97	303
Other movements	49	16
Change in liability recognised as an expense	1,270	3,218
Effect of portfolio transfers, acquisitions and disposals ¹	12,245	(2,671)
Foreign exchange rate movements	(2,699)	(3,943)
Carrying amount at 31 December	78,048	67,232

¹ The movement during 2015 relates to Friends Life, as at the acquisition date and the movement during 2014 relates to the disposal of Eurovita.

B10 – Liability for investment contracts continued

For many types of long-term business, including unit-linked and participating funds, movements in asset values are offset by corresponding changes in liabilities, limiting the net impact on profit.

The variance between actual and expected experience of £1.6 billion is primarily driven by favourable equity returns in Europe.

The impact of assumption changes in the analysis shows the resulting movement in the carrying value of participating investment contract liabilities. For participating business, a movement in liabilities is generally offset by a corresponding adjustment to the unallocated divisible surplus and does not impact on profit. Where assumption changes do impact on profit, these are included in the effect of changes in assumptions and estimates during the year shown in note B12, together with the impact of movements in related non-financial assets.

(ii) Non-participating investment contracts

	2015 £m	2014 £m
Carrying amount at 1 January	50,013	48,140
Provisions in respect of new business	2,644	2,273
Expected change in existing business provisions	(2,726)	(1,442)
Variance between actual and expected experience	(2,906)	1,575
Impact of operating assumption changes	32	2
Impact of economic assumption changes	3	11
Other movements	38	8
Change in liability	(2,915)	2,427
Effect of portfolio transfers, acquisitions and disposals ¹	56,401	(20)
Foreign exchange rate movements	(374)	(534)
Carrying amount at 31 December	103,125	50,013

¹ The movement during 2015 relates to Friends Life, as at the acquisition date and the movement during 2014 relates to the disposal of Eurovita.

For unit-linked investment contracts, movements in asset values are offset by corresponding changes in liabilities, limiting the net impact on profit. The variance between actual and expected experience of £2.9 billion is primarily driven by the impact of adverse equity returns in the UK.

The impact of assumption changes in the above analysis shows the resulting movement in the carrying value of non-participating investment contract liabilities. The impacts of assumption changes on profit are included in the effect of changes in assumptions and estimates during the year shown in note B12, which combines participating and non-participating investment contracts together with the impact of movements in related non-financial assets.

B11 – Reinsurance assets

This note details the reinsurance recoverables on our insurance and investment contract liabilities.

(a) Carrying amounts

The reinsurance assets at 31 December comprised:

	2015 £m ¹	2014 £m
Long-term business		
Insurance contracts	5,018	4,032
Participating investment contracts	11	3
Non-participating investment contracts ²	13,967	2,533
	18,996	6,568
Outstanding claims provisions	38	43
	19,034	6,611
General insurance and health		
Outstanding claims provisions ³	988	724
Provisions for claims incurred but not reported ³	607	373
	1,595	1,097
Provisions for unearned premiums	289	250
	1,884	1,347
Total	20,918	7,958

¹ Reinsurance assets at 31 December 2015 for long-term non-participating investment contracts includes £11,927 million for Friends Life business.

² Balances in respect of all reinsurance treaties are included under reinsurance assets, regardless of whether they transfer significant insurance risk. The reinsurance assets classified as non-participating investment contracts are financial instruments measured at fair value through profit or loss.

³ Reinsurance assets at 31 December 2015 for General insurance and health business include the impact of the £659 million reinsurance asset recognised on completion of an outward reinsurance contract by the UK general insurance business, which provides significant protection against claims volatility from mesothelioma, industrial deafness and other long tail risks.

Of the above total, £16,341 million (*FY14: £5,974 million*) is expected to be recovered more than one year after the statement of financial position date.

(b) Assumptions

The assumptions, including discount rates, used for reinsurance contracts follow those used for insurance contracts. Reinsurance assets are valued net of an allowance for their recoverability.

B11 – Reinsurance assets continued

(c) Movements

The following movements have occurred in the reinsurance assets during the year:

(i) In respect of long-term business provisions

	2015 £m	2014 £m
Carrying amount at 1 January	6,568	5,784
Assets in respect of new business	664	316
Expected change in existing business assets	197	7
Variance between actual and expected experience	(1,007)	536
Impact of operating assumption changes	(351)	(585)
Impact of economic assumption changes	(177)	554
Other movements ¹	636	34
Change in assets	(38)	862
Effect of portfolio transfers, acquisitions and disposals ²	12,504	(13)
Foreign exchange rate movements	(38)	(65)
Carrying amount at 31 December	18,996	6,568

¹ The other movements in 2015 include the reclassification of the UK Life staff pension scheme investments in Blackrock and Schroder life insurance funds from investments to reinsurance assets.

² The movement during 2015 relates to Friends Life as at the acquisition date. The movement during 2014 includes £12 million related to the disposal of Eurovita and £1 million related to the disposal of CxG.

The impact of assumption changes in the above analysis shows the resulting movement in the carrying value of reinsurance assets and mainly relates to business in the UK, with corresponding movements in gross insurance contract liabilities. For participating businesses, a movement in reinsurance assets is generally offset by a corresponding adjustment to the unallocated divisible surplus and does not impact profit. Where assumption changes do impact profit, these are included in the effect of changes in assumptions and estimates during the year shown in note B12, together with the impact of movements in related liabilities and other non-financial assets.

(ii) In respect of general insurance and health outstanding claims provisions and IBNR

	2015 £m	2014 £m
Carrying amount at 1 January	1,097	1,164
Impact of changes in assumptions	14	65
Reinsurers' share of claim losses and expenses		
Incurred in current year	301	292
Incurred in prior years ¹	527	(105)
Reinsurers' share of incurred claim losses and expenses	828	187
Less:		
Reinsurance recoveries received on claims		
Incurred in current year	(121)	(131)
Incurred in prior years	(225)	(173)
Reinsurance recoveries received in the year	(346)	(304)
Unwind of discounting	8	3
Change in reinsurance asset recognised as income (note B9a(ii))	504	(49)
Effect of portfolio transfers, acquisitions and disposals	(4)	(31)
Foreign exchange rate movements	(2)	8
Other movements	—	5
Carrying amount at 31 December	1,595	1,097

¹ The change in reinsurance assets includes the impact of the £659 million reinsurance asset recognised on completion of an outward reinsurance contract by the UK general insurance business, which provides significant protection against claims volatility from mesothelioma, industrial deafness and other long tail risks.

(iii) Reinsurers' share of the provision for UPR

	2015 £m	2014 £m
Carrying amount at 1 January	250	256
Premiums ceded to reinsurers in the year ¹	1,360	643
Less: Reinsurers' share of premiums earned during the year ¹	(1,346)	(634)
Changes in reinsurance asset recognised as income	14	9
Reinsurers' share of portfolio transfers and acquisitions	33	(2)
Foreign exchange rate movements	(8)	(10)
Other movements	—	(3)
Carrying amount at 31 December	289	250

¹ Includes £712 million of premiums ceded on completion of the outward reinsurance contract taken out by the UK general insurance business, which provides significant protection against claims volatility from mesothelioma, industrial deafness and other long tail risks.

B12 – Effect of changes in assumptions and estimates during the year

Certain estimates and assumptions used in determining our liabilities for insurance and investment contract business were changed from 2014 to 2015, affecting the profit recognised for the year with an equivalent effect on liabilities. This note analyses the effect of the changes. This note only allows for the impact on liabilities and related assets, such as unallocated divisible surplus, reinsurance, deferred acquisition costs and AVIF, and does not allow for offsetting movements in the value of backing financial assets.

	Effect on profit 2015 £m	Effect on profit 2014 £m
Assumptions		
Long-term insurance business		
Interest rates	2,053	(4,578)
Expenses	248	75
Persistency rates	(2)	15
Mortality for assurance contracts	1	20
Mortality for annuity contracts	17	283
Tax and other assumptions	48	75
Investment contracts		
Interest rates	—	(2)
Expenses	(4)	—
General insurance and health business		
Change in discount rate assumptions	(100)	(145)
Change in expense ratio and other assumptions	1	1
Total	2,262	(4,256)

The impact of interest rates on long-term business relates primarily to UK annuities, where an increase in the valuation interest rates, reflecting an increase in risk-free rates and widening of spreads, has reduced liabilities. The overall impact on profit also depends on movements in the value of assets backing the liabilities, which is not included in this disclosure.

There has been a release of expense reserves for the UK Life business following actions to reduce the current and long-term cost base. There has been a release of the annuitant mortality reserves following the annual review of experience in UK Life.

Tax and other assumptions includes an impact of £48 million driven by a reduction in the best estimate allowance for the cost of the Mortgage Protection Guarantee in the UK.

The adverse change in discount rate assumptions on general insurance and health business of £100 million arises as a result of a decrease in the swap rates used to discount latent claim reserves and a decrease in the swap rates, net of expected future inflation, used to value periodic payment orders. In 2014 discount rate assumption changes were £145 million adverse due to a decrease in the swap rates used to discount latent claims reserves and periodic payment orders.

B13 – Unallocated divisible surplus

An unallocated divisible surplus (UDS) is established where the nature of policy benefits is such that the division between shareholder reserves and policyholder liabilities is uncertain at the reporting date. Therefore the expected duration for settlement of the UDS is not defined.

This note shows the movements in the UDS during the year.

	2015 £m	2014 £m
Carrying amount at 1 January	9,467	6,709
Change in participating contract assets	(935)	3,087
Change in participating contract liabilities	(36)	299
Other movements	(13)	(22)
Change in liability recognised as an expense	(984)	3,364
Effect of portfolio transfers, acquisition and disposals	724	(131)
Foreign exchange rate movements	(396)	(444)
Other movements	—	(31)
	8,811	9,467

The amount of UDS has decreased to £8.8 billion at 31 December 2015 (FY14: £9.5 billion), despite the acquisition of Friends Life in April 2015 which increased the UDS balance by £724 million. The reduction is driven primarily by adverse investment market movements in Continental Europe, mainly caused by the increase in interest rates and corporate bond yields during the year. In addition, the UDS has reduced by £396 million due predominantly to the weakening of the euro.

Negative UDS balances result from an accounting mismatch between participating assets carried at market value and participating liabilities measured using local practice. Any negative balances are tested for recoverability using embedded value methodology and in line with local accounting practice. Testing is conducted at a participating fund-level within each life entity.

In both Italy and Spain, all participating funds had positive UDS balances at 31 December 2015, and consequently testing of negative UDS was not required. In Italy, the carrying value of UDS was £840 million positive (FY14: £953 million positive); in Spain, the carrying value of UDS was £207 million positive (FY14: £248 million positive).

B14 – Borrowings

Our borrowings are either core structural borrowings or operational borrowings. This note shows the carrying values and contractual maturity amounts of each type, and explains their main features and movements during the year.

(a) Analysis of total borrowings

Total borrowings comprise:

	2015 £m	2014 £m
Core structural borrowings, at amortised cost	6,912	5,310
Operational borrowings, at amortised cost	550	696
Operational borrowings, at fair value	1,308	1,372
	1,858	2,068
	8,770	7,378

(b) Movements during the year

Movements in borrowings during the year were:

	2015			2014		
	Core Structural £m	Operational £m	Total £m	Core Structural £m	Operational £m	Total £m
New borrowings drawn down, excluding commercial paper, net of expenses	1,045	22	1,067	552	1	553
Repayment of borrowings, excluding commercial paper	(833)	(161)	(994)	(241)	(372)	(613)
Movement in commercial paper ¹	(3)	—	(3)	1	—	1
Net cash inflow/(outflow)	209	(139)	70	312	(371)	(59)
Foreign exchange rate movements	(106)	(2)	(108)	(132)	(5)	(137)
Borrowings acquired/(loans repaid) for non-cash consideration	1,568	11	1,579	—	(321)	(321)
Fair value movements	—	37	37	—	70	70
Amortisation of discounts and other non-cash items	(27)	(17)	(44)	5	(29)	(24)
Movements in debt held by Group companies ²	(42)	(100)	(142)	—	1	1
Movements in the year	1,602	(210)	1,392	185	(655)	(470)
Balance at 1 January	5,310	2,068	7,378	5,125	2,723	7,848
Balance at 31 December	6,912	1,858	8,770	5,310	2,068	7,378

¹ Gross issuances of commercial paper were £982 million in 2015 (FY14: £1,830 million), offset by repayments of £985 million (FY14: £1,829 million).

² Certain subsidiary companies have purchased issued subordinated notes and securitised loan notes as part of their investment portfolios. In the consolidated statement of financial position, borrowings are shown net of these holdings but movements in such holdings over the year are reflected in the tables above.

All movements in fair value in 2014 and 2015 on securitised mortgage loan notes designated as fair value through profit or loss were attributable to changes in market conditions.

B15 – Pension obligations

The Group operates a number of defined benefit and defined contribution pension schemes. The material defined benefit schemes are in the UK, Ireland, and Canada with the main UK scheme being the largest. The assets and liabilities of these defined benefit schemes as at 31 December 2015 are shown below.

	2015				2014			
	UK £m	Ireland £m	Canada £m	Total £m	UK £m	Ireland £m	Canada £m	Total £m
Total fair value of scheme assets	15,445	484	232	16,161	14,733	483	258	15,474
Present value of defined benefit obligation	(13,344)	(673)	(307)	(14,324)	(12,079)	(748)	(343)	(13,170)
Net IAS 19 surpluses/(deficits) in the schemes	2,101	(189)	(75)	1,837	2,654	(265)	(85)	2,304
Surpluses included in other assets	2,523	—	—	2,523	2,695	—	—	2,695
Deficits included in provisions	(422)	(189)	(75)	(686)	(41)	(265)	(85)	(391)
Net IAS 19 surpluses/(deficits) in the schemes	2,101	(189)	(75)	1,837	2,654	(265)	(85)	2,304

B15 – Pension obligations continued**Movements in the scheme deficits and surpluses**

Movements in the pension schemes' surpluses and deficits comprise:

2015	Fair Value of Scheme Assets £m	Present Value of defined benefit obligation £m	IAS 19 Pensions net surplus/(deficits) £m
Net IAS 19 surplus in the schemes at 1 January	15,474	(13,170)	2,304
Past service costs – amendments	—	1	1
Administrative expenses ¹	—	(15)	(15)
Total pension cost charged to net operating expenses	—	(14)	(14)
Net interest credited/(charged) to investment income /(finance costs) ²	584	(504)	80
Total recognised in income	584	(518)	66
Remeasurements:			
Actual return on these assets	99	—	99
Less: Interest income on scheme assets	(584)	—	(584)
Return on scheme assets excluding amounts in interest income	(485)	—	(485)
Gains from change in financial assumptions	—	234	234
Gains from change in demographic assumptions	—	3	3
Experience gains	—	13	13
Total recognised in other comprehensive income	(485)	250	(235)
Acquisitions – gross surplus	1,701	(1,633)	68
Acquisitions – consolidation elimination for non-transferable Group insurance policy ³	(631)	—	(631)
Acquisitions – net deficit	1,070	(1,633)	(563)
Employer contributions	240	—	240
Plan participant contributions	3	(3)	—
Benefits paid	(656)	656	—
Administrative expenses paid from scheme assets ¹	(15)	15	—
Foreign exchange rate movements	(54)	79	25
Net IAS 19 surplus in the schemes at 31 December	16,161	(14,324)	1,837

¹ Administrative expenses are expensed as incurred.² Net interest income of £105 million has been credited to investment income and net interest expense of £25 million has been charged to finance costs.³ The gross surplus of £68 million on acquisition relates to the FPPS. As the FPPS assets include an insurance policy of £631 million at acquisition date, issued by a Group company that is not transferable under IAS 19, it is eliminated from the scheme assets.

The net surplus at 31 December 2015 includes the Friends Provident Pension Scheme ('FPPS') following the acquisition of Friends Life. Remeasurements recognised in other comprehensive income reflect reduced asset values driven by a rise in interest rates in the UK partly offset by a decrease in the defined benefit obligation due to an increase in the UK discount rate. These impacts were offset in the net surplus by employer contributions.

B15 – Pension obligations continued

2014	Fair Value of Scheme Assets £m	Present Value of defined benefit obligation £m	IAS 19 Pensions net surplus/ (deficits) £m
Net IAS 19 surplus in the schemes at 1 January	12,398	(12,159)	239
Administrative expenses ¹	—	(27)	(27)
Total pension cost charged to net operating expenses	—	(27)	(27)
Net interest credited/(charged) to investment income /(finance costs) ²	542	(522)	20
Total recognised in income from continuing operations	542	(549)	(7)
Remeasurements:			
Actual return on these assets	3,135	—	3,135
Less: Interest income on scheme assets	(542)	—	(542)
Return on scheme assets excluding amounts in interest income	2,593	—	2,593
Losses from change in financial assumptions	—	(1,063)	(1,063)
Gains from change in demographic assumptions	—	150	150
Experience losses	—	(18)	(18)
Total recognised in other comprehensive income from continuing operations	2,593	(931)	1,662
Employer contributions	391	—	391
Plan participant contributions	—	—	—
Benefits paid	(385)	385	—
Administrative expenses paid from scheme assets ¹	(27)	27	—
Foreign exchange rate movements	(38)	57	19
Net IAS 19 surplus in the schemes at 31 December	15,474	(13,170)	2,304

¹ Administrative expenses are expensed as incurred.

² Net interest income of £33 million has been credited to investment income and net interest expense of £13 million has been charged to finance costs.

B16 – Cash and cash equivalents

Cash and cash equivalents in the statement of cash flows at 31 December comprised:

	2015 £m	2014 £m
Cash and cash equivalents	33,676	23,105
Cash and cash equivalents of operations classified as held for sale	—	9
Bank overdrafts	(506)	(550)
Net cash and cash equivalents at 31 December	33,170	22,564

B17 – Related party transactions

This note gives details of the transactions between Group companies and related parties which comprise our joint ventures, associates and staff pension schemes.

The Group undertakes transactions with related parties in the normal course of business. Loans to related parties are made on normal arm's-length commercial terms.

Services provided to, and by related parties

	2015 £m				2014 £m			
	Income earned in the year £m	Expenses incurred in the year £m	Payable at year end £m	Receivable at year end £m	Income earned in the year £m	Expenses incurred in the year £m	Payable at year end £m	Receivable at year end £m
Associates	9	(7)	—	—	7	(2)	—	—
Joint ventures	27	—	—	192	28	—	—	154
Employee pension schemes	13	—	—	3	11	—	—	3
	49	(7)	—	195	46	(2)	—	157

Transactions with joint ventures in the UK relate to the property management undertakings. Our interest in these joint ventures comprises a mix of equity and loans, together with the provision of administration services and financial management to many of them. Our UK life insurance companies earn interest on loans advanced to these entities.

Our fund management companies also charge fees to these joint ventures for administration services and for arranging external finance.

Our UK fund management companies manage most of the assets held by the Group's main UK staff pension scheme, for which they charge fees based on the level of funds under management. The main UK scheme holds investments in Group-managed funds and insurance policies with other Group companies. As at 31 December 2015, the Friends Provident Pension Scheme ("FPPS"), acquired during the year as part of the acquisition of the Friends Life business, held an insurance policy of £546 million issued by a Group Company, which eliminates on consolidation.

The related parties' receivables are not secured and no guarantees were received in respect thereof. The receivables will be settled in accordance with normal credit terms.

B18 – Risk management

This note sets out the major risks our businesses and its shareholders face and describes the Group's approach to managing these. It also gives sensitivity analyses around the major economic and non-economic assumptions that can cause volatility in the Group's earnings and capital position.

(a) Risk management framework

The risk management framework (RMF) in Aviva forms an integral part of the management and Board processes and decision-making framework across the Group. The key elements of our risk management framework comprise risk appetite; risk governance, including risk policies and business standards, risk oversight committees and roles and responsibilities; and the processes we use to identify, measure, manage, monitor and report (IMMMR) risks, including the use of our risk models and stress and scenario testing.

For the purposes of risk identification and measurement, and aligned to Aviva's risk policies, risks are usually grouped by risk type: credit, market, liquidity, life insurance (including long-term health), general insurance (including short-term health), asset management and operational risk. Risks falling within these types may affect a number of metrics including those relating to balance sheet strength, liquidity and profit. They may also affect the performance of the products we deliver to our customers and the service to our customers and distributors, which can be categorised as risks to our brand and reputation or as conduct risk.

To promote a consistent and rigorous approach to risk management across all businesses we have a set of risk policies and business standards which set out the risk strategy, appetite, framework and minimum requirements for the Group's worldwide operations. On a semi-annual basis the business chief executive officers and chief risk officers sign-off compliance with these policies and standards, providing assurance to the relevant oversight committees that there is a consistent framework for managing our business and the associated risks.

A regular top-down key risk identification and assessment process is carried out by the risk function. This includes the consideration of emerging risks and is supported by deeper thematic reviews. This process is replicated at the business unit level. The risk assessment processes are used to generate risk reports which are shared with the relevant risk committees.

Risk models are an important tool in our measurement of risks and are used to support the monitoring and reporting of the risk profile and in the consideration of the risk management actions available. We carry out a range of stress (where one risk factor, such as equity returns, is assumed to vary) and scenario (where combinations of risk factors are assumed to vary) tests to evaluate their impact on the business and the management actions available to respond to the conditions envisaged.

Roles and responsibilities for risk management in Aviva are based around the 'three lines of defence model' where ownership for risk is taken at all levels in the Group. Line management in the business is accountable for risk management, including the implementation of the risk management framework and embedding of the risk culture. The risk function is accountable for quantitative and qualitative oversight and challenge of the IMMMR process and for developing the risk management framework. Internal Audit provides an independent assessment of the risk framework and internal control processes.

Board oversight of risk and risk management across the Group is maintained on a regular basis through its Risk Committee and Governance Committee. The Board has overall responsibility for determining risk appetite, which is an expression of the risk the business is willing to take. Risk appetites are set relative to capital and liquidity at Group and in the business units.

B18 – Risk management continued

Economic capital risk appetites are also set for each risk type, calculated on the basis of the Solvency II balance sheet. The Group's position against risk appetite is monitored and reported to the Board on a regular basis. Long-term sustainability depends upon the protection of franchise value and good customer relationships. As such, Aviva has a risk preference that we will not accept risks that materially impair the reputation of the Group and requires that customers are always treated with integrity. The oversight of risk and risk management at the Group level is supported by the Asset Liability Committee (ALCO), which focuses on business and financial risks, and the Operational Risk Committee (ORC) which focuses on operational and reputational risks. Similar committee structures with equivalent terms of reference exist in the business units.

Further information on the types and management of specific risk types is given in sections (b) to (j) below.

The risk management framework of a small number of our joint ventures and strategic equity holdings differs from the Aviva framework outlined in this note. We work with these entities to understand how their risks are managed and to align them, where possible, with Aviva's framework. Aviva completed the acquisition of Friends Life in April 2015. The Friends Life risk management framework was very similar to that of Aviva, but a formal gap analysis was carried out and the former Friends Life businesses formally adopted the Aviva risk policies and business standards at the end of 2015.

(b) Credit risk

Credit risk is the risk of financial loss as a result of the default or failure of third parties to meet their payment obligations to Aviva, or variations in market values as a result of changes in expectations related to these risks. Credit risk is an area where we can provide the returns required to satisfy policyholder liabilities and to generate returns for our shareholders. In general we prefer to take credit risk over equity and property risks, due to the better expected risk adjusted return, our credit risk analysis capability and the structural investment advantages conferred to insurers with long-dated, relatively illiquid liabilities.

Our approach to managing credit risk recognises that there is a risk of adverse financial impact resulting from fluctuations in credit quality of third parties including default, rating transition and credit spread movements. Our credit risks arise principally through exposures to debt security investments, structured asset investments, bank deposits, derivative counterparties, mortgage lending and reinsurance counterparties.

The Group manages its credit risk at business unit and Group level. All business units are required to implement credit risk management processes (including limits frameworks), operate specific risk management committees, and ensure detailed reporting and monitoring of their exposures against pre-established risk criteria. At Group level, we manage and monitor all exposures across our business units on a consolidated basis, and operate a Group limit framework that must be adhered to by all.

A detailed breakdown of the Group's current credit exposure by credit quality is shown below.

(i) Financial exposures by credit ratings

Financial assets are graded according to current external credit ratings issued. AAA is the highest possible rating. Investment grade financial assets are classified within the range of AAA to BBB ratings. Financial assets which fall outside this range are classified as sub-investment grade. The following table provides information regarding the aggregated credit risk exposure of the Group for financial assets with external credit ratings. 'Not rated' assets capture assets not rated by external ratings agencies.

As at 31 December 2015	AAA	AA	A	BBB	Below BBB	Not rated	Carrying value £m
Debt securities	12.4%	37.4%	19.8%	21.2%	4.0%	5.2%	162,964
Reinsurance assets	0.1%	88.2%	8.0%	0.0%	0.0%	3.7%	20,918
Other investments	0.0%	0.1%	0.8%	0.0%	0.0%	99.1%	47,695
Loans	0.0%	8.2%	1.3%	0.1%	0.0%	90.4%	22,433
Total							254,010

As at 31 December 2014	AAA	AA	A	BBB	Below BBB	Not rated	Carrying value £m
Debt securities	13.6%	35.6%	21.3%	21.9%	2.1%	5.5%	131,661
Reinsurance assets	0.3%	71.3%	21.9%	0.1%	0.0%	6.4%	7,958
Other investments	0.0%	0.1%	1.3%	0.0%	0.2%	98.4%	35,358
Loans	1.3%	9.0%	2.1%	0.2%	0.0%	87.4%	25,260
Total							200,237

B18 – Risk management continued**(ii) Financial exposures to peripheral European countries and worldwide banks**

Included in our debt securities and other financial assets are exposures to peripheral European countries and worldwide banks. We continued in 2015 to limit our direct shareholder and participating assets exposure to the governments (including local authorities and agencies) and banks of Greece, Portugal, Italy and Spain. Information on our exposures to peripheral European sovereigns and banks is provided in notes D3.3.5. We continue to monitor closely the situation in the eurozone and have had additional restrictions on further investment in place since late 2009 as well as taking actions to reduce exposure to higher risk assets.

(iii) Other investments

Other investments include unit trusts and other investment vehicles; derivative financial instruments, representing positions to mitigate the impact of adverse market movements; and other assets includes deposits with credit institutions and minority holdings in property management undertakings.

The credit quality of the underlying debt securities within investment vehicles is managed by the safeguards built into the investment mandates for these funds which determine the funds' risk profiles. At the Group level, we also monitor the asset quality of unit trusts and other investment vehicles against Group set limits.

A proportion of the assets underlying these investments are represented by equities and so credit ratings are not generally applicable. Equity exposures are managed against agreed benchmarks that are set with reference to overall appetite for market risk.

(iv) Loans

The Group loan portfolio principally comprises:

- Policy loans which are generally collateralised by a lien or charge over the underlying policy;
- Loans and advances to banks which primarily relate to loans of cash collateral received in stock lending transactions. These loans are fully collateralised by other securities; and
- Mortgage loans collateralised by property assets.

We use loan to value; interest and debt service cover; and diversity and quality of the tenant base metrics to internally monitor our exposures to mortgage loans. We use credit quality, based on dynamic market measures, and collateralisation rules to manage our stock lending activities. Policy loans are loans and advances made to policyholders, and are collateralised by the underlying policies.

(v) Credit concentration risk

The long-term and general insurance businesses are generally not individually exposed to significant concentrations of credit risk due to the regulations applicable in most markets and the Group credit policy and limits framework, which limit investments in individual assets and asset classes. Credit concentrations are monitored as part of the regular credit monitoring process and are reported to Group ALCO. With the exception of government bonds the largest aggregated counterparty exposure within shareholder assets (i.e. excluding potential exposures arising from reinsurance of unit linked funds) is to the Swiss Reinsurance Company Limited (including subsidiaries), representing approximately 2.2% of the total shareholder assets.

(vi) Reinsurance credit exposures

The Group is exposed to concentrations of risk with individual reinsurers due to the nature of the reinsurance market and the restricted range of reinsurers that have acceptable credit ratings. The Group operates a policy to manage its reinsurance counterparty exposures, by limiting the reinsurers that may be used and applying strict limits to each reinsurer. Reinsurance exposures are aggregated with other exposures to ensure that the overall risk is within appetite. The Group Capital and ALM and Group Risk teams have an active monitoring role with escalation to the Chief Financial Officer (CFO), Chief Risk Officer (CRO), Group ALCO and the Board Risk Committee as appropriate.

The Group's largest reinsurance counterparty is BlackRock Life Ltd (including subsidiaries) as a result of the BlackRock funds offered to UK Life customers via unit linked contracts. At 31 December 2015, the reinsurance asset recoverable, including debtor balances, from BlackRock Life Ltd was £12,660 million (*FY14: £2,048 million*), which has increased significantly during the year as a result of the acquisition of Friends Life. Whilst the risk of default is considered remote due to the nature of the arrangement and the counterparty, the Group is currently considering alternative ways to structure the agreements with BlackRock Life Ltd to reduce or remove this exposure.

(vii) Securities finance

The Group has significant securities financing operations within the UK and smaller operations in some other businesses. The risks within this activity are mitigated by over-collateralisation and minimum counterparty credit quality requirements.

(viii) Derivative credit exposures

The Group is exposed to counterparty credit risk through derivative trades. This risk is mitigated through collateralising almost all trades (the exception being certain foreign exchange trades where it has historically been the market norm not to collateralise). Residual exposures are captured within the Group's credit management framework.

(ix) Unit-linked business

In unit-linked business the policyholder bears the direct market risk and credit risk on investment assets in the unit funds and the shareholders' exposure to credit risk is limited to the extent of the income arising from asset management charges based on the value of assets in the fund.

B18 – Risk management continued

(x) Impairment of financial assets

The following table provides information regarding the carrying value of financial assets subject to impairment testing that have been impaired and the ageing of those assets that are past due but not impaired. The table excludes assets carried at fair value through profit.

	Neither past due nor impaired £m	Financial assets that are past due but not impaired				Financial assets that have been impaired £m	Carrying value £m
		0–3 months £m	3–6 months £m	6 months–1 year £m	Greater than 1 year £m		
At 31 December 2015							
Debt securities	918	—	—	—	—	—	918
Reinsurance assets	6,951	—	—	—	—	—	6,951
Other investments	—	—	—	—	—	—	—
Loans	3,353	—	—	—	—	1	3,354
Receivables and other financial assets	6,775	84	5	7	3	1	6,875

	Neither past due nor impaired £m	Financial assets that are past due but not impaired				Financial assets that have been impaired £m	Carrying value £m
		0–3 months £m	3–6 months £m	6 months–1 year £m	Greater than 1 year £m		
At 31 December 2014							
Debt securities	1,021	—	—	—	—	—	1,021
Reinsurance assets	5,425	—	—	—	—	—	5,425
Other investments	1	—	—	—	—	4	5
Loans	4,286	2	2	—	—	75	4,365
Receivables and other financial assets	5,849	60	9	7	8	—	5,933

Where assets have been classed as ‘past due and impaired’, an analysis is made of the risk of default and a decision is made whether to seek to mitigate the risk. There were no material financial assets that would have been past due or impaired had the terms not been renegotiated.

(c) Market risk

Market risk is the risk of adverse financial impact resulting, directly or indirectly from fluctuations in interest rates, foreign currency exchange rates, equity and property prices. Market risk arises in business units due to fluctuations in both the value of liabilities and the value of investments held. At Group level, it also arises in relation to the overall portfolio of international businesses and in the value of investment assets owned directly by the shareholders. We actively seek some market risks as part of our investment and product strategy. However, we have limited appetite for interest rate risk as we do not believe it is adequately rewarded.

The management of market risk is undertaken at business unit and at Group level. Businesses manage market risks locally using the Group market risk framework and within local regulatory constraints. Group Capital and ALM is responsible for monitoring and managing market risk at Group level and has established criteria for matching assets and liabilities to limit the impact of mismatches due to market movements.

In addition, where the Group’s long-term savings businesses have written insurance and investment products where the majority of investment risks are borne by its policyholders, these risks are managed in line with local regulations and marketing literature, in order to satisfy the policyholders’ risk and reward objectives. The Group writes unit-linked business in a number of its operations. The shareholders’ exposure to market risk on this business is limited to the extent that income arising from asset management charges is based on the value of assets in the fund.

The most material types of market risk that the Group is exposed to are described below.

(i) Equity price risk

The Group is subject to equity price risk arising from changes in the market values of its equity securities portfolio.

We continue to limit our direct equity exposure in line with our risk preferences, albeit the acquisition of Friends Life has resulted in an increase in our equity price risk exposure relative to other risk types. At a business unit level, investment limits and local investment regulations require that business units hold diversified portfolios of assets thereby reducing exposure to individual equities. The Group does not have material holdings of unquoted equity securities.

Equity risk is also managed using a variety of derivative instruments, including futures and options. Businesses actively model the performance of equities through the use of risk models, in particular to understand the impact of equity performance on guarantees, options and bonus rates. At 31 December 2015 the Group continues to hold a series of macro equity hedges to reduce the overall shareholder equity risk exposure, and has increased these hedges during 2015.

Sensitivity to changes in equity prices is given in section ‘(j) risk and capital management’ below.

B18 – Risk management continued**(ii) Property price risk**

The Group is subject to property price risk directly due to holdings of investment properties in a variety of locations worldwide and indirectly through investments in mortgages and mortgage backed securities. Investment in property is managed at business unit level, and is subject to local regulations on investments, liquidity requirements and the expectations of policyholders.

As at 31 December 2015, no material derivative contracts had been entered into to mitigate the effects of changes in property prices.

Sensitivity to changes in property prices is given in section '(j) risk and capital management' below.

(iii) Interest rate risk

Interest rate risk arises primarily from the Group's investments in long-term debt and fixed income securities and their movement relative to the value placed on the insurance liabilities. A number of policyholder product features have an influence on the Group's interest rate risk. The major features include guaranteed surrender values, guaranteed annuity options, and minimum surrender and maturity values.

Exposure to interest rate risk is monitored through several measures that include duration, economic capital modelling, sensitivity testing and stress and scenario testing. The impact of exposure to sustained low interest rates is considered within our scenario testing.

The Group typically manages interest rate risk by investing in fixed interest securities which closely match the interest rate sensitivity of the liabilities where such investments are available. Interest rate risk is also managed in some business units using a variety of derivative instruments, including futures, options, swaps, caps and floors.

Sensitivity to changes in interest rates is given in section '(j) risk and capital management' below.

(iv) Inflation risk

Inflation risk arises primarily from the Group's exposure to general insurance claims inflation, to inflation linked benefits within the defined benefit staff pension schemes and within the UK annuity portfolio and to expense inflation. Increases in long-term inflation expectations are closely linked to long-term interest rates and so are frequently considered with interest rate risk. Exposure to inflation risk is monitored through economic capital modelling, sensitivity testing and stress and scenario testing. The Group typically manages inflation risk through its investment strategy and, in particular, by investing in inflation linked securities and through a variety of derivative instruments, including inflation linked swaps.

(v) Currency risk

The Group has minimal exposure to currency risk from financial instruments held by business units in currencies other than their functional currencies, as nearly all such holdings are backing either unit-linked or with-profits contract liabilities or hedging.

The Group operates internationally and as a result is exposed to foreign currency exchange risk arising from fluctuations in exchange rates of various currencies. Approximately 58% of the Group's premium income arises in currencies other than sterling and the Group's net assets are denominated in a variety of currencies, of which the largest are euro, sterling and Canadian dollars. The Group does not hedge foreign currency revenues as these are substantially retained locally to support the growth of the Group's business and meet local regulatory and market requirements.

Businesses aim to maintain sufficient assets in local currency to meet local currency liabilities, however movements may impact the value of the Group's consolidated shareholders' equity which is expressed in sterling. This aspect of foreign exchange risk is monitored and managed centrally, against pre-determined limits. These exposures are managed by aligning the deployment of regulatory capital by currency with the Group's regulatory capital requirements by currency. Currency borrowings and derivatives are used to manage exposures within the limits that have been set.

At 31 December 2015 and 2014, the Group's total equity deployment by currency including assets 'held for sale' was:

	Sterling £m	Euro £m	CAD\$ £m	Other £m	Total £m
Capital 31 December 2015	14,333	2,011	979	909	18,232
Capital 31 December 2014	8,050	2,392	1,016	818	12,276

A 10% change in sterling to euro/Canada\$ (CAD\$) period-end foreign exchange rates would have had the following impact on total equity.

	10% increase in sterling/ euro rate £m	10% decrease in sterling/ euro rate £m	10% increase in sterling/ CAD\$ rate £m	10% decrease in sterling/ CAD\$ rate £m
Net assets at 31 December 2015	(166)	128	(33)	67
Net assets at 31 December 2014	(78)	210	(96)	91

A 10% change in sterling to euro/Canada\$ (CAD\$) average foreign exchange rates applied to translate foreign currency profits would have had the following impact on profit before tax, including resulting gains and losses on foreign exchange hedges and excluding 'discontinued operations'.

	10% increase in sterling/ euro rate £m	10% decrease in sterling/ euro rate £m	10% increase in sterling/ CAD\$ rate £m	10% decrease in sterling/ CAD\$ rate £m
Impact on profit before tax 31 December 2015	8	23	25	(46)
Impact on profit before tax 31 December 2014	(44)	(25)	(15)	20

B18 – Risk management continued

The balance sheet changes arise from retranslation of business unit statements of financial position from their functional currencies into sterling, with above movements being taken through the currency translation reserve. These balance sheet movements in exchange rates therefore have no impact on profit. Net asset and profit before tax figures are stated after taking account of the effect of currency hedging activities.

(vi) Derivatives risk

Derivatives are used by a number of the businesses. Activity is overseen by the Group Capital and ALM and Group Risk teams, which monitor exposure levels and approve large or complex transactions. Derivatives are primarily used for efficient investment management, risk hedging purposes, or to structure specific retail savings products.

The Group applies strict requirements to the administration and valuation processes it uses, and has a control framework that is consistent with market and industry practice for the activity that is undertaken.

(vii) Correlation risk

The Group recognises that lapse behaviour and potential increases in consumer expectations are sensitive to and interdependent with market movements and interest rates. These interdependencies are taken into consideration in the internal economic capital model and in scenario analysis.

(d) Liquidity risk

Liquidity risk is the risk of not being able to make payments as they become due because there are insufficient assets in cash form. The relatively illiquid nature of insurance liabilities is a potential source of additional investment return by allowing us to invest in higher yielding, but less liquid assets such as commercial mortgages. The Group seeks to ensure that it maintains sufficient financial resources to meet its obligations as they fall due through the application of a Group liquidity risk policy and business standard and through the development of its liquidity risk management plan. At Group and business unit level, there is a liquidity risk appetite which requires that sufficient liquid resources be maintained to cover net outflows in a stress scenario. In addition to the existing liquid resources and expected inflows, the Group maintains significant undrawn committed borrowing facilities (£1,650 million) from a range of leading international banks to further mitigate this risk.

Maturity analyses

The following tables show the maturities of our insurance and investment contract liabilities, and of the financial and reinsurance assets held to meet them.

(i) Analysis of maturity of insurance and investment contract liabilities

For non-linked insurance business, the following table shows the gross liability at 31 December 2015 and 2014 analysed by remaining duration. The total liability is split by remaining duration in proportion to the cash-flows expected to arise during that period, as permitted under IFRS 4, *Insurance Contracts*.

Almost all linked business and non-linked investment contracts may be surrendered or transferred on demand. For such contracts, the earliest contractual maturity date is therefore the current statement of financial position date, for a surrender amount approximately equal to the current statement of financial position liability. However, we expect surrenders, transfers and maturities to occur over many years, and therefore the tables below reflect the expected cash flows for these contracts, rather than their contractual maturity date.

This table includes assets held for sale.

	Total £m	On demand or within 1 year £m	1-5 years £m	5-15 years £m	Over 15 years £m
At 31 December 2015					
Long-term business					
Insurance contracts – non-linked	114,533	9,847	30,715	43,513	30,458
Investment contracts – non-linked	63,505	4,506	13,666	25,477	19,856
Linked business	130,185	15,221	41,442	51,368	22,154
General insurance and health	13,506	5,844	5,160	1,992	510
Total contract liabilities	321,729	35,418	90,983	122,350	72,978

	Total £m	On demand or within 1 year £m	1-5 years £m	5-15 years £m	Over 15 years £m
At 31 December 2014					
Long-term business					
Insurance contracts – non-linked	85,723	7,980	25,318	32,534	19,891
Investment contracts – non-linked	55,634	3,311	10,852	23,919	17,552
Linked business	75,341	8,141	21,444	27,673	18,083
General insurance and health	13,993	6,014	5,400	2,115	464
Total contract liabilities	230,691	25,446	63,014	86,241	55,990

B18 – Risk management continued**(ii) Analysis of maturity of financial assets**

The following table provides an analysis, by maturity date of the principal, of the carrying value of financial assets which are available to fund the repayment of liabilities as they crystallise. This table excludes assets held for sale.

	Total £m	On demand or within 1 year £m	1-5 years £m	Over 5 years £m	No fixed term (perpetual) £m
At 31 December 2015					
Debt securities	162,964	21,912	46,551	93,753	748
Equity securities	63,558	—	—	—	63,558
Other investments	47,695	42,733	940	2,464	1,558
Loans	22,433	1,485	2,404	18,540	4
Cash and cash equivalents	33,676	33,676	—	—	—
	330,326	99,806	49,895	114,757	65,868
At 31 December 2014					
Debt securities	131,661	19,097	37,404	75,006	154
Equity securities	35,619	—	—	—	35,619
Other investments	35,358	29,011	940	3,553	1,854
Loans	25,260	1,489	2,517	21,249	5
Cash and cash equivalents	23,105	23,105	—	—	—
	251,003	72,702	40,861	99,808	37,632

The assets above are analysed in accordance with the earliest possible redemption date of the instrument at the initiation of the Group. Where an instrument is transferable back to the issuer on demand, such as most unit trusts or similar types of investment vehicle, it is included in the 'On demand or within 1 year' column. Debt securities with no fixed contractual maturity date are generally callable at the option of the issuer at the date the coupon rate is reset under the contractual terms of the instrument. The terms for resetting the coupon are such that we expect the securities to be redeemed at this date, as it would be uneconomic for the issuer not to do so, and for liquidity management purposes we manage these securities on this basis. The first repricing and call date is normally ten years or more after the date of issuance. Most of the Group's investments in equity securities and fixed maturity securities are market traded and therefore, if required, can be liquidated for cash at short notice.

(e) Life and health insurance risk

Life insurance risk in the Group arises through its exposure to mortality risk and exposure to worse than anticipated operating experience on factors such as persistency levels, exercising of policy holder options and management and administration expenses. The Group's health insurance business (including private health insurance, critical illness cover, income protection and personal accident insurance, as well as a range of corporate healthcare products) exposes the Group to morbidity risk (the proportion of our customers falling sick) and medical expense inflation. The Group chooses to take measured amounts of life and health insurance risk provided that the relevant business has the appropriate core skills to assess and price the risk and adequate returns are available.

The acquisition of Friends Life has resulted in an increase in the Group's relative exposure to UK Life insurance risks, in particular persistency risk. Adjusting for the impact of the Friends Life acquisition, the underlying risk profile of our life and health insurance risks, primarily persistency, longevity, mortality and expense risk, has remained stable during 2015, although the current continued relatively low levels of interest rates have increased our sensitivity to longevity shocks compared to historical norms. Our economic exposure to longevity risk was reduced as a result of the RAC Staff Pension Scheme entering into a longevity swap covering £0.6 billion of pensioner in payment scheme liabilities during 2015, while any significant reduction in individual annuity new business volumes as a result of the UK Government's pension reforms, including changes to compulsory annuitisation, will reduce our longevity risks exposure over the longer-term to the extent not offset by increased bulk purchase annuity volumes. Despite this, longevity risk remains the Group's most significant life insurance risk due to the Group's existing annuity portfolio.

Persistency risk remains significant and continues to have a volatile outlook with underlying performance linked to some degree to economic conditions. However, businesses across the Group have continued to make progress with a range of customer retention activities. The Group has continued to write considerable volumes of life protection business, and to utilise reinsurance to reduce exposure to potential losses. More generally, life insurance risks are believed to provide a significant diversification against other risks in the portfolio. Life insurance risks are modelled within the internal economic capital model and subject to sensitivity and stress and scenario testing. The assumption and management of life and health insurance risks is governed by the group-wide business standards covering underwriting, pricing, product design and management, in-force management, claims handling, and reinsurance. The individual life and health insurance risks are managed as follows:

- Mortality and morbidity risks are mitigated by use of reinsurance. The Group allows businesses to select reinsurers, from those approved by the Group, based on local factors, but retains oversight of the overall exposures and monitor that the aggregation of risk ceded is within credit risk appetite.
- Longevity risk and internal experience analysis are monitored against the latest external industry data and emerging trends. Whilst individual businesses are responsible for reserving and pricing for annuity business, the Group monitors the exposure to this risk and any associated capital implications. The Group has used reinsurance solutions to reduce the risks from longevity and continually monitors and evaluates emerging market solutions to mitigate this risk further.

B18 – Risk management continued

- Persistency risk is managed at a business unit level through frequent monitoring of company experience, and benchmarked against local market information. Generally, persistency risk arises from customers lapsing their policies earlier than has been assumed. Where possible the financial impact of lapses is reduced through appropriate product design. Businesses also implement specific initiatives to improve the retention of policies which may otherwise lapse. The Group has developed guidelines on persistency management.
- Expense risk is primarily managed by the business units through the assessment of business unit profitability and frequent monitoring of expense levels.

Embedded derivatives

The Group has exposure to a variety of embedded derivatives in its long-term savings business due to product features offering varying degrees of guaranteed benefits at maturity or on early surrender, along with options to convert their benefits into different products on pre-agreed terms. The extent of the impact of these embedded derivatives differs considerably between business units and exposes Aviva to changes in policyholder behaviour in the exercise of options as well as market risk.

Examples of each type of embedded derivative affecting the Group are:

- Options: call, put, surrender and maturity options, guaranteed annuity options, options to cease premium payment, options for withdrawals free of market value adjustment, annuity options, and guaranteed insurability options.
- Guarantees: embedded floor (guaranteed return), maturity guarantee, guaranteed death benefit, and guaranteed minimum rate of annuity payment.
- Other: indexed interest or principal payments, maturity value, loyalty bonus.

The impact of these is reflected in the economic capital model and MCEV reporting and managed as part of the asset liability framework.

(f) General insurance risk

Types of risk

General insurance risk in the Group arises from:

- Fluctuations in the timing, frequency and severity of claims and claim settlements relative to expectations;
- Unexpected claims arising from a single source or cause;
- Inaccurate pricing of risks or inappropriate underwriting of risks when underwritten; and
- Inadequate reinsurance protection or other risk transfer techniques.

Aviva has a preference for general insurance risk in measured amounts for explicit reward, in line with our core skills in underwriting and pricing. The majority of the general insurance business underwritten by the Group continues to be short tail in nature such as motor, household and commercial property insurances. The Group's underwriting strategy and appetite is communicated via specific policy statements, related business standards and guidelines. General insurance risk is managed primarily at business unit level with oversight at the Group level. Claims reserving is undertaken by local actuaries in the various general insurance businesses and is also subject to periodic external reviews. Reserving processes are further detailed in note B9 'insurance liabilities'.

The vast majority of the Group's general insurance business is managed and priced in the same country as the domicile of the customer.

Management of general insurance risks

Significant insurance risks will be reported under the risk management framework. Additionally, the economic capital model is used to assess the risks that each general insurance business unit, and the Group as a whole, is exposed to, quantifying their impact and calculating appropriate capital requirements.

Business units have developed mechanisms that identify, quantify and manage accumulated exposures to contain them within the limits of the appetite of the Group. The business units are assisted by the General Insurance Council which provides technical input for major decisions which fall outside individual delegated limits or escalations outside group risk preferences, group risk accumulation, concentration and profitability limits.

Reinsurance strategy

Significant reinsurance purchases are reviewed annually at both business unit and Group level to verify that the levels of protection being bought reflect any developments in exposure and the risk appetite of the Group. The basis of these purchases is underpinned by analysis of economic capital, earnings and capital volatility, cash flow and liquidity and the Group's franchise value. Detailed actuarial analysis is used to calculate the Group's extreme risk profile and then design cost and capital efficient reinsurance programmes to mitigate these risks to within agreed appetites. For businesses writing general insurance we analyse the natural catastrophe exposure using our own internal probabilistic catastrophe model which is benchmarked against external catastrophe models widely used by the rest of the (re)insurance industry.

B18 – Risk management continued

The Group cedes much of its worldwide catastrophe risk to third-party reinsurers through excess of loss and aggregate excess of loss structures. The Group purchases a group-wide catastrophe reinsurance programme to protect against catastrophe losses exceeding a 1 in 200 year return period. The total Group potential retained loss from its most concentrated catastrophe exposure peril (Northern Europe windstorm) is approximately £150 million on a per occurrence basis and £175 million on an annual aggregate basis. Any losses above these levels are covered by the group-wide catastrophe reinsurance programme to a level in excess of a 1 in 200 year return period. In addition the Group purchases a number of GI business line specific reinsurance programmes with various retention levels to protect both capital and earnings. In September 2015 the Group reinsured £0.7 billion of latent exposures to its historic UK employers' liability business with Swiss Reinsurance Company Limited, with conditional agreement to extend coverage to £0.8 billion.

(g) Asset management risk

Aviva is directly exposed to the risks associated with operating an asset management business through its ownership of Aviva Investors. The underlying risk profile of our asset management risk is derived from investment performance, specialist investment professionals and leadership, product development capabilities, fund liquidity, margin, client retention, regulatory developments, fiduciary and contractual responsibilities. The risk profile is regularly monitored. Investment performance has remained strong over 2015 despite some positions being impacted by the volatility of global markets.

A client relationship team is in place to manage client retention risk, while all new asset management products undergo a review and approval process at each stage of the product development process, including approvals from legal, compliance and risk functions. Investment performance against client objectives relative to agreed benchmarks is monitored as part of our investment performance and risk management process, and subject to further independent oversight and challenge by a specialist risk team, reporting directly to the Aviva Investors' Chief Risk Officer.

(h) Operational risk

Operational risk is the risk of direct or indirect loss, arising from inadequate or failed internal processes, people and systems, or external events including changes in the regulatory environment. We have limited appetite for operational risk and aim to reduce these risks as far as is commercially sensible.

Our business units are primarily responsible for identifying and managing operational risks within their businesses, within the group-wide operational risk framework including the risk and control self-assessment process. Businesses must be satisfied that all material risks falling outside our risk tolerances are being mitigated, monitored and reported to an appropriate level. Any risks with a high potential impact are monitored centrally on a regular basis. Businesses use key indicator data to help monitor the status of the risk and control environment. They also identify and capture loss events, taking appropriate action to address actual control breakdowns and promote internal learning.

(i) Brand and reputation risk

We are exposed to the risk that litigation, employee misconduct, operational failures, the outcome of regulatory investigations, media speculation and negative publicity, disclosure of confidential client information, inadequate services, whether or not founded, could impact our brands or reputation. Any of our brands or our reputation could also be affected if products or services recommended by us (or any of our intermediaries) do not perform as expected (whether or not the expectations are founded) or customers' expectations for the product change. We seek to reduce this risk to as low a level as commercially sensible.

The FCA regularly considers whether we are meeting the requirement to treat our customers fairly and we make use of various metrics to assess our own performance, including customer advocacy, retention and complaints. Failure to meet these requirements could also impact our brands or reputation.

If we do not manage the perception of our brands and reputation successfully, it could cause existing customers or agents to withdraw from our business and potential customers or agents to choose not to do business with us.

(j) Risk and capital management

(i) Sensitivity test analysis

The Group uses a number of sensitivity tests to understand the volatility of earnings, the volatility of its capital requirements, and to manage its capital more efficiently. Sensitivities to economic and operating experience are regularly produced on the Group's key financial performance metrics to inform the Group's decision making and planning processes, and as part of the framework for identifying and quantifying the risks to which each of its business units, and the Group as a whole, are exposed.

For long-term business in particular, sensitivities of market consistent performance indicators to changes in both economic and non-economic experience are continually used to manage the business and to inform the decision making process.

(ii) Life insurance and investment contracts

The nature of long-term business is such that a number of assumptions are made in compiling these financial statements. Assumptions are made about investment returns, expenses, mortality rates and persistency in connection with the in-force policies for each business unit. Assumptions are best estimates based on historic and expected experience of the business. A number of the key assumptions for the Group's central scenario are disclosed elsewhere in these statements for both IFRS reporting and reporting under MCEV methodology.

(iii) General insurance and health business

General insurance and health claim liabilities are estimated by using standard actuarial claims projection techniques. These methods extrapolate the claims development for each accident year based on the observed development of earlier years. In most cases, no explicit assumptions are made as projections are based on assumptions implicit in the historic claims.

B18 – Risk management continued

(iv) Sensitivity test results

Illustrative results of sensitivity testing for long-term business, general insurance and health business and the fund management and non-insurance business are set out below. For each sensitivity test the impact of a reasonably possible change in a single factor is shown, with other assumptions left unchanged.

Sensitivity factor	Description of sensitivity factor applied
Interest rate and investment return	The impact of a change in market interest rates by a 1% increase or decrease. The test allows consistently for similar changes to investment returns and movements in the market value of backing fixed interest securities.
Credit spreads	The impact of a 0.5% increase in credit spreads over risk-free interest rates on corporate bonds and other non-sovereign credit assets. The test allows for any consequential impact on liability valuations.
Equity/property market values	The impact of a change in equity/property market values by $\pm 10\%$.
Expenses	The impact of an increase in maintenance expenses by 10%.
Assurance mortality/morbidity (life insurance only)	The impact of an increase in mortality/morbidity rates for assurance contracts by 5%.
Annuitant mortality (long-term insurance only)	The impact of a reduction in mortality rates for annuity contracts by 5%.
Gross loss ratios (non-long-term insurance only)	The impact of an increase in gross loss ratios for general insurance and health business by 5%.

Long-term business

Sensitivities as at 31 December 2015

	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/property +10%	Equity/property -10%	Expenses +10%	Assurance mortality +5%	Annuitant mortality -5%
2015 Impact on profit before tax (£m)								
Insurance participating	30	(65)	(30)	(135)	130	(25)	(10)	(50)
Insurance non-participating	(75)	80	(495)	25	(25)	(155)	(115)	(725)
Investment participating	5	(5)	—	—	—	(5)	—	—
Investment non-participating	(20)	20	(5)	35	(35)	(20)	—	—
Assets backing life shareholders' funds	(140)	85	(65)	40	(40)	—	—	—
Total	(200)	115	(595)	(35)	30	(205)	(125)	(775)

	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/property +10%	Equity/property -10%	Expenses +10%	Assurance mortality +5%	Annuitant mortality -5%
2015 Impact on shareholders' equity before tax (£m)								
Insurance participating	30	(65)	(30)	(135)	130	(25)	(10)	(50)
Insurance non-participating	(75)	80	(495)	25	(25)	(155)	(115)	(725)
Investment participating	5	(5)	—	—	—	(5)	—	—
Investment non-participating	(20)	20	(5)	35	(35)	(20)	—	—
Assets backing life shareholders' funds	(175)	120	(70)	40	(40)	—	—	—
Total	(235)	150	(600)	(35)	30	(205)	(125)	(775)

Sensitivities as at 31 December 2014

	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/property +10%	Equity/property -10%	Expenses +10%	Assurance mortality +5%	Annuitant mortality -5%
2014 Impact on profit before tax (£m)								
Insurance participating	(10)	(60)	(20)	(175)	70	(25)	(5)	(45)
Insurance non-participating	(155)	130	(425)	40	(40)	(80)	(50)	(590)
Investment participating	(15)	—	(10)	—	—	(5)	—	—
Investment non-participating	(40)	30	(10)	55	(60)	(35)	—	—
Assets backing life shareholders' funds	(75)	45	(60)	20	(20)	—	—	—
Total	(295)	145	(525)	(60)	(50)	(145)	(55)	(635)

	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/property +10%	Equity/property -10%	Expenses +10%	Assurance mortality +5%	Annuitant mortality -5%
2014 Impact on shareholders' equity before tax (£m)								
Insurance participating	(10)	(60)	(20)	(175)	70	(25)	(5)	(45)
Insurance non-participating	(155)	130	(425)	40	(40)	(80)	(50)	(590)
Investment participating	(15)	—	(10)	—	—	(5)	—	—
Investment non-participating	(40)	30	(10)	55	(60)	(35)	—	—
Assets backing life shareholders' funds	(115)	80	(65)	20	(20)	—	—	—
Total	(335)	180	(530)	(60)	(50)	(145)	(55)	(635)

Changes in sensitivities between 2015 and 2014 reflect inclusion of Friends Life at FY15 for the first time and movements in market interest rates, portfolio growth, changes to asset mix and the relative durations of assets and liabilities and asset liability management actions. The sensitivities to economic movements relate mainly to business in the UK. In general, a fall in market interest rates has a beneficial impact on non-participating business, due to the increase in market value of fixed interest securities and relative durations of assets and liabilities; similarly a rise in interest rates has a negative impact. Mortality and expense sensitivities also relate primarily to the UK.

B18 – Risk management continued**General insurance and health business sensitivities as at 31 December 2015**

	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%	Expenses +10%	Gross loss ratios +5%
2015 Impact on profit before tax (£m)							
Gross of reinsurance	(225)	210	(130)	65	(65)	(100)	(270)
Net of reinsurance	(305)	300	(130)	65	(65)	(100)	(260)
2015 Impact on shareholders' equity before tax (£m)							
Gross of reinsurance	(225)	210	(130)	70	(70)	(20)	(270)
Net of reinsurance	(305)	300	(130)	70	(70)	(20)	(260)

Sensitivities as at 31 December 2014

	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%	Expenses +10%	Gross loss ratios +5%
2014 Impact on profit before tax (£m)							
Gross of reinsurance	(260)	250	(130)	55	(55)	(105)	(280)
Net of reinsurance	(305)	295	(130)	55	(55)	(105)	(270)
2014 Impact on shareholders' equity before tax (£m)							
Gross of reinsurance	(260)	250	(130)	60	(60)	(20)	(280)
Net of reinsurance	(305)	295	(130)	60	(60)	(20)	(270)

For general insurance and health, the impact of the expense sensitivity on profit also includes the increase in ongoing administration expenses, in addition to the increase in the claims handling expense provision.

Fund management and non-insurance business sensitivities as at 31 December 2015

	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%
2015 Impact on profit before tax (£m)					
Total	—	—	10	(30)	45
2015 Impact on shareholders' equity before tax (£m)					
Total	—	—	10	(30)	45

Sensitivities as at 31 December 2014

	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%
2014 Impact on profit before tax (£m)					
Total	—	—	5	(15)	25
2014 Impact on shareholders' equity before tax (£m)					
Total	—	—	5	(15)	25

Limitations of sensitivity analysis

The above tables demonstrate the effect of a change in a key assumption while other assumptions remain unchanged. In reality, there is a correlation between the assumptions and other factors. It should also be noted that these sensitivities are non-linear, and larger or smaller impacts should not be interpolated or extrapolated from these results.

The sensitivity analyses do not take into consideration that the Group's assets and liabilities are actively managed. Additionally, the financial position of the Group may vary at the time that any actual market movement occurs. For example, the Group's financial risk management strategy aims to manage the exposure to market fluctuations.

As investment markets move past various trigger levels, management actions could include selling investments, changing investment portfolio allocation, adjusting bonuses credited to policyholders, and taking other protective action.

B18 – Risk management continued

A number of the business units use passive assumptions to calculate their long-term business liabilities. Consequently, a change in the underlying assumptions may not have any impact on the liabilities, whereas assets held at market value in the statement of financial position will be affected. In these circumstances, the different measurement bases for liabilities and assets may lead to volatility in shareholder equity. Similarly, for general insurance liabilities, the interest rate sensitivities only affect profit and equity where explicit assumptions are made regarding interest (discount) rates or future inflation.

Other limitations in the above sensitivity analyses include the use of hypothetical market movements to demonstrate potential risk that only represent the Group's view of possible near-term market changes that cannot be predicted with any certainty, and the assumption that all interest rates move in an identical fashion.

B19 – Direct capital instrument and tier 1 notes

Notional amount	2015 £m	2014 £m
5.9021% £500 million direct capital instrument – issued November 2004	500	500
Direct capital instrument	500	500
8.25% US \$650 million fixed rate tier 1 notes – issued May 2012	392	392
6.875% £210 million STICS – issued November 2003	231	—
Total tier 1 notes	623	392
	1,123	892

The direct capital instrument (the DCI) was issued on 25 November 2004 and qualifies as Innovative Tier 1 capital, as defined by the PRA in GENPRU Annex 1 'Capital Resources' as at 31 December 2015. The DCI has no fixed redemption date but the Company may, at its sole option, redeem all (but not part) of the principal amount on 27 July 2020, at which date the interest rate changes to a variable rate, or on any respective coupon payment date thereafter. The variable rate will be the six month sterling deposit rate plus margin.

The fixed rate tier 1 notes (the FxdRNs) were issued on 3 May 2012 and also qualify as Innovative Tier 1 capital as at 31 December 2015. The FxdRNs are perpetual but the Company may, at its sole option, redeem all (but not part) of the FxdRNs at their principal amounts on 3 November 2017, or on any respective coupon payment date thereafter.

The Step-up Tier 1 Insurance Capital Securities (the 'STICS') were issued on 21 November 2003 by Friends Life Holdings plc, and also qualify as innovative tier 1 capital as at 31 December 2015. The STICS are irrevocably guaranteed on a subordinated basis by Friends Life Limited. On 1 October 2015 Aviva plc replaced Friends Life Holdings plc as issuer which resulted in a reclassification of the STICS from non-controlling interests. The STICS have no fixed redemption date but the Company may, at its sole option, redeem the instrument (in whole or in part) on 21 November 2019, or on the coupon payment date falling on successive fifth anniversaries from this date. For each coupon period beginning 21 November 2019, the STICS will bear interest reset every five years at the rate per annum which is the aggregate of 2.97% and the Gross Redemption Yield of the Benchmark Gilt.

The Company has the option to defer coupon payments on the DCI, FxdRNs or STICS on any relevant payment date.

In relation to the DCI, deferred coupons shall only be satisfied should the Company exercise its sole option to redeem the instruments.

In relation to the FxdRNs, deferred coupons may be satisfied at any time, at the sole option of the Company. The Company is required to satisfy deferred coupons on the FxdRNs upon redemption.

In relation to the STICS, deferred coupons may be satisfied at any time, at the sole option of the Company. The Company is required to satisfy deferred coupons upon the earliest of the following:

- Resumption of payment of coupons on the STICS; or
- Redemption; or
- The commencement of winding up of the issuer.

No interest will accrue on any deferred coupon on the DCI or FxdRNs. Interest will accrue on deferred coupons on the STICS at the then current rate of interest on the STICS.

Deferred coupons on the DCI, FxdRNs and the STICS will be satisfied by the issue and sale of ordinary shares in the Company at their prevailing market value, to a sum as near as practicable to (and at least equal to) the relevant deferred coupons. In the event of any coupon deferral, the Company will not declare or pay any dividend on its ordinary or preference share capital.

The DCI, FxdRNs and STICS count as 'tier 1 restricted' capital from 1 January 2016 in accordance with the Solvency II Own Funds guidelines issued by the PRA.

These instruments have been treated as equity.

B20 – Contingent liabilities and other risk factors

This note sets out the main areas of uncertainty over the calculation of our liabilities.

(a) Uncertainty over claims provisions

Note B9 gives details of the estimation techniques used by the Group to determine the general insurance business outstanding claims provisions and of the methodology and assumptions used in determining the long-term business provisions. These approaches are designed to allow for the appropriate cost of policy-related liabilities, with a degree of prudence, to give a result within the normal range of outcomes. However, the actual cost of settling these liabilities may differ, for example because experience may be worse than that assumed, or future general insurance business claims inflation may differ from that expected, and hence there is uncertainty in respect of these liabilities.

(b) Asbestos, pollution and social environmental hazards

In the course of conducting insurance business, various companies within the Group receive general insurance liability claims, and become involved in actual or threatened related litigation arising therefrom, including claims in respect of pollution and other environmental hazards. Amongst these are claims in respect of asbestos production and handling in various jurisdictions, including Europe, Canada and Australia. Given the significant delays that are experienced in the notification of these claims, the potential number of incidents which they cover and the uncertainties associated with establishing liability, the ultimate cost cannot be determined with certainty. However, on the basis of current information having regard to the level of provisions made for general insurance claims and substantial reinsurance cover now in place, the directors consider that any additional costs arising are not likely to have a material impact on the financial position of the Group.

(c) Guarantees on long-term savings products

As a normal part of their operating activities, various Group companies have given guarantees and options, including interest rate guarantees, in respect of certain long-term insurance and investment products. In providing these guarantees and options, the Group's capital position is sensitive to fluctuations in financial variables including foreign currency exchange rates, interest rates, property values and equity prices. Interest rate guaranteed returns, such as those available on guaranteed annuity options, are sensitive to interest rates falling below the guaranteed level. Other guarantees, such as maturity value guarantees and guarantees in relation to minimum rates of return, are sensitive to fluctuations in the investment return below the level assumed when the guarantee was made. The directors continue to believe that the existing provisions for such guarantees and options are sufficient.

(d) Regulatory compliance

The Group's insurance and investment business is subject to local regulation in each of the countries in which it operates. A number of the Group's UK subsidiaries are dual regulated (directly authorised by both the PRA (for prudential regulation) and the FCA (for conduct regulation) whilst others are solo regulated (regulated solely by the FCA for both prudential and conduct regulation). Between them, the PRA and FCA have broad powers including the authority to grant, vary the terms of, or cancel a regulated firm's authorisation; to investigate marketing and sales practices; and to require the maintenance of adequate financial resources. The Group's regulators outside the UK typically have similar powers, but in some cases they also operate a system of 'prior product approval'.

The Group's regulated businesses have compliance resources to respond to regulatory enquiries in a constructive way, and take corrective action when warranted. However, all regulated financial services companies face the risk that their regulator could find that they have failed to comply with applicable regulations or have not undertaken corrective action as required.

The impact of any such finding (whether in the UK or overseas) could have a negative impact on the Group's reported results or on its relations with current and potential customers. Regulatory action against a member of the Group could result in adverse publicity for, or negative perceptions regarding, the Group, or could have a material adverse effect on the business of the Group, its results of operations and/or financial condition and divert management's attention from the day-to-day management of the business.

(e) Structured settlements

The Company has purchased annuities from licensed Canadian life insurers to provide for fixed and recurring payments to claimants. As a result of these arrangements, the Company is exposed to credit risk to the extent that any of the life insurers fail to fulfill their obligations. The Company's maximum exposure to credit risk for these types of arrangements is approximately CAD\$1,212 million as at 31 December 2015 (*FY14: CAD\$1,224 million*). Credit risk is managed by acquiring annuities from a diverse portfolio of life insurers with proven financial stability. This risk is reduced to the extent of coverage provided by Assuris, the Canadian life insurance industry compensation plan. As at 31 December 2015, no information has come to the Company's attention that would suggest any weakness or failure in life insurers from which it has purchased annuities and consequently no provision for credit risk is required.

B20 – Contingent liabilities and other risk factors continued

(f) Other

In the course of conducting insurance and investment business, various Group companies receive liability claims, and become involved in actual or threatened related litigation. In the opinion of the directors, adequate provisions have been established for such claims and no material loss will arise in this respect.

In addition, in line with standard business practice, various Group companies have given guarantees, indemnities and warranties in connection with disposals in recent years of subsidiaries and associates to parties outside the Aviva Group. In the opinion of the directors, no material unprovisioned loss will arise in respect of these guarantees, indemnities and warranties.

There are a number of charges registered over the assets of Group companies in favour of other Group companies or third parties. In addition, certain of the Company's assets are charged in favour of certain of its subsidiaries as security for intra-Group loans.

The Group's insurance subsidiaries pay contributions to levy schemes in several countries in which we operate. Given the economic environment, there is a heightened risk that the levy contributions will need to be increased to protect policyholders if an insurance company falls into financial difficulties. The directors continue to monitor the situation but are not aware of any need to increase provisions at the statement of financial position date.

B21 – Acquired value of in-force business and intangible assets

Acquired value of in-force business and intangible assets presented in the statement of financial position is comprised of:

	2015 £m	2014 £m
Acquired value of in-force business	4,383	92
Intangible assets	1,348	936
Total	5,731	1,028

The increase in the acquired value of in-force business and intangible assets is due to the Friends Life acquisition. The acquired value of in-force business and intangible assets balances relating to Friends Life at 31 December 2015 are £4,311 million and £439 million respectively.

B22 – Subsequent events

Subsequent events relating to the acquisition and disposal of subsidiaries are detailed in note B4. Note D3.2 details subsequent events relating to securitised mortgages.

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Capital & Assets

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Capital and liquidity

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C1 – Capital performance

(a) Capital required to write life new business, internal rate of return and payback period

The Group generates a significant amount of capital each year which supports both shareholder distribution and reinvestment in new business. The new business written requires up front capital investment, due to set-up costs and capital requirements.

The internal rate of return (IRR) is a measure of the shareholder return expected on this capital investment. It is equivalent to the discount rate at which the present value of the post-tax cash flows expected to be earned over the life time of the business written, including allowance for the time value of options and guarantees, is equal to the total invested capital to support the writing of the business. The capital included in the calculation of the IRR is the initial capital required to pay acquisition costs and set up statutory reserves in excess of premiums received ('initial capital'), plus required capital at the same level as for the calculation of the value of new business.

The payback period shows how quickly shareholders can expect the total capital to be repaid. The payback period has been calculated based on undiscounted cash flows and allows for the initial and required capital.

The projected investment returns in both the IRR and payback period calculations assume that equities, properties and bonds earn a return in excess of risk-free, consistent with the long-term rate of return assumed in operating earnings.

The internal rates of return on new business written during the period are set out below:

	2015			2014		
	Internal rate of return ¹ %	New business impact on free surplus ² £m	Payback period years ¹	Internal rate of return ¹ %	New business impact on free surplus ² £m	Payback period years ¹
United Kingdom ³	31%	(37)	3	44%	(20)	3
Ireland	6%	19	11	5%	35	13
United Kingdom & Ireland	28%	(18)	4	33%	15	6
France	10%	143	8	12%	144	8
Poland	21%	30	4	23%	30	4
Italy	14%	65	6	13%	52	6
Spain	16%	17	4	16%	30	4
Other Europe	36%	16	3	44%	16	2
Europe	15%	271	7	16%	272	6
Asia ⁴ & Other ⁵	15%	99	14	20%	63	9
Total⁶	17.8%	352	7	19.9%	350	6

¹ Gross of non-controlling interests.

² Net of non-controlling interests.

³ United Kingdom includes Friends UK from 10 April 2015.

⁴ Asia includes FPI from 10 April 2015.

⁵ Other includes Aviva Investors and the UK Retail Fund Management business which was transferred from UK Life to Aviva Investors on 9 May 2014.

⁶ IRRs, impact of new business on free surplus, and payback periods are calculated on a Solvency I basis (including allowances for Economic Capital), but not Solvency II.

C1 – Capital performance continued

(b) Analysis of return of equity – IFRS basis

	Operating return ¹		Weighted average shareholders' funds including non-controlling interests ¹ £m	Return on equity ¹ %
	Before tax £m	After tax £m		
2015				
United Kingdom & Ireland Life	1,432	1,259	9,561	14.2%
United Kingdom & Ireland General Insurance and Health ²	412	332	4,217	7.9%
Europe	880	590	4,645	12.7%
Canada	214	157	928	16.9%
Asia	238	224	1,249	22.0%
Fund management	106	97	326	30.1%
Corporate and Other Business ³	(254)	(303)	2,493	n/a
Return on total capital employed	3,028	2,356	23,419	10.7%
Subordinated debt	(335)	(267)	(6,240)	4.4%
Senior debt	(28)	(22)	(623)	3.5%
Return on total equity	2,665	2,067	16,556	13.3%
Less: Non-controlling interests		(152)	(1,248)	12.2%
Direct capital instrument and tier 1 notes		(57)	(952)	6.6%
Preference capital		(17)	(200)	8.5%
Return on equity shareholders' funds		1,841	14,156	14.0%

- 1 Return on equity is based on an annualised net operating return. The operating return is based upon Group adjusted operating profit, which is stated before integration and restructuring costs, impairment of goodwill, amortisation of intangibles and AVIF, other items and investment variances. Following the acquisition of Friends Life, management has changed the calculation of return on equity which is now calculated as net operating return on an IFRS basis expressed as a percentage of weighted average ordinary shareholders' equity (rather than opening ordinary shareholders' equity), with an annualisation factor of 1.33 used to gross up the Friends Life operating return.
- 2 The operating return for United Kingdom & Ireland general insurance and health is presented net of £18 million of investment return, which is allocated to Corporate and Other Business. The £18 million represents the return on capital supporting Pillar II ICA risks deemed not to be supporting the ongoing general insurance operation.
- 3 The 'Corporate' and 'Other Business' loss before tax of £254 million comprises corporate costs of £180 million, interest on internal lending arrangements of £92 million, other business operating loss (net of investment return) of £76 million, partly offset by finance income on the main UK pension scheme of £94 million.

	Operating return ¹		Weighted average shareholders' funds including non-controlling interests ¹ £m	Restated ^{1,2} Return on equity %
	Restated ² Before tax £m	Restated ² After tax £m		
2014				
United Kingdom & Ireland Life	1,049	925	5,763	16.1%
United Kingdom & Ireland General Insurance and Health ³	468	371	4,124	9.0%
Europe	995	682	5,263	13.0%
Canada	189	139	976	14.2%
Asia	85	71	752	9.4%
Fund management	86	58	250	23.2%
Corporate and Other Business ⁴	(349)	(353)	(503)	n/a
Return on total capital employed	2,523	1,893	16,625	11.4%
Subordinated debt	(289)	(227)	(4,277)	5.3%
Senior debt	(21)	(16)	(748)	2.1%
Return on total equity	2,213	1,650	11,600	14.2%
Less: Non-controlling interests		(143)	(1,366)	10.5%
Direct capital instrument and tier 1 notes		(69)	(1,260)	5.5%
Preference capital		(17)	(200)	8.5%
Return on equity shareholders' funds		1,421	8,774	16.2%

- 1 The operating return is based upon Group adjusted operating profit, which is stated before integration and restructuring costs, impairment of goodwill, amortisation of intangibles, other items and investment variances. Following the acquisition of Friends Life, management has changed the calculation of return on equity which is now calculated as net operating return on an IFRS basis expressed as a percentage of weighted average ordinary shareholders' equity (rather than opening ordinary shareholders' equity). Comparatives have been restated accordingly.
- 2 Operating profit has been restated to exclude amortisation and impairment of acquired value of in-force business, which is now shown as a non-operating item. See note B2 for further details. There is no impact on total equity for any period presented as a result of this restatement. The combined impact of the operating profit restatement and the change to the calculation of return on equity has decreased the FY14 return on equity shareholders funds from 17.4% to 16.2%.
- 3 The operating return for United Kingdom & Ireland general insurance and health is presented net of £31 million of investment return, which is allocated to Corporate and Other Business. The £31 million represents the return on capital supporting Pillar II ICA risks deemed not to be supporting the ongoing general insurance operation.
- 4 The 'Corporate' and 'Other Business' loss before tax of £349 million comprises corporate costs of £132 million, interest on internal lending arrangements of £186 million, other business operating loss (net of investment return) of £64 million, partly offset by finance income on the main UK pension scheme of £33 million.

C1 – Capital performance continued

(c) Group capital structure

The table below shows how our capital, on both an IFRS and MCEV basis, is deployed by market and how that capital is funded.

	2015 Capital employed			2014 Capital employed		
	IFRS basis £m	Internally generated AVIF £m	MCEV ¹ basis £m	IFRS basis £m	Internally generated AVIF £m	MCEV ¹ basis £m
Life business						
United Kingdom & Ireland	11,088	2,076	13,164	5,668	2,681	8,349
France	2,151	1,622	3,773	2,234	1,393	3,627
Poland	305	936	1,241	318	1,059	1,377
Italy	849	388	1,237	929	351	1,280
Spain	506	209	715	557	210	767
Other Europe	72	72	144	82	77	159
Europe	3,883	3,227	7,110	4,120	3,090	7,210
Asia	1,355	338	1,693	791	358	1,149
	16,326	5,641	21,967	10,579	6,129	16,708
General insurance & health						
United Kingdom & Ireland	4,089	(118)	3,971	4,145	(115)	4,030
France	506	—	506	556	—	556
Italy	231	—	231	276	—	276
Other Europe	63	—	63	32	—	32
Europe	800	—	800	864	—	864
Canada	957	—	957	969	—	969
Asia	24	—	24	29	—	29
	5,870	(118)	5,752	6,007	(115)	5,892
Fund Management	411	(37)	374	298	(31)	267
Corporate & Other Business²	2,537	168	2,705	702	137	839
Total capital employed	25,144	5,654	30,798	17,586	6,120	23,706
Financed by						
Equity shareholders' funds	15,764	5,083	20,847	10,018	5,529	15,547
Non-controlling interests	1,145	571	1,716	1,166	591	1,757
Direct capital instrument & tier 1 notes ³	1,123	—	1,123	892	—	892
Preference shares	200	—	200	200	—	200
Subordinated debt ⁴	6,427	—	6,427	4,594	—	4,594
Senior debt	485	—	485	716	—	716
Total capital employed⁵	25,144	5,654	30,798	17,586	6,120	23,706

¹ In preparing the MCEV information, the directors have done so in accordance with the European Insurance CFO Forum MCEV Principles. No allowance for the impact of Solvency II has been made as permitted by the additional guidance issued in October 2015 by the European Insurance CFO Forum.

² 'Corporate' and 'Other Business' includes centrally held tangible net assets, the main UK staff pension scheme surplus and also reflects internal lending arrangements. These internal lending arrangements, which net out on consolidation, include the formal loan arrangement between Aviva Group Holdings Limited and Aviva Insurance Limited (AIL). Internal capital management in place allocated a majority of the total capital of AIL to the UK general insurance operations with the remaining capital deemed to be supporting residual (non-operational) Pillar II ICA risks.

³ On 1 October 2015 Friends Life Holdings plc was replaced by Aviva plc as the issuer of the 2003 Step-up Tier one Insurance Capital Securities ('STICS') of £231 million. Following this, these have been included within direct capital instrument & tier 1 notes.

⁴ Subordinated debt excludes amounts held by Group companies of £42 million.

⁵ Goodwill, AVIF and other intangibles are maintained within the capital base. Goodwill includes goodwill in subsidiaries of £1,955 million (FY14: £1,302 million), goodwill in joint ventures of £19 million (FY14: £25 million) and goodwill in associates of £26 million (FY14: Nil). As at FY15, AVIF and other intangibles comprise £5,731 million (FY14: £1,028 million) of intangibles in subsidiaries and £71 million (FY14: £62 million) of intangibles in joint ventures, net of deferred tax liabilities of £(814) million (FY14: £(180) million) and the non controlling interest share of intangibles of £(196) million (FY14: £(198) million).

Total capital employed is financed by a combination of equity shareholders' funds, preference capital, subordinated debt and other borrowings. At FY15 we had £25.1 billion (FY14: £17.6 billion) of total capital employed in our businesses measured on an IFRS basis and £30.8 billion (FY14: £23.7 billion) of total capital employed on an MCEV basis. The increase in capital employed is driven mainly by the acquisition of Friends Life (see Note B4).

In June 2015 Aviva plc issued €900 million and £400 million of Lower Tier 2 subordinated debt callable in 2025 and 2030 respectively. The proceeds were used in part to repay the following instruments: £268 million STICS at first call date in July 2015; €500 million undated subordinated debt at first call date in September 2015; and £200 million debenture loans in September 2015, ahead of the June 2016 maturity.

At FY15 the market value of our external debt, subordinated debt, preference shares (including both Aviva plc preference shares of £200 million and General Accident plc preference shares, within non-controlling interests, of £250 million), and direct capital instrument and tier 1 notes was £9,094 million (FY14: £7,511 million).

C1 – Capital performance continued

(d) Equity sensitivity analysis

The sensitivity of the Group's total equity, on an IFRS basis and MCEV basis at 31 December 2015 to a 10% fall in global equity markets, a rise of 1% in global interest rates or a 0.5% increase in credit spreads is as follows:

31 December 2014 £bn IFRS basis	31 December 2015 £bn	Equities down 10% £bn	Interest rates up 1% £bn	0.5% increased credit spread £bn
10.6 Long-term savings	16.3	—	(0.2)	(0.2)
7.0 General insurance and other	8.8	—	(0.3)	0.5
(5.3) Borrowings	(6.9)	—	—	—
12.3 Total equity	18.2	—	(0.5)	0.3

31 December 2014 £bn MCEV basis	31 December 2015 £bn	Equities down 10% £bn	Interest rates up 1% £bn	0.5% increased credit spread £bn
16.7 Long-term savings	22.0	(0.6)	(0.2)	(1.4)
7.0 General insurance and other	8.8	—	(0.3)	0.5
(5.3) Borrowings	(6.9)	—	—	—
18.4 Total equity	23.9	(0.6)	(0.5)	(0.9)

These sensitivities assume a full tax charge/credit on market value assumptions. The interest rate sensitivity also assumes an equivalent movement in both inflation and discount rate (i.e. no change to real interest rates) and therefore incorporates the offsetting effects of these items on the pension scheme liabilities. A 1% increase in the real interest rate has the effect of reducing the pension scheme liability in the main UK pension scheme by £1.7 billion (before any associated tax impact).

The 0.5% increased credit spread sensitivities for IFRS and MCEV do not make an allowance for any adjustment to risk-free interest rates. MCEV sensitivities assume that the credit spread movement relates to credit risk and not liquidity risk; in practice, credit spread movements may be partially offset due to changes in liquidity risk. Life IFRS sensitivities provide for any impact of credit spread movements on liability valuations. The IFRS and MCEV sensitivities also include the allocation of staff pension scheme sensitivities, which assume inflation rates and government bond yields remain constant. In practice, the sensitivity of the business to changes in credit spreads is subject to a number of complex interactions. The impact of the credit spread movements will be related to individual portfolio composition and may be driven by changes in credit or liquidity risk; hence, the actual impact may differ substantially from applying spread movements implied by various published credit spread indices to these sensitivities.

C2 – Regulatory capital

Under the Solvency I regime effective until 31 December 2015, individual regulated subsidiaries measure and report solvency based on applicable local regulations, including in the UK the regulations established by the Prudential Regulatory Authority (PRA). These measures are also consolidated under the European Insurance Groups Directive (IGD) to calculate regulatory capital adequacy at an aggregate Group level, where Aviva has a regulatory obligation to have a positive position at all times.

This measure represents the excess of the aggregate value of regulatory capital employed in our business over the aggregate minimum solvency requirements imposed by local regulators, excluding the surplus held in the UK and Ireland with-profits life funds. The minimum solvency requirement for our European businesses is based on the Solvency I Directive. In broad terms, for EU operations, this is set at 4% and 1% of non-linked and unit-linked life reserves respectively and for our general insurance portfolio of business is the higher of 18% of gross premiums or 26% of gross claims, in both cases adjusted to reflect the level of reinsurance recoveries. For our business in Canada a risk charge on assets and liabilities approach is used.

Based on individual guidance from the PRA we recognise surpluses of the non-profits funds of our UK life and pensions businesses which are available for transfer to shareholders. These have increased to £0.1 billion as at 31 December 2015 (FY14: £nil).

From 1 January 2016 EU-based insurance groups are no longer required to disclose their solvency position under the European Insurance Groups Directive, as the regulatory framework has been replaced by the new Solvency II regime. As such, after 31 December 2015 Aviva Group will no longer disclose its capital solvency surplus under the IGD rules.

C2 – Regulatory capital continued

(a) Regulatory capital – Group: European Insurance Groups Directive (IGD)

	UK life funds £bn	Other business £bn	31 December 2015 £bn	31 December 2014 £bn
Insurance Groups Directive (IGD) capital resources	11.8	10.8	22.6	14.4
Less: capital resources requirement	(11.8)	(4.8)	(16.6)	(11.2)
Insurance Group Directive (IGD) excess solvency	—	6.0	6.0	3.2
Cover over EU minimum (calculated excluding UK life funds)			2.2 times	1.6 times

The IGD regulatory capital solvency surplus has increased by £2.8 billion since FY14 to £6.0 billion. The key drivers of the increase are the acquisition of Friends Life (£1.6 billion), operating profits (£1.6 billion) and the net issue of hybrid debt (£0.4 billion), offset by dividend payments and pension scheme funding (£0.5 billion).

The key movements over the period are set out in the following table:

	£bn
IGD solvency surplus at 31 December 2014	3.2
Acquisition of Friends Life	1.6
Operating profits net of integration and restructuring costs	1.6
Net hybrid debt issue ¹	0.4
Dividends and appropriations	(0.3)
Pension scheme funding	(0.2)
Outward reinsurance of latent reserves ²	0.2
Increase in capital resources requirement	(0.1)
Other regulatory adjustments	(0.4)
Estimated IGD solvency surplus at 31 December 2015	6.0

¹ Net hybrid debt issue includes £1 billion benefit of two new Tier 2 subordinated debt instruments issued on 4 June 2015; offset by £(0.6) billion derecognition of two instruments redeemed in the second half of 2015.

² Outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL).

(b) Reconciliation of Group IGD capital resources to FRS 27 capital

The reconciliation below provides analysis of differences between our capital resources and the amounts included in the capital statement made in accordance with FRS 27 and disclosed within our consolidated accounts. The Group Capital Adequacy report is prepared in accordance with the PRA valuation rules and brings in capital in respect of UK life funds valued in accordance with PRA regulatory rules excluding surpluses in with-profits funds. The FRS 27 disclosure brings in the realistic value of UK life capital resources. As the two bases can differ greatly, the reconciliation below is presented by removing the restricted regulatory assets and then replacing them with the unrestricted realistic assets.

	2015 £bn
Total capital and reserves (IFRS basis)	18.2
Plus: Other qualifying capital	6.2
Plus: UK unallocated divisible surplus	2.6
Less: Goodwill, acquired AVIF and intangible assets ¹	(7.8)
Less: Adjustments onto a regulatory basis	3.4
Group Capital Resources on regulatory basis	22.6
The Group Capital Resources can be analysed as follows:	
Core Tier 1 Capital	16.0
Innovative Tier 1 Capital	1.1
Total Tier 1 Capital	17.1
Upper Tier 2 Capital	1.6
Lower Tier 2 Capital	5.1
Group Capital Resources Deductions	(1.2)
Group Capital Resources on regulatory basis (Tier 1 & Tier 2 Capital)	22.6
Less: UK life restricted regulatory assets	(12.7)
Add: UK life unrestricted realistic assets	8.1
Add: Overseas UDS ² and Shareholders' share of accrued bonus	6.2
Total FRS 27 capital	24.2

¹ Includes goodwill and other intangibles of £116 million in joint ventures and associates.

² Unallocated divisible surplus for overseas life operations is included gross of minority interest.

C2 – Regulatory capital continued

(c) Regulatory capital – UK life with-profits funds

The available capital of the with-profits funds is represented by the realistic inherited estate. The estate represents the assets of the long-term with-profits funds less the realistic liabilities for non-profits policies within the funds, less asset shares aggregated across the with-profits policies and any additional amounts expected at the valuation date to be paid to in-force policyholders in the future in respect of smoothing costs, guarantees and promises. Realistic balance sheet information is shown below for the four main UK with-profits funds: New With-Profits Sub-Fund (NWPSF), Old With-Profits Sub-Fund (OWPSF), With-Profits Sub-Fund (WPSF) and Friends Provident With-Profits Fund (FP WPF). Realistic balance sheet information for the five Friends Life with-profits funds that are closed to new business have been disclosed as 'Other Friends Life WPFs' including: FPLAL With-Profits Fund (FPLAL WPF), FLC New With-Profits Fund (FLC New WPF), Old With-Profits Fund (FLC Old WPF), FLAS With-Profits Fund (FLAS WPF) and WL With-Profits Fund (WL WPF). These realistic liabilities have been included within the long-term business provision and the liability for insurance and investment contracts on the Group's IFRS balance sheet at 31 December 2015 and 31 December 2014, with comparatives at 31 December 2014 including NWPSF, OWPSF and WPSF only.

	31 December 2015			31 December 2014		
	Estimated realistic assets £bn	Estimated realistic liabilities ¹ £bn	Estimated realistic inherited estate ² £bn	Capital support arrangement ³ £bn	Estimated risk capital margin £bn	Estimated excess available capital £bn
NWPSF	14.0	(14.0)	—	2.1	(0.2)	1.9
OWPSF	2.6	(2.4)	0.2	—	—	0.2
WPSF ⁴	16.7	(15.2)	1.5	—	(0.3)	1.3
FP WPF ⁵	7.2	(7.0)	0.2	—	(0.2)	—
Other Friends Life WPFs ⁶	10.7	(10.7)	—	—	—	—
Aggregate	51.2	(49.3)	1.9	2.1	(0.7)	3.4

- ¹ Realistic liabilities include the shareholders' share of accrued bonuses of £0.8 billion (FY14: £(0.2) billion). Realistic liabilities adjusted to eliminate the shareholders' share of accrued bonuses are £48.5 billion (FY14: £33.0 billion). These realistic liabilities make provision for guarantees, options and promises on a market consistent stochastic basis. The value of the provision included within realistic liabilities is £1.4 billion, £0.3 billion, £3.2 billion, and £0.8 billion for NWPSF, OWPSF, WPSF and FP WPF respectively (FY14: £1.4 billion, £0.3 billion and £3.0 billion for NWPSF, OWPSF and WPSF respectively).
- ² Estimated realistic inherited estate at 31 December 2014 was £nil, £0.3 billion and £1.6 billion for NWPSF, OWPSF and WPSF respectively.
- ³ The support arrangement represents the reattributed estate (RIEESA) of £2.1 billion at 31 December 2015 (FY14: £2.1 billion).
- ⁴ The WPSF fund includes the Ireland With-Profits Sub-Fund (IWPSF) and the Provident Mutual (PM) Fund which have realistic assets and liabilities of £2.4 billion in total, and therefore do not contribute to the realistic inherited estate.
- ⁵ For FP WPF the realistic inherited estate is restricted to the estimated risk capital margin with excess available capital used to enhance asset shares.
- ⁶ Includes FPLAL WPF, FLC New WPF, FLC Old WPF, FLAS WPF and WL WPF. For these funds it is assumed that the entire estimated realistic inherited estate is distributed to policyholders.

(d) Investment mix

The aggregate investment mix of the assets in the four main with-profits funds at 31 December 2015 and three main with-profits funds at 31 December 2014 was:

	31 December 2015 %	31 December 2014 %
Equity	30%	24%
Property	10%	10%
Fixed interest	54%	59%
Other	6%	7%

The equity backing ratios, including property, supporting with-profits asset shares are 75% in NWPSF and OWPSF, 72% in WPSF and 45% in FP WPF.

C3 – IFRS Sensitivity analysis

The Group uses a number of sensitivity test-based risk management tools to understand the volatility of earnings, the volatility of its capital requirements, and to manage its capital more efficiently. Primarily, MCEV, ICA, Solvency II and scenario analysis are used. Sensitivities to economic and operating experience are regularly produced on all of the Group's financial performance measurements to inform the Group's decision making and planning processes, and as part of the framework for identifying and quantifying the risks that each of its business units, and the Group as a whole are exposed to.

For long-term business in particular, sensitivities of MCEV performance indicators and Solvency II surplus to changes in both economic and non-economic experience are continually used to manage the business and to inform the decision making process. More information on MCEV sensitivities can be found in the presentation of results on an MCEV basis in section F (note F10) of this report. In addition, Solvency II surplus sensitivities can be found in note 8.vi.

(a) Life insurance and investment contracts

The nature of long-term business is such that a number of assumptions are made in compiling these financial statements. Assumptions are made about investment returns, expenses, mortality rates, and persistency in connection with the in-force policies for each business unit. Assumptions are best estimates based on historic and expected experience of the business. A number of the key assumptions for the Group's central scenario are disclosed elsewhere in these statements for both IFRS reporting and reporting under the MCEV methodology.

(b) General insurance and health business

General insurance and health claim liabilities are estimated by using standard actuarial claims projection techniques.

These methods extrapolate the claims development for each accident year based on the observed development of earlier years. In most cases, no explicit assumptions are made as projections are based on assumptions implicit in the historic claims.

(c) Sensitivity test results

Illustrative results of sensitivity testing for long-term business, general insurance and health and fund management business and other operations are set out below. For each sensitivity test the impact of a reasonably possible change in a single factor is shown, with other assumptions left unchanged.

Sensitivity factor	Description of sensitivity factor applied							
Interest rate and investment return	The impact of a change in market interest rates by a 1% increase or decrease. The test allows consistently for similar changes to investment returns and movements in the market value of backing fixed interest securities.							
Credit Spreads	The impact of a 0.5% increase in credit spreads over risk-free interest rates on corporate bonds and other non-sovereign credit assets. The test allows for any consequential impact on liability valuations.							
Equity/property market values	The impact of a change in equity/property market values by $\pm 10\%$.							
Expenses	The impact of an increase in maintenance expenses by 10%.							
Assurance mortality/morbidity (life insurance only)	The impact of an increase in mortality/morbidity rates for assurance contracts by 5%.							
Annuitant mortality (life insurance only)	The impact of a reduction in mortality rates for annuity contracts by 5%.							
Gross loss ratios (non-life insurance only)	The impact of an increase in gross loss ratios for general insurance and health business by 5%.							

(d) Long-term businesses

31 December 2015 Impact on profit before tax £m	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%	Expenses +10%	Assurance mortality +5%	Annuitant mortality -5%
Insurance participating	30	(65)	(30)	(135)	130	(25)	(10)	(50)
Insurance non-participating	(75)	80	(495)	25	(25)	(155)	(115)	(725)
Investment participating	5	(5)	—	—	—	(5)	—	—
Investment non-participating	(20)	20	(5)	35	(35)	(20)	—	—
Assets backing life shareholders' funds	(140)	85	(65)	40	(40)	—	—	—
Total	(200)	115	(595)	(35)	30	(205)	(125)	(775)

31 December 2015 Impact on shareholders' equity before tax £m	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%	Expenses +10%	Assurance mortality +5%	Annuitant mortality -5%
Insurance participating	30	(65)	(30)	(135)	130	(25)	(10)	(50)
Insurance non-participating	(75)	80	(495)	25	(25)	(155)	(115)	(725)
Investment participating	5	(5)	—	—	—	(5)	—	—
Investment non-participating	(20)	20	(5)	35	(35)	(20)	—	—
Assets backing life shareholders' funds	(175)	120	(70)	40	(40)	—	—	—
Total	(235)	150	(600)	(35)	30	(205)	(125)	(775)

C3 – IFRS Sensitivity analysis continued

(d) Long-term businesses continued

31 December 2014 Impact on profit before tax £m	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%	Expenses +10%	Assurance mortality +5%	Annuitant mortality -5%
Insurance Participating	(10)	(60)	(20)	(175)	70	(25)	(5)	(45)
Insurance non-participating	(155)	130	(425)	40	(40)	(80)	(50)	(590)
Investment participating	(15)	—	(10)	—	—	(5)	—	—
Investment non-participating	(40)	30	(10)	55	(60)	(35)	—	—
Assets backing life shareholders' funds	(75)	45	(60)	20	(20)	—	—	—
Total	(295)	145	(525)	(60)	(50)	(145)	(55)	(635)

31 December 2014 Impact on shareholders' equity before tax £m	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%	Expenses +10%	Assurance mortality +5%	Annuitant mortality -5%
Insurance Participating	(10)	(60)	(20)	(175)	70	(25)	(5)	(45)
Insurance non-participating	(155)	130	(425)	40	(40)	(80)	(50)	(590)
Investment participating	(15)	—	(10)	—	—	(5)	—	—
Investment non-participating	(40)	30	(10)	55	(60)	(35)	—	—
Assets backing life shareholders' funds	(115)	80	(65)	20	(20)	—	—	—
Total	(335)	180	(530)	(60)	(50)	(145)	(55)	(635)

Changes in sensitivities between 2015 and 2014 reflect inclusion of Friends Life at FY15 for the first time and movements in market interest rates, portfolio growth, changes to asset mix and the relative durations of assets and liabilities and asset liability management actions. The sensitivities to economic movements relate mainly to business in the UK. In general, a fall in market interest rates has a beneficial impact on non-participating business, due to the increase in market value of fixed interest securities and relative durations of assets and liabilities; similarly a rise in interest rates has a negative impact. Mortality and expense sensitivities also relate primarily to the UK.

(e) General insurance and health businesses

31 December 2015 Impact on profit before tax £m	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%	Expenses +10%	Gross loss ratios +5%
Gross of reinsurance	(225)	210	(130)	65	(65)	(100)	(270)
Net of reinsurance	(305)	300	(130)	65	(65)	(100)	(260)

31 December 2015 Impact on shareholders' equity before tax £m	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%	Expenses +10%	Gross loss ratios +5%
Gross of reinsurance	(225)	210	(130)	70	(70)	(20)	(270)
Net of reinsurance	(305)	300	(130)	70	(70)	(20)	(260)

31 December 2014 Impact on profit before tax £m	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%	Expenses +10%	Gross loss ratios +5%
Gross of reinsurance	(260)	250	(130)	55	(55)	(105)	(280)
Net of reinsurance	(305)	295	(130)	55	(55)	(105)	(270)

31 December 2014 Impact on shareholders' equity before tax £m	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%	Expenses +10%	Gross loss ratios +5%
Gross of reinsurance	(260)	250	(130)	60	(60)	(20)	(280)
Net of reinsurance	(305)	295	(130)	60	(60)	(20)	(270)

For general insurance, the impact of the expense sensitivity on profit also includes the increase in ongoing administration expenses, in addition to the increase in the claims handling expense provision.

C3 – IFRS Sensitivity analysis continued

(f) Fund management and other operations businesses

31 December 2015 Impact on profit before tax £m	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%
Total	—	—	10	(30)	45
31 December 2015 Impact on shareholders' equity before tax £m	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%
Total	—	—	10	(30)	45
31 December 2014 Impact on profit before tax £m	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%
Total	—	—	5	(15)	25
31 December 2014 Impact on shareholders' equity before tax £m	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%
Total	—	—	5	(15)	25

(g) Limitations of sensitivity analysis

The previous tables demonstrate the effect of a change in a key assumption while other assumptions remain unchanged. In reality, there is a correlation between the assumptions and other factors. It should also be noted that these sensitivities are non-linear, and larger or smaller impacts should not be interpolated or extrapolated from these results.

The sensitivity analyses do not take into consideration that the Group's assets and liabilities are actively managed. Additionally, the financial position of the Group may vary at the time that any actual market movement occurs. For example, the Group's financial risk management strategy aims to manage the exposure to market fluctuations.

As investment markets move past various trigger levels, management actions could include selling investments, changing investment portfolio allocation, adjusting bonuses credited to policyholders, and taking other protective action.

A number of the business units use passive assumptions to calculate their long-term business liabilities. Consequently, a change in the underlying assumptions may not have any impact on the liabilities, whereas assets held at market value in the statement of financial position will be affected. In these circumstances, the different measurement bases for liabilities and assets may lead to volatility in shareholders' equity. Similarly, for general insurance liabilities, the interest rate sensitivities only affect profit and equity where explicit assumptions are made regarding interest (discount) rates or future inflation.

Other limitations in the above sensitivity analyses include the use of hypothetical market movements to demonstrate potential risk that only represent the Group's view of possible near-term market changes that cannot be predicted with any certainty, and the assumption that all interest rates move in an identical fashion.

Analysis of assets

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Analysis of assets

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D1 – Total assets

As an insurance business, Aviva Group holds a variety of assets to match the characteristics and duration of its insurance liabilities. Appropriate and effective asset liability matching (on an economic basis) is the principal way in which Aviva manages its investments. In addition, to support this, Aviva also uses a variety of hedging and other risk management strategies to diversify away any residual mismatch risk that is outside of the Group's risk appetite.

2015	Policyholder assets £m	Participating fund assets £m	Shareholder assets £m	Balance sheet total £m
Goodwill and acquired value of in-force business and intangible assets	—	—	7,686	7,686
Interests in joint ventures and associates	141	1,295	483	1,919
Property and equipment	—	214	235	449
Investment property	6,647	4,116	538	11,301
Loans	83	3,386	18,964	22,433
Financial investments				
Debt securities	24,022	91,006	47,936	162,964
Equity securities	47,394	15,627	537	63,558
Other investments	39,795	5,739	2,161	47,695
Reinsurance assets	14,002	1,628	5,288	20,918
Deferred tax assets	—	—	131	131
Current tax assets	—	—	114	114
Receivables	475	1,512	4,888	6,875
Deferred acquisition costs and other assets	69	639	4,353	5,061
Prepayments and accrued income	259	1,275	1,560	3,094
Cash and cash equivalents	8,705	15,319	9,652	33,676
Total	141,592	141,756	104,526	387,874
Total %	36.5%	36.6%	26.9%	100.0%
FY14	78,081	124,574	83,064	285,719
FY14 %	27.3%	43.6%	29.1%	100.0%

As at 31 December 2015, 26.9% of Aviva's total asset base was shareholder assets, 36.6% participating fund assets where Aviva shareholders have partial exposure, and 36.5% policyholder assets where Aviva shareholders have no exposure. Of the total assets, investment property, loans and financial investments comprise £308.0 billion, compared to £236.8 billion at 31 December 2014.

Of the total assets, £106.1 billion relates to the inclusion of assets from Friends Life Group. Of this, £61.1 billion is attributable to policyholders.

D2 – Total assets – Valuation bases/fair value hierarchy

Total assets – 2015	Fair value £m	Amortised cost £m	Equity accounted/ tax assets ¹ £m	Total £m
Goodwill and acquired value of in-force business and intangible assets	—	7,686	—	7,686
Interests in joint ventures and associates	—	—	1,919	1,919
Property and equipment	389	60	—	449
Investment property	11,301	—	—	11,301
Loans	19,079	3,354	—	22,433
Financial Investments				
Debt securities	162,964	—	—	162,964
Equity securities	63,558	—	—	63,558
Other investments	47,695	—	—	47,695
Reinsurance assets	13,967	6,951	—	20,918
Deferred tax assets	—	—	131	131
Current tax assets	—	—	114	114
Receivables and other financial assets	—	6,875	—	6,875
Deferred acquisition costs and other assets	—	5,061	—	5,061
Prepayments and accrued income	—	3,094	—	3,094
Cash and cash equivalents	33,676	—	—	33,676
Total	352,629	33,081	2,164	387,874
Total %	90.9%	8.5%	0.6%	100.0%
FY14	258,421	25,651	1,647	285,719
FY14 %	90.4%	9.0%	0.6%	100.0%

¹ Within the Group's statement of financial position, assets are recognised for deferred tax and current tax. The valuation basis of these assets does not directly fall within any of the categories outlined above. As such, these assets have been reported together with equity accounted items within the analysis of the Group's assets.

D2 – Total assets – Valuation bases/fair value hierarchy continued

	Fair value £m	Amortised cost £m	Equity accounted/ tax assets ¹ £m	Total £m
Total assets – Policyholder assets 2015				
Goodwill and acquired value of in-force business and intangible assets	—	—	—	—
Interests in joint ventures and associates	—	—	141	141
Property and equipment	—	—	—	—
Investment property	6,647	—	—	6,647
Loans	—	83	—	83
Financial Investments				
Debt securities	24,022	—	—	24,022
Equity securities	47,394	—	—	47,394
Other investments	39,795	—	—	39,795
Reinsurance assets	13,962	40	—	14,002
Deferred tax assets	—	—	—	—
Current tax assets	—	—	—	—
Receivables and other financial assets	—	475	—	475
Deferred acquisition costs and other assets	—	69	—	69
Prepayments and accrued income	—	259	—	259
Cash and cash equivalents	8,705	—	—	8,705
Total	140,525	926	141	141,592
Total %	99.2%	0.7%	0.1%	100.0%
FY14	77,196	785	100	78,081
FY14 %	98.9%	1.0%	0.1%	100.0%

¹ Within the Group's statement of financial position, assets are recognised for deferred tax and current tax. The valuation basis of these assets does not directly fall within any of the categories outlined above. As such, these assets have been reported together with equity accounted items within the analysis of the Group's assets.

	Fair value £m	Amortised cost £m	Equity accounted/ tax assets ¹ £m	Total £m
Total assets – Participating fund assets 2015				
Goodwill and acquired value of in-force business and intangible assets	—	—	—	—
Interests in joint ventures and associates	—	—	1,295	1,295
Property and equipment	205	9	—	214
Investment property	4,116	—	—	4,116
Loans	307	3,079	—	3,386
Financial Investments				
Debt securities	91,006	—	—	91,006
Equity securities	15,627	—	—	15,627
Other investments	5,739	—	—	5,739
Reinsurance assets	—	1,628	—	1,628
Deferred tax assets	—	—	—	—
Current tax assets	—	—	—	—
Receivables and other financial assets	—	1,512	—	1,512
Deferred acquisition costs and other assets	—	639	—	639
Prepayments and accrued income	—	1,275	—	1,275
Cash and cash equivalents	15,319	—	—	15,319
Total	132,319	8,142	1,295	141,756
Total %	93.4%	5.7%	0.9%	100.0%
FY14	115,320	8,234	1,020	124,574
FY14 %	92.6%	6.6%	0.8%	100.0%

¹ Within the Group's statement of financial position, assets are recognised for deferred tax and current tax. The valuation basis of these assets does not directly fall within any of the categories outlined above. As such, these assets have been reported together with equity accounted items within the analysis of the Group's assets.

D2 – Total assets – Valuation bases/fair value hierarchy continued

	Fair value £m	Amortised cost £m	Equity accounted/ tax assets ¹ £m	Total £m
Total assets – Shareholders assets 2015				
Goodwill and acquired value of in-force business and intangible assets	—	7,686	—	7,686
Interests in joint ventures and associates	—	—	483	483
Property and equipment	184	51	—	235
Investment property	538	—	—	538
Loans	18,772	192	—	18,964
Financial Investments				
Debt securities	47,936	—	—	47,936
Equity securities	537	—	—	537
Other investments	2,161	—	—	2,161
Reinsurance assets	5	5,283	—	5,288
Deferred tax assets	—	—	131	131
Current tax assets	—	—	114	114
Receivables and other financial assets	—	4,888	—	4,888
Deferred acquisition costs and other assets	—	4,353	—	4,353
Prepayments and accrued income	—	1,560	—	1,560
Cash and cash equivalents	9,652	—	—	9,652
Total	79,785	24,013	728	104,526
Total %	76.3%	23.0%	0.7%	100.0%
FY14	65,905	16,632	527	83,064
FY14 %	79.4%	20.0%	0.6%	100.0%

¹ Within the Group's statement of financial position, assets are recognised for deferred tax and current tax. The valuation basis of these assets does not directly fall within any of the categories outlined above. As such, these assets have been reported together with equity accounted items within the analysis of the Group's assets.

Fair value hierarchy

To provide further information on the valuation techniques we use to measure assets carried at fair value, we have categorised the measurement basis for assets carried at fair value into a 'fair value hierarchy' described as follows, based on the lowest level input that is significant to the valuation as a whole:

- Inputs to Level 1 fair values are quoted prices (unadjusted) in active markets for identical assets.
- Inputs to Level 2 fair values are inputs other than quoted prices included within Level 1 that are observable for the asset, either directly or indirectly. If the asset has a specified (contractual) term, a Level 2 input must be observable for substantially the full term of the asset.
- Inputs to Level 3 fair values are unobservable inputs for the asset. Unobservable inputs may have been used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset at the measurement date (or market information for the inputs to any valuation models). As such unobservable inputs reflect the assumption the business unit considers that market participants would use in pricing the asset. Examples are investment property, certain private equity investment and private placements.

	Fair value hierarchy			Sub-total fair value £m	Amortised cost £m	Balance sheet total £m
	Level 1 £m	Level 2 £m	Level 3 £m			
Investment property and financial assets – Total 2015						
Investment property	—	—	11,301	11,301	—	11,301
Loans	—	950	18,129	19,079	3,354	22,433
Debt securities	89,158	59,203	14,603	162,964	—	162,964
Equity securities	62,622	—	936	63,558	—	63,558
Other investments (including derivatives)	39,485	4,057	4,153	47,695	—	47,695
Total	191,265	64,210	49,122	304,597	3,354	307,951
Total %	62.1%	20.8%	16.0%	98.9%	1.1%	100.0%
FY14	135,677	56,322	40,459	232,458	4,365	236,823
FY14 %	57.3%	23.8%	17.1%	98.2%	1.8%	100.0%

At 31 December 2015, the proportion of total financial assets classified as Level 1 in the fair value hierarchy increased to 62.1% (FY14: 57.3%). The proportion of Level 2 loans and financial assets has decreased to 20.8% (FY14: 23.8%) and investment properties, loans and financial assets classified as Level 3 were 16.0% (FY14: 17.1%). Movements in the proportion of assets held in each fair value hierarchy level are mainly as a result of the acquisition of the Friends Life business, which had a higher overall proportion of Level 1 assets, at 67% relative to their total loans and financial assets.

D3 – Analysis of asset quality

The analysis of assets that follows provides a breakdown of information about the assets held by the Group.

D3.1 – Investment property

	2015				2014			
	Fair value hierarchy			Total £m	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m		Level 1 £m	Level 2 £m	Level 3 £m	
Investment property – Total								
Lease to third parties under operating leases	—	—	11,149	11,149	—	—	8,828	8,828
Vacant investment property/held for capital appreciation	—	—	152	152	—	—	97	97
Total	—	—	11,301	11,301	—	—	8,925	8,925
Total %	—	—	100.0%	100.0%	—	—	100.0%	100.0%

	2015				2014			
	Fair value hierarchy			Total £m	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m		Level 1 £m	Level 2 £m	Level 3 £m	
Investment property – Policyholder assets								
Lease to third parties under operating leases	—	—	6,574	6,574	—	—	3,984	3,984
Vacant investment property/held for capital appreciation	—	—	73	73	—	—	35	35
Total	—	—	6,647	6,647	—	—	4,019	4,019
Total %	—	—	100.0%	100.0%	—	—	100.0%	100.0%

	2015				2014			
	Fair value hierarchy			Total £m	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m		Level 1 £m	Level 2 £m	Level 3 £m	
Investment property – Participating fund assets								
Lease to third parties under operating leases	—	—	4,048	4,048	—	—	4,548	4,548
Vacant investment property/held for capital appreciation	—	—	68	68	—	—	62	62
Total	—	—	4,116	4,116	—	—	4,610	4,610
Total %	—	—	100.0%	100.0%	—	—	100.0%	100.0%

	2015				2014			
	Fair value hierarchy			Total £m	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m		Level 1 £m	Level 2 £m	Level 3 £m	
Investment property – Shareholder assets								
Lease to third parties under operating leases	—	—	527	527	—	—	296	296
Vacant investment property/held for capital appreciation	—	—	11	11	—	—	—	—
Total	—	—	538	538	—	—	296	296
Total %	—	—	100.0%	100.0%	—	—	100.0%	100.0%

95.2% (FY14: 96.7%) of total investment properties by value are held in policyholder or participating fund assets. Shareholder exposure to investment properties is principally through investments in UK and French commercial property.

Investment properties are stated at their market values as assessed by qualified external independent valuers. The investment properties are valued on an income basis that is based on current rental income plus anticipated uplifts at the next rent review, lease expiry, or break option taking in to consideration lease incentives and assuming no further growth in the estimated rental value of the property. This uplift and the discount rate are derived from rates implied by recent market transactions on similar property. These inputs are deemed unobservable.

98.7% (FY14: 98.9%) of total investment properties by value are leased to third parties under operating leases, with the remainder either being vacant or held for capital appreciation.

D3 – Analysis of asset quality continued

D3.2 – Loans

The Group loan portfolio is principally made up of:

- Policy loans which are generally collateralised by a lien or charge over the underlying policy;
- Loans and advances to banks, which primarily relate to loans of cash collateral received in stock lending transactions. These loans are fully collateralised by other securities;
- Mortgage loans collateralised by property assets;
- Healthcare, Infrastructure & Private Finance Initiative ('PFI') other loans; and
- Other loans, which include loans to brokers and intermediaries.

Loans with fixed maturities, including policy loans, mortgage loans (at amortised cost) and loans and advances to banks, are recognised when cash is advanced to borrowers. These loans are carried at their unpaid principal balances and adjusted for amortisation of premium or discount, non-refundable loan fees and related direct costs. These amounts are deferred and amortised over the life of the loan as an adjustment to loan yield using the effective interest rate method.

For certain mortgage loans, the Group has taken advantage of the fair value option under IAS 39 to present the mortgages, associated borrowings, other liabilities and derivative financial instruments at fair value, since they are managed together on a fair value basis. The mortgage loans are not traded in active markets. These investments are classified as level 3 as the assumptions used to derive the credit risk, liquidity premium and property risk are not deemed to be market observable.

	United Kingdom & Ireland £m	Europe £m	Canada £m	Asia £m	Total £m
Loans – Total 2015					
Policy loans	17	731	—	31	779
Loans and advances to banks	2,703	20	—	—	2,723
Healthcare, Infrastructure & PFI other loans	1,246	—	—	—	1,246
Mortgage loans	17,259	1	—	—	17,260
Other loans	282	8	135	—	425
Total	21,507	760	135	31	22,433
Total %	95.9%	3.4%	0.6%	0.1%	100.0%
FY14	24,262	846	122	30	25,260
FY14 %	96.0%	3.4%	0.5%	0.1%	100.0%

	United Kingdom & Ireland £m	Europe £m	Canada £m	Asia £m	Total £m
Loans – Policyholders assets 2015					
Policy loans	—	—	—	7	7
Loans and advances to banks	76	—	—	—	76
Healthcare, Infrastructure & PFI other loans	—	—	—	—	—
Mortgage loans	—	—	—	—	—
Other loans	—	—	—	—	—
Total	76	—	—	7	83
Total %	91.6%	—	—	8.4%	100.0%
FY14	295	—	—	7	302
FY14 %	97.7%	—	—	2.3%	100.0%

	United Kingdom & Ireland £m	Europe £m	Canada £m	Asia £m	Total £m
Loans – Participating fund assets 2015					
Policy loans	13	726	—	21	760
Loans and advances to banks	2,044	—	—	—	2,044
Healthcare, Infrastructure & PFI other loans	—	—	—	—	—
Mortgage loans	305	1	—	—	306
Other loans	276	—	—	—	276
Total	2,638	727	—	21	3,386
Total %	77.9%	21.5%	—	0.6%	100.0%
FY14	3,486	781	—	21	4,288
FY14 %	81.3%	18.2%	—	0.5%	100.0%

D3 – Analysis of asset quality continued

D3.2 – Loans continued

	United Kingdom & Ireland £m	Europe £m	Canada £m	Asia £m	Total £m
Loans – Shareholder assets 2015					
Policy loans	4	5	—	3	12
Loans and advances to banks	583	20	—	—	603
Healthcare, Infrastructure & PFI other loans	1,246	—	—	—	1,246
Mortgage loans	16,954	—	—	—	16,954
Other loans	6	8	135	—	149
Total	18,793	33	135	3	18,964
Total %	99.1%	0.2%	0.7%	0.0%	100.0%
FY14	20,481	65	122	2	20,670
FY14 %	99.1%	0.3%	0.6%	0.0%	100.0%

The value of the Group's loan portfolio (including Policyholder, Participating Fund and Shareholder assets), at 31 December 2015 stood at £22.4 billion (*FY14: £25.3 billion*), a decrease of £2.9 billion.

The total shareholder exposure to loans decreased to £19.0 billion (*FY14: £20.7 billion*) and represented 85% of the total loan portfolio, with the remaining 15% primarily held in participating funds (£3.4 billion)

Of the Group's total loan portfolio (including Policyholder, Participating Fund and Shareholder assets), 77% (*FY14 Restated¹: 76%*) is invested in mortgage loans.

Primary Healthcare, Infrastructure and PFI other loans included within shareholder assets are £1.2 billion (*FY14 Restated¹: £1.1 billion*) and are secured against the income from healthcare and educational premises.

Mortgage loans – Shareholder assets

	Total £m
2015	
Non-securitised mortgage loans	
– Residential (Equity release)	4,807
– Commercial	6,434
– Healthcare, Infrastructure & PFI mortgage loans	3,261
	14,502
Securitised mortgage loans	2,452
Total	16,954
FY14 ¹ (Restated)	18,811

¹ Following a review of the classification of loans, £1.1 billion in 2014 has been reclassified from mortgage loans to Healthcare, Infrastructure & PFI other loans. The net impact on Loans is £nil.

The Group's mortgage loan portfolio is focused in the UK, across various sectors, including residential loans, commercial loans and government supported healthcare loans. Aviva's shareholder exposure to mortgage loans accounts for 89% of total shareholder asset loans. This section focuses on explaining the shareholder risk within these exposures.

United Kingdom & Ireland (Non-securitised mortgage loans)

Residential

The UK non-securitised residential mortgage portfolio has a total current value of £4.8 billion (*FY14: £4.1 billion*). The movement from the prior year is due to £0.7 billion of net new loans and accrued interest (net of redemptions). These mortgages are all in the form of equity release, whereby homeowners mortgage their property to release cash equity. Due to the structure of equity release mortgages, whereby interest amounts due are not paid in cash but instead rolled into the amount outstanding, they predominantly have a current Loan to Value ('LTV') of below 70%. The average LTV across the portfolio is 26.8% (*FY14: 27.2%*).

D3 – Analysis of asset quality continued

D3.2 – Loans continued

Commercial

Gross exposure by loan to value and arrears is shown in the table below.

Shareholder assets

2015	>120% £m	115–120% £m	110–115% £m	105–110% £m	100–105% £m	95–100% £m	90–95% £m	80–90% £m	70–80% £m	<70% £m	Total £m
Not in arrears	—	—	—	—	—	368	263	410	1,012	4,372	6,425
0 – 3 months	—	—	—	—	—	—	—	—	—	—	—
3 – 6 months	—	—	—	—	—	—	—	—	—	—	—
6 – 12 months	—	—	—	—	—	9	—	—	—	—	9
> 12 months	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	377	263	410	1,012	4,372	6,434

Of the £6.4 billion (*FY14: £8.8 billion*) of UK non-securitised commercial mortgage loans in the shareholder fund held by our UK Life business, £6.3 billion are used to back annuity liabilities and are stated on a fair value basis. The loan exposures for our UK Life business are calculated on a discounted cash flow basis, and include a risk adjustment through the use of Credit Risk Adjusted Value ('CRAV') methods.

For commercial mortgages loan service collection ratios, a key indicator of mortgage portfolio performance, improved to 1.78x (*FY14: 1.31x*). Loan Interest Cover ('LIC'), which is defined as the annual net rental income (including rental deposits and less ground rent) divided by the annual loan interest service, also improved to 2.05x (*FY14: 1.47x*). Average mortgage LTV decreased by 24% compared to FY14 from 85% to 61% (CRAV) primarily driven by UK Life's commercial mortgage loans restructure and recovery programme which completed with the sale of £2.2 billion of commercial mortgage loans to Lone Star. Of the £9 million (*FY14: £1,492 million*) value of loans in arrears included within our shareholder assets, the interest and capital amount in arrears is £7 million. The decrease in loans in arrears of £1,483 million is primarily driven by the £2.2 billion mortgage restructuring and recovery programme.

Commercial mortgages and Healthcare, Infrastructure & PFI loans are held at fair value on the asset side of the statement of financial position. Insurance liabilities are valued using a discount rate derived from gross yield on assets, with adjustments to allow for risk. £10.6 billion of shareholder loan assets are backing annuity liabilities and comprise of commercial mortgage loans (£6.3 billion), Healthcare, Infrastructure and PFI mortgage loans (£3.2 billion) and Primary Healthcare, Infrastructure and PFI other loans (£1.1 billion). The Group carries a valuation allowance within the liabilities against the risk of default of commercial mortgages, including Healthcare and PFI mortgages, of £0.6 billion which equates to 59bps at 31 December 2015 (*FY14: 87bps*). The total valuation allowance held by Aviva Annuity UK Limited in respect of corporate bonds and mortgages, including Healthcare and PFI mortgages is £1.5 billion (*FY14: £1.9 billion*) over the remaining term of the UK Life corporate bond and mortgage portfolio.

The UK portfolio remains well diversified in terms of property type, location and tenants as well as the spread of loans written over time. The risks in commercial mortgages are addressed through several layers of protection with the mortgage risk profile being primarily driven by the ability of the underlying tenant rental income to cover loan interest and amortisation. Should any single tenant default on their rental payment, rental from other tenants backing the same loan often ensures the loan interest cover does not fall below 1.0x. Where there are multiple loans to a single borrower further protection may be achieved through cross-charging (or pooling) such that any single loan is also supported by rents received within other pool loans. Additionally, there may be support provided by the borrower of the loan itself and further loss mitigation from any general floating charge held over assets within the borrower companies.

If the LIC cover falls below 1.0x and the borrower defaults then Aviva still retains the option of selling the security or restructuring the loans and benefiting from the protection of the collateral. A combination of these benefits and the high recovery levels afforded by property collateral (compared to corporate debt or other uncollateralised credit exposures) results in the economic exposure being significantly lower than the gross exposure reported above. We will continue to actively manage this position.

Healthcare

Primary Healthcare, Infrastructure and PFI mortgage loans included within shareholder assets of £3.3 billion (*FY14 Restated¹: £3.5 billion*) are secured against primary health care premises (including General Practitioner surgeries), education, social housing and emergency services related premises. For all such loans, government support is provided through either direct funding or reimbursement of rental payments to the tenants to meet income service and provide for the debt to be reduced substantially over the term of the loan. Although the loan principal is not Government guaranteed, the nature of these businesses and premises provides considerable comfort of an ongoing business model and low risk of default.

On a market value basis, we estimate the average LTV of these mortgages to be 75% (*FY14 Restated¹: 90%*), although as explained above, we do not consider this to be a key risk indicator. Income support from the Government bodies and the social need for these premises provide sustained income stability. Aviva therefore considers these loans to be lower risk relative to other mortgage loans.

Securitised mortgage loans

Funding for the securitised residential mortgage assets of £2.5 billion (*FY14: £2.4 billion*) was obtained by issuing loan note securities. Of these loan notes approximately £256 million (*FY14 Restated²: £167 million*) are held by Group companies. The remainder is held by third parties external to Aviva. As any cash shortfall arising once all mortgages have redeemed is borne by the loan note holders, the majority of the credit risk of these mortgages is borne by third parties. Securitised residential mortgages held are predominantly issued through vehicles in the UK.

On 1 January 2016 a UK subsidiary, Aviva Annuity UK Limited, securitised £4,179 million of equity release mortgages by transferring them to a wholly owned subsidiary, Aviva ERFA 15 UK Limited. In return, Aviva Annuity UK Limited received £4,154 million of loan notes issued by Aviva ERFA 15 UK Limited.

¹ Following a review of mortgage loans reclassification, £1.1 billion in 2014 has been reclassified from mortgage loans to Healthcare, infrastructure and PFI loans. The net impact on loans is £nil.

² Loans held by Group companies has been restated to exclude an intra-group transaction in UK Life which eliminates on Group consolidation.

D3 – Analysis of asset quality continued

D3.3 – Financial investments

	2015				2014			
	Cost/ amortised cost £m	Unrealised gains £m	Impairment and unrealised losses £m	Fair value £m	Cost/ amortised cost £m	Unrealised gains £m	Impairment and unrealised losses £m	Fair value £m
Financial Investments – Total								
Debt securities	155,247	10,864	(3,147)	162,964	118,245	14,130	(714)	131,661
Equity securities	60,124	7,663	(4,229)	63,558	29,701	7,114	(1,196)	35,619
Other investments	44,263	5,005	(1,573)	47,695	29,845	5,954	(441)	35,358
Total	259,634	23,532	(8,949)	274,217	177,791	27,198	(2,351)	202,638

Aviva holds large quantities of debt securities in the form of high quality bonds, primarily to match our liability to make guaranteed payments to policyholders. Some credit risk is taken, partly to increase returns to policyholders and partly to optimise the risk/return profile for shareholders. The risks are consistent with the products we offer and the related investment mandates, and are in line with our risk appetite.

The Group also holds equities, the majority of which are held in participating funds and policyholder funds, where they form an integral part of the investment expectations of policyholders and follow well-defined investment mandates. Some equities are also held in shareholder funds. The vast majority of equity investments are valued at quoted market prices and therefore classified as Level 1. Refer to D3.3.2 for further analysis of equities.

Other investments include investments such as unit trusts, derivative financial instruments and deposits with credit institutions. For further analysis, see D3.3.3.

During the year, total financial investments increased by £71.6 billion to £274.2 billion (FY14: £202.6 billion) mainly due to the acquisition of Friends Life business, partially offset by negative investment market movements.

D3.3.1 – Debt securities

Debt securities – Total 2015	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m	
UK Government	31,336	1,829	132	33,297
Non-UK Government	27,793	12,865	2,006	42,664
Europe	26,160	8,011	2,000	36,171
North America	233	2,743	—	2,976
Asia Pacific & Other	1,400	2,111	6	3,517
Corporate bonds – Public utilities	3,560	6,681	412	10,653
Corporate convertible bonds	158	—	—	158
Other Corporate bonds	21,802	31,068	10,329	63,199
Other	4,509	6,760	1,724	12,993
Total	89,158	59,203	14,603	162,964
Total %	54.7%	36.3%	9.0%	100.0%
FY14	75,078	45,274	11,309	131,661
FY14 %	57.0%	34.4%	8.6%	100.0%

Debt securities – Policyholders assets 2015	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m	
UK Government	10,371	13	1	10,385
Non-UK Government	1,200	1,427	6	2,633
Europe	943	654	—	1,597
North America	29	343	—	372
Asia Pacific & Other	228	430	6	664
Corporate bonds – Public utilities	36	594	1	631
Corporate convertible bonds	—	—	—	—
Other Corporate bonds	2,236	4,741	613	7,590
Other	1,088	1,685	10	2,783
Total	14,931	8,460	631	24,022
Total %	62.2%	35.2%	2.6%	100.0%
FY14	6,674	6,536	418	13,628
FY14 %	49.0%	47.9%	3.1%	100.0%

D3 – Analysis of asset quality continued

D3.3 – Financial investments continued

D3.3.1 – Debt securities continued

	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m	
Debt securities – Participating fund assets 2015				
UK Government	12,715	1,008	—	13,723
Non-UK Government	23,679	5,249	1,537	30,465
Europe	22,340	3,796	1,537	27,673
North America	181	97	—	278
Asia Pacific & Other	1,158	1,356	—	2,514
Corporate bonds – Public utilities	3,341	1,276	1	4,618
Corporate convertible bonds	158	—	—	158
Other Corporate bonds	18,327	10,239	6,045	34,611
Other	3,137	3,012	1,282	7,431
Total	61,357	20,784	8,865	91,006
Total %	67.4%	22.8%	9.8%	100.0%
FY14	58,314	15,873	8,043	82,230
FY14 %	70.9%	19.3%	9.8%	100.0%

	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m	
Debt securities – Shareholder assets 2015				
UK Government	8,250	808	131	9,189
Non-UK Government	2,914	6,189	463	9,566
Europe	2,877	3,561	463	6,901
North America	23	2,303	—	2,326
Asia Pacific & Other	14	325	—	339
Corporate bonds – Public utilities	183	4,811	410	5,404
Corporate convertible bonds	—	—	—	—
Other Corporate bonds	1,239	16,088	3,671	20,998
Other	284	2,063	432	2,779
Total	12,870	29,959	5,107	47,936
Total %	26.8%	62.5%	10.7%	100.0%
FY14	10,090	22,865	2,848	35,803
FY14 %	28.2%	63.8%	8.0%	100.0%

26.8% (FY14: 28.2%) of shareholder exposure to debt securities is based on quoted prices in an active market and are therefore classified as fair value level 1.

62.5% (FY14: 63.8%) of shareholder exposure to debt securities included within level 2 is based on inputs other than quoted prices and are observable for the asset or liability, either directly or indirectly.

10.7% (FY14: 8.0%) of total shareholder exposure to debt securities is fair valued using models with significant unobservable market parameters (classified as fair value level 3). Where estimates are used, these are based on a combination of independent third party evidence and internally developed models, calibrated to market observable data where possible.

Fair value level 3 has increased due to the inclusion of £1.7 billion debt securities from the Friends Life acquisition, and transfers from Level 2 due to the unavailability of significant observable market data or sufficiently significant differences between the valuation provided by the counterparty and broker quotes, and the validation models. Other changes in the proportion of Level 1 and Level 2 assets are principally driven by the additions relating to the acquisition of the Friends Life business and market movements.

D3 – Analysis of asset quality continued

D3.3 – Financial investments continued

D3.3.1 – Debt securities continued

Debt securities – Total 2015	External ratings						Total £m
	AAA £m	AA £m	A £m	BBB £m	Less than BBB £m	Non-rated £m	
Government							
UK Government	—	33,038	51	—	—	190	33,279
UK local authorities	—	1	—	—	—	17	18
Non-UK Government	11,330	17,337	3,812	9,624	472	89	42,664
	11,330	50,376	3,863	9,624	472	296	75,961
Corporate							
Public utilities	—	268	4,860	4,968	229	328	10,653
Convertibles and bonds with warrants	—	—	—	150	—	8	158
Other corporate bonds	7,320	8,136	20,173	16,821	4,182	6,567	63,199
	7,320	8,404	25,033	21,939	4,411	6,903	74,010
Certificates of deposits	—	981	1,026	62	149	10	2,228
Structured							
RMBS ¹ non-agency ALT A	1	25	—	3	—	—	29
RMBS ¹ non-agency prime	210	129	90	25	45	—	499
RMBS ¹ agency	1	—	—	—	—	—	1
	212	154	90	28	45	—	529
CMBS ²	368	168	110	87	—	2	735
ABS ³	124	687	673	218	67	9	1,778
CDO (including CLO) ⁴	432	9	—	—	—	—	441
ABCP ⁵	—	—	—	—	—	—	—
	924	864	783	305	67	11	2,954
Wrapped credit	—	24	544	97	67	45	777
Other	412	113	858	2,595	1,298	1,229	6,505
Total	20,198	60,916	32,197	34,650	6,509	8,494	162,964
Total %	12.4%	37.4%	19.8%	21.2%	4.0%	5.2%	100.0%
FY14	17,866	46,831	28,118	28,848	2,749	7,249	131,661
FY14 %	13.6%	35.6%	21.3%	21.9%	2.1%	5.5%	100.0%

1 RMBS – Residential Mortgage Backed Security

2 CMBS – Commercial Mortgage Backed Security

3 ABS – Asset Backed Security

4 CDO – Collateralised Debt Obligation, CLO – Collateralised Loan Obligation

5 ABCP – Asset Backed Commercial Paper

D3 – Analysis of asset quality continued

D3.3 – Financial investments continued

D3.3.1 – Debt securities continued

Debt securities – Policyholders assets 2015	External ratings						Total £m
	AAA £m	AA £m	A £m	BBB £m	Less than BBB £m	Non-rated £m	
Government							
UK Government	—	10,384	1	—	—	—	10,385
UK local authorities	—	—	—	—	—	—	—
Non-UK Government	666	244	893	718	81	31	2,633
	666	10,628	894	718	81	31	13,018
Corporate							
Public utilities	—	13	251	333	32	2	631
Convertibles and bonds with warrants	—	—	—	—	—	—	—
Other corporate bonds	216	543	1,996	1,883	1,457	1,495	7,590
	216	556	2,247	2,216	1,489	1,497	8,221
Certificates of deposits	—	615	684	42	81	—	1,422
Structured							
RMBS ¹ non-agency ALT A	—	1	—	—	—	—	1
RMBS ¹ non-agency prime	6	1	2	—	12	—	21
RMBS ¹ agency	—	—	—	—	—	—	—
	6	2	2	—	12	—	22
CMBS ²	10	1	3	—	—	—	14
ABS ³	—	27	36	23	3	—	89
CDO (including CLO) ⁴	—	—	—	—	—	—	—
ABCP ⁵	—	—	—	—	—	—	—
	10	28	39	23	3	—	103
Wrapped credit	—	2	29	2	—	—	33
Other	77	21	150	484	241	230	1,203
Total	975	11,852	4,045	3,485	1,907	1,758	24,022
Total %	4.1%	49.3%	16.8%	14.5%	8.0%	7.3%	100.0%
FY14	675	5,006	3,786	2,456	422	1,283	13,628
FY14 %	5.0%	36.7%	27.8%	18.0%	3.1%	9.4%	100.0%

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D3 – Analysis of asset quality continued

D3.3 – Financial investments continued

D3.3.1 – Debt securities continued

Debt securities – Participating fund assets 2015	External ratings						Total £m
	AAA £m	AA £m	A £m	BBB £m	Less than BBB £m	Non-rated £m	
Government							
UK Government	—	13,714	—	—	—	8	13,722
UK local authorities	—	1	—	—	—	—	1
Non-UK Government	6,526	13,604	2,069	7,821	389	56	30,465
	6,526	27,319	2,069	7,821	389	64	44,188
Corporate							
Public utilities	—	85	1,503	2,743	193	94	4,618
Convertibles and bonds with warrants	—	—	—	150	—	8	158
Other corporate bonds	4,877	4,634	10,068	9,843	2,244	2,945	34,611
	4,877	4,719	11,571	12,736	2,437	3,047	39,387
Certificates of deposits	—	357	326	12	35	10	740
Structured							
RMBS ¹ non-agency ALT A	1	5	—	2	—	—	8
RMBS ¹ non-agency prime	115	79	38	—	15	—	247
RMBS ¹ agency	—	—	—	—	—	—	—
	116	84	38	2	15	—	255
CMBS ²	113	47	56	64	—	1	281
ABS ³	85	171	228	141	24	—	649
CDO (including CLO) ⁴	418	—	—	—	—	—	418
ABCP ⁵	—	—	—	—	—	—	—
	616	218	284	205	24	1	1,348
Wrapped credit	—	9	99	46	16	—	170
Other	318	87	620	1,996	995	902	4,918
Total	12,453	32,793	15,007	22,818	3,911	4,024	91,006
Total %	13.7%	36.0%	16.5%	25.1%	4.3%	4.4%	100.0%
FY14	11,160	30,484	14,540	20,855	2,036	3,155	82,230
FY14 %	13.6%	37.1%	17.7%	25.3%	2.5%	3.8%	100.0%

1 RMBS – Residential Mortgage Backed Security

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4 CDO – Collateralised Debt Obligation, CLO – Collateralised Loan Obligation

5 ABCP – Asset Backed Commercial Paper

D3 – Analysis of asset quality continued

D3.3 – Financial investments continued

D3.3.1 – Debt securities continued

Debt securities – Shareholder assets 2015	External ratings						Total £m
	AAA £m	AA £m	A £m	BBB £m	Less than BBB £m	Non-rated £m	
Government							
UK Government	—	8,940	50	—	—	182	9,172
UK local authorities	—	—	—	—	—	17	17
Non-UK Government	4,138	3,489	850	1,085	2	2	9,566
	4,138	12,429	900	1,085	2	201	18,755
Corporate							
Public utilities	—	170	3,106	1,892	4	232	5,404
Convertibles and bonds with warrants	—	—	—	—	—	—	—
Other corporate bonds	2,227	2,959	8,109	5,095	481	2,127	20,998
	2,227	3,129	11,215	6,987	485	2,359	26,402
Certificates of deposits	—	9	16	8	33	—	66
Structured							
RMBS ¹ non-agency ALT A	—	19	—	1	—	—	20
RMBS ¹ non-agency prime	89	49	50	25	18	—	231
RMBS ¹ agency	1	—	—	—	—	—	1
	90	68	50	26	18	—	252
CMBS ²	245	120	51	23	—	1	440
ABS ³	39	489	409	54	40	9	1,040
CDO (including CLO) ⁴	14	9	—	—	—	—	23
ABCP ⁵	—	—	—	—	—	—	—
	298	618	460	77	40	10	1,503
Wrapped credit	—	13	416	49	51	45	574
Other	17	5	88	115	62	97	384
Total	6,770	16,271	13,145	8,347	691	2,712	47,936
Total %	14.1%	34.0%	27.4%	17.4%	1.4%	5.7%	100.0%
FY14	6,031	11,341	9,792	5,537	291	2,811	35,803
FY14 %	16.8%	31.7%	27.3%	15.5%	0.8%	7.9%	100.0%

1 RMBS – Residential Mortgage Backed Security

2 CMBS – Commercial Mortgage Backed Security

3 ABS – Asset Backed Security

4 CDO – Collateralised Debt Obligation, CLO – Collateralised Loan Obligation

5 ABCP – Asset Backed Commercial Paper

The overall quality of the book remains strong. 39% of shareholder exposure to debt securities is in government holdings (FY14: 46%). Our corporate debt securities portfolio represents 55% of total shareholder debt securities (FY14: 49%). At 31 December 2015, the proportion of our shareholder debt securities that are investment grade increased to 92.9% (FY14: 91.3%). The remaining 7.1% of shareholder debt securities that do not have an external rating of BBB or higher can be split as follows:

- 1.4% are debt securities that are rated as below investment grade;
- 5.7% are not rated by the major rating agencies.

The majority of non-rated corporate bonds are held by our businesses in the UK. Of the securities not rated by an external agency most are allocated an internal rating using a methodology largely consistent with that adopted by an external rating agency, and are considered to be of investment grade credit quality; these include £2.5 billion (FY14: £2.5 billion) of debt securities held in our UK Life business, predominantly made up of private placements and other corporate bonds, which have been internally rated as investment grade.

The Group has limited shareholder exposure to CDOs, CLOs and 'Sub-prime' debt securities.

Out of the total asset backed securities (ABS), £1,023 million (FY14: £611 million) are held by the UK Life business. 95.3% of the Group's shareholder holdings in ABS are investment grade (FY14: 89.6%). ABS that either have a rating below BBB or are not rated represent approximately 0.1% of shareholder exposure to debt securities (FY14: 0.2%).

D3 – Analysis of asset quality continued

D3.3 – Financial investments continued

D3.3.2 – Equity securities

	2015				2014			
	Fair value hierarchy			Total £m	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m		Level 1 £m	Level 2 £m	Level 3 £m	
Equity securities – Total assets								
Public utilities	3,364	—	3	3,367	2,929	—	—	2,929
Banks, trusts and insurance companies	13,893	—	133	14,026	7,142	—	133	7,275
Industrial miscellaneous and all other	45,164	—	800	45,964	25,104	—	25	25,129
Non-redeemable preferred shares	201	—	—	201	285	—	1	286
Total	62,622	—	936	63,558	35,460	—	159	35,619
Total %	98.5%	—	1.5%	100.0%	99.6%	—	0.4%	100.0%

	2015				2014			
	Fair value hierarchy			Total £m	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m		Level 1 £m	Level 2 £m	Level 3 £m	
Equity securities – Policyholder assets								
Public utilities	2,674	—	—	2,674	2,324	—	—	2,324
Banks, trusts and insurance companies	10,603	—	—	10,603	4,821	—	—	4,821
Industrial miscellaneous and all other	34,062	—	25	34,087	19,099	—	2	19,101
Non-redeemable preferred shares	30	—	—	30	77	—	1	78
Total	47,369	—	25	47,394	26,321	—	3	26,324
Total %	99.9%	—	0.1%	100.0%	100.0%	—	0.0%	100.0%

	2015				2014			
	Fair value hierarchy			Total £m	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m		Level 1 £m	Level 2 £m	Level 3 £m	
Equity securities – Participating fund assets								
Public utilities	685	—	3	688	602	—	—	602
Banks, trusts and insurance companies	3,173	—	97	3,270	2,226	—	95	2,321
Industrial miscellaneous and all other	10,899	—	763	11,662	5,870	—	11	5,881
Non-redeemable preferred shares	7	—	—	7	9	—	—	9
Total	14,764	—	863	15,627	8,707	—	106	8,813
Total %	94.5%	—	5.5%	100.0%	98.8%	—	1.2%	100.0%

	2015				2014			
	Fair value hierarchy			Total £m	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m		Level 1 £m	Level 2 £m	Level 3 £m	
Equity securities – Shareholder assets								
Public utilities	5	—	—	5	3	—	—	3
Banks, trusts and insurance companies	117	—	36	153	95	—	38	133
Industrial miscellaneous and all other	203	—	12	215	135	—	12	147
Non-redeemable preferred shares	164	—	—	164	199	—	—	199
Total	489	—	48	537	432	—	50	482
Total %	91.1%	—	8.9%	100.0%	89.6%	—	10.4%	100.0%

Of the £27.9 billion increase in equity securities since 2014, £27.0 billion is attributable to the acquisition of the Friends Life business.

91.1% of our total shareholder exposure to equity securities is based on quoted prices in an active market and as such is classified as level 1 (FY14: 89.6%).

D3 – Analysis of asset quality continued

D3.3 – Financial investments continued

D3.3.3 – Other investments

	2015				2014			
	Fair value hierarchy			Total £m	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m		Level 1 £m	Level 2 £m	Level 3 £m	
Other investments – Total								
Unit trusts and other investment vehicles	38,411	1,292	2,938	42,641	24,079	3,079	2,482	29,640
Derivative financial instruments	308	2,745	275	3,328	199	3,748	141	4,088
Deposits with credit institutions	460	—	—	460	536	3	—	539
Minority holdings in property management undertakings	—	20	940	960	1	323	430	754
Other	306	—	—	306	324	—	13	337
Total	39,485	4,057	4,153	47,695	25,139	7,153	3,066	35,358
Total %	82.8%	8.5%	8.7%	100.0%	71.1%	20.2%	8.7%	100.0%

	2015				2014			
	Fair value hierarchy			Total £m	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m		Level 1 £m	Level 2 £m	Level 3 £m	
Other investments – Policyholder assets								
Unit trusts and other investment vehicles	36,037	1,205	1,760	39,002	23,464	2,966	13	26,443
Derivative financial instruments	28	24	—	52	17	29	—	46
Deposits with credit institutions	327	—	—	327	373	—	—	373
Minority holdings in property management undertakings	—	—	114	114	—	—	—	—
Other	300	—	—	300	319	—	—	319
Total	36,692	1,229	1,874	39,795	24,173	2,995	13	27,181
Total %	92.2%	3.1%	4.7%	100.0%	88.9%	11.0%	0.1%	100.0%

	2015				2014			
	Fair value hierarchy			Total £m	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m		Level 1 £m	Level 2 £m	Level 3 £m	
Other investments – Participating fund assets								
Unit trusts and other investment vehicles	1,633	80	1,139	2,852	321	109	2,268	2,698
Derivative financial instruments	189	1,857	216	2,262	180	2,486	103	2,769
Deposits with credit institutions	28	—	—	28	56	—	—	56
Minority holdings in property management undertakings	—	—	597	597	—	294	315	609
Other	—	—	—	—	—	—	13	13
Total	1,850	1,937	1,952	5,739	557	2,889	2,699	6,145
Total %	32.2%	33.8%	34.0%	100.0%	9.1%	47.0%	43.9%	100.0%

	2015				2014			
	Fair value hierarchy			Total £m	Fair value hierarchy			Total £m
	Level 1 £m	Level 2 £m	Level 3 £m		Level 1 £m	Level 2 £m	Level 3 £m	
Other investments – Shareholders assets								
Unit trusts and other investment vehicles	741	7	39	787	294	4	201	499
Derivative financial instruments	91	864	59	1,014	2	1,233	38	1,273
Deposits with credit institutions	105	—	—	105	107	3	—	110
Minority holdings in property management undertakings	—	20	229	249	1	29	115	145
Other	6	—	—	6	5	—	—	5
Total	943	891	327	2,161	409	1,269	354	2,032
Total %	43.7%	41.2%	15.1%	100.0%	20.1%	62.5%	17.4%	100.0%

The unit trusts and other investment vehicles invest in a variety of assets, which can include cash equivalents, debt, equity and property securities. Total shareholder other investments classified as level 2 have decreased during 2015 to 41.2% (FY14: 62.5%), primarily due to reductions in derivative financial instruments.

In total 84.9% (FY14: 82.6%) of total shareholder other investments are classified as level 1 or 2 in the fair value hierarchy.

D3 – Analysis of asset quality continued

D3.3 – Financial investments continued

D3.3.4 – Available for sale investments – Impairments and duration and amount of unrealised losses

The impairment expense during 2015 relating to AFS debt securities and other investments was £nil (FY14: £nil) and £nil (FY14: £2 million) respectively.

Total unrealised losses on AFS debt securities, equity securities and other investments at 31 December 2015 was £1 million (FY14: £3 million), £nil (FY14: £nil) and £nil (FY14: £nil) respectively.

	0 – 6 months		7 – 12 months		more than 12 months		Total	
	Fair value ¹ £m	Gross unrealised £m	Fair value ¹ £m	Gross unrealised £m	Fair value ¹ £m	Gross unrealised £m	Fair value ¹ £m	Gross unrealised £m
2015								
Less than 20% loss position:								
Debt securities	5	—	8	—	34	(1)	47	(1)
Equity securities	—	—	—	—	—	—	—	—
Other investments	—	—	—	—	—	—	—	—
	5	—	8	—	34	(1)	47	(1)
20%-50% loss position:								
Debt securities	—	—	—	—	—	—	—	—
Equity securities	—	—	—	—	—	—	—	—
Other investments	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—
Greater than 50% loss position:								
Debt securities	—	—	—	—	—	—	—	—
Equity securities	—	—	—	—	—	—	—	—
Other investments	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—
Total								
Debt securities	5	—	8	—	34	(1)	47	(1)
Equity securities	—	—	—	—	—	—	—	—
Other investments	—	—	—	—	—	—	—	—
	5	—	8	—	34	(1)	47	(1)

¹ Only includes AFS securities that are in unrealised loss positions.

	0 – 6 months		7 – 12 months		more than 12 months		Total	
	Fair value ¹ £m	Gross unrealised £m	Fair value ¹ £m	Gross unrealised £m	Fair value ¹ £m	Gross unrealised £m	Fair value ¹ £m	Gross unrealised £m
2014								
Less than 20% loss position:								
Debt securities	9	—	11	—	17	(1)	37	(1)
Equity securities	—	—	—	—	3	—	3	—
Other investments	—	—	—	—	1	—	1	—
	9	—	11	—	21	(1)	41	(1)
20%-50% loss position:								
Debt securities	—	—	—	—	3	(2)	3	(2)
Equity securities	—	—	—	—	—	—	—	—
Other investments	—	—	—	—	—	—	—	—
	—	—	—	—	3	(2)	3	(2)
Greater than 50% loss position:								
Debt securities	—	—	—	—	—	—	—	—
Equity securities	—	—	—	—	—	—	—	—
Other investments	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—
Total								
Debt securities	9	—	11	—	20	(3)	40	(3)
Equity securities	—	—	—	—	3	—	3	—
Other investments	—	—	—	—	1	—	1	—
	9	—	11	—	24	(3)	44	(3)

¹ Only includes AFS securities that are in unrealised loss positions.

D3 – Analysis of asset quality continued

D3.3 – Financial investments continued

D3.3.5 – Exposures to peripheral European countries

Included in our debt securities and other financial assets are exposures to peripheral European countries. All of these assets are valued on a mark-to-market basis under IAS 39, and therefore our statement of financial position and income statement already reflect any reduction in value between the date of purchase and the balance sheet date. The significant majority of these holdings are within our participating funds where the risk to our shareholders is governed by the nature and extent of our participation within those funds.

Net of non-controlling interests, our direct shareholder and participating fund asset exposure to the government (and local authorities and agencies) of Italy is £4.7 billion (FY14: £4.9 billion).

Direct sovereign exposures to Greece, Ireland, Portugal, Italy and Spain (net of non-controlling interests, excluding policyholder assets)

	Participating		Shareholder		Total	
	2015 £bn	2014 £bn	2015 £bn	2014 £bn	2015 £bn	2014 £bn
Greece	—	—	—	—	—	—
Ireland	0.6	0.6	0.1	0.2	0.7	0.8
Portugal	0.1	0.2	—	—	0.1	0.2
Italy	4.4	4.8	0.3	0.1	4.7	4.9
Spain	0.8	0.9	0.4	0.4	1.2	1.3
Total Greece, Ireland, Portugal, Italy and Spain	5.9	6.5	0.8	0.7	6.7	7.2

Direct sovereign exposures to Greece, Ireland, Portugal, Italy and Spain (gross of non-controlling interests, excluding policyholder assets)

	Participating		Shareholder		Total	
	2015 £bn	2014 £bn	2015 £bn	2014 £bn	2015 £bn	2014 £bn
Greece	—	—	—	—	—	—
Ireland	0.6	0.6	0.1	0.2	0.7	0.8
Portugal	0.1	0.2	—	—	0.1	0.2
Italy	6.1	6.7	0.5	0.5	6.6	7.2
Spain	1.1	1.2	0.6	0.6	1.7	1.8
Total Greece, Ireland, Portugal, Italy and Spain	7.9	8.7	1.2	1.3	9.1	10.0

D3.3.6 – Non-UK Government debt securities (gross of non-controlling interests)

	Policyholder		Participating		Shareholder		Total	
	2015 £m	2014 £m	2015 £m	2014 £m	2015 £m	2014 £m	2015 £m	2014 £m
Non-UK Government Debt Securities								
Austria	14	11	697	705	140	107	851	823
Belgium	34	28	1,195	1,368	166	165	1,395	1,561
France	139	103	10,673	11,182	1,846	1,950	12,658	13,235
Germany	145	142	1,470	1,590	590	591	2,205	2,323
Greece	—	—	—	—	—	—	—	—
Ireland	12	5	595	613	100	155	707	773
Italy	319	330	6,090	6,666	442	485	6,851	7,481
Netherlands	31	43	1,156	1,336	302	414	1,489	1,793
Poland	559	571	689	823	399	443	1,647	1,837
Portugal	7	6	110	173	—	—	117	179
Spain	98	104	1,093	1,263	636	694	1,827	2,061
European Supranational debt	72	61	2,798	2,952	1,760	1,826	4,630	4,839
Other European countries	167	133	1,107	1,040	520	473	1,794	1,646
Europe	1,597	1,537	27,673	29,711	6,901	7,303	36,171	38,551
Canada	49	16	178	164	1,917	2,376	2,144	2,556
United States	323	94	100	48	409	347	832	489
North America	372	110	278	212	2,326	2,723	2,976	3,045
Singapore	16	11	762	598	264	277	1,042	886
Other	648	493	1,752	1,917	75	63	2,475	2,473
Asia Pacific and other	664	504	2,514	2,515	339	340	3,517	3,359
Total	2,633	2,151	30,465	32,438	9,566	10,366	42,664	44,955

At 31 December 2015, the Group's total government (non-UK) debt securities stood at £42.7 billion (FY14: £45.0 billion), a decrease of £2.3 billion. The significant majority of these holdings are within our participating funds where the risk to our shareholders is governed by the nature and extent of our participation within those funds.

Our direct shareholder asset exposure to government (non-UK) debt securities amounts to £9.6 billion (FY14: £10.4 billion). The primary exposures, relative to total shareholder (non-UK) government debt exposure, are to Canadian (20%), French (19%), Spanish (7%), German (6%) and Italian (5%) government debt securities.

D3 – Analysis of asset quality continued

D3.3 – Financial investments continued

D3.3.6 – Non-UK Government debt securities (gross of non-controlling interests) continued

The participating funds exposure to (non-UK) government debt amounts to £30.5 billion (*FY14: £32.4 billion*), a decrease of £1.9 billion. The primary exposures, relative to total (non-UK) government debt exposures included within our participating funds, are to the (non-UK) government debt securities of France (35%), Italy (20%), Germany (5%), Belgium (4%), Netherlands (4%) and Spain (4%).

D3.3.7 – Exposure to worldwide bank debt securities

Direct shareholder and participating fund assets exposures to worldwide bank debt securities (net of non-controlling interests, excluding policyholder assets)

	Shareholder assets			Participating fund assets		
	Total senior debt £bn	Total subordinated debt £bn	Total debt £bn	Total senior debt £bn	Total subordinated debt £bn	Total debt £bn
2015						
Australia	0.2	—	0.2	0.9	0.2	1.1
Denmark	—	—	—	1.1	—	1.1
France	0.5	—	0.5	2.8	0.6	3.4
Germany	0.1	—	0.1	0.4	0.2	0.6
Ireland	—	—	—	—	—	—
Italy	0.1	—	0.1	0.2	—	0.2
Netherlands	0.3	0.2	0.5	1.2	0.3	1.5
Spain	0.7	—	0.7	0.7	0.1	0.8
Switzerland	—	—	—	1.2	—	1.2
United Kingdom	1.3	0.5	1.8	1.2	1.0	2.2
United States	1.0	0.2	1.2	1.7	0.1	1.8
Other	0.7	0.1	0.8	1.5	0.3	1.8
Total	4.9	1.0	5.9	12.9	2.8	15.7
FY14	2.9	0.8	3.7	10.4	2.9	13.3

Net of non-controlling interests, our direct shareholder assets exposure to worldwide bank debt securities is £5.9 billion (*FY14: £3.7 billion*). The majority of our holding (83%) is in senior debt. The primary exposures are to UK (31%), US (20%) and Spanish (12%) banks.

Net of non-controlling interests, the participating fund exposures to worldwide bank debt securities, where the risk to our shareholders is governed by the nature and extent of our participation within those funds, is £15.7 billion (*FY14: £13.3 billion*). The majority of the exposure (82%) is in senior debt. Participating funds are most exposed to French (22%), UK (14%) and US (11%) banks.

Direct shareholder and participating fund assets exposures to worldwide bank debt securities (gross of non-controlling interests, excluding policyholder assets)

	Shareholder assets			Participating fund assets		
	Total senior debt £bn	Total subordinated debt £bn	Total debt £bn	Total senior debt £bn	Total subordinated debt £bn	Total debt £bn
2015						
Australia	0.2	—	0.2	0.9	0.3	1.2
Denmark	—	—	—	1.1	—	1.1
France	0.5	—	0.5	3.3	0.6	3.9
Germany	0.1	—	0.1	0.5	0.2	0.7
Ireland	—	—	—	—	—	—
Italy	0.1	—	0.1	0.3	—	0.3
Netherlands	0.3	0.2	0.5	1.2	0.3	1.5
Spain	0.8	—	0.8	0.8	0.1	0.9
Switzerland	—	—	—	1.3	—	1.3
United Kingdom	1.3	0.5	1.8	1.3	1.0	2.3
United States	1.0	0.2	1.2	1.9	0.1	2.0
Other	0.7	0.1	0.8	1.6	0.3	1.9
Total	5.0	1.0	6.0	14.2	2.9	17.1
FY14	3.1	0.8	3.9	11.8	3.1	14.9

Gross of non-controlling interests, our direct shareholder assets exposure to worldwide bank debt securities is £6.0 billion (*FY14: £3.9 billion*). The majority of our holding (83%) is in senior debt. The primary exposures are to UK (30%), US (20%) and Spanish (13%) banks.

Gross of non-controlling interests, the participating fund exposures to worldwide bank debt securities, where the risk to our shareholders is governed by the nature and extent of our participation within those funds, is £17.1 billion (*FY14: £14.9 billion*). The majority of the exposure (83%) is in senior debt. Participating funds are most exposed to French (23%), UK (13%) and US (12%) banks.

D3 – Analysis of asset quality continued

D3.4 – Reinsurance assets

The Group assumes and cedes reinsurance in the normal course of business, with retention limits varying by line of business. Reinsurance assets primarily include balances due from both insurance and reinsurance companies for ceded insurance liabilities. Amounts recoverable from reinsurers are estimated in a manner consistent with the outstanding claims provisions or settled claims associated with the reinsured policies and in accordance with the relevant reinsurance contract.

If a reinsurance asset is impaired, the Group reduces the carrying amount accordingly and recognises that impairment loss in the income statement. A reinsurance asset is impaired if there is objective evidence, as a result of an event that occurred after initial recognition of the reinsurance asset, that the Group may not receive all amounts due to it under the terms of the contract, and the event has a reliably measurable impact on the amounts that the Group will receive from the reinsurer.

For the table below, reinsurance asset credit ratings are stated in accordance with information from leading rating agencies.

Ratings 2015	Ratings					Not rated £m	Total £m
	AAA £m	AA £m	A £m	BBB £m	Less than BBB £m		
Policyholders assets	—	12,822	491	—	—	689	14,002
Participating fund assets	—	1,107	510	—	—	11	1,628
Shareholder assets	28	4,503	674	—	—	83	5,288
Total	28	18,432	1,675	—	—	783	20,918
Total %	0.1%	88.2%	8.0%	—	—	3.7%	100.0%
FY14	27	5,673	1,742	8	—	508	7,958
FY14 %	0.3%	71.3%	21.9%	0.1%	—	6.4%	100.0%

D3.5 – Receivables and other financial assets

The credit quality of receivables and other financial assets is managed at the local business unit level. Where assets classed as 'past due and impaired' exceed local credit limits, and are also deemed to be at sufficiently high risk of default, an analysis of the asset is performed and a decision is made whether to seek sufficient collateral from the counterparty or to write down the value of the asset as impaired. At FY15, 99% (FY14: 99%) of the receivables and other financial assets were neither past due nor impaired.

Credit terms vary from subsidiary to subsidiary, and from country to country, and are set locally within overall credit limits prescribed by the Group credit limit framework, and in line with the Group Credit Policy. The carrying value of receivables is reviewed at each reporting period. If the carrying value of a receivable or other financial asset is greater than the recoverable amount, the carrying value is reduced through a charge to the income statement in the period of impairment.

D3.6 – Cash and cash equivalents

Cash and cash equivalents consist of cash at banks and in hand, deposits held at call with banks, treasury bills and other short-term highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of change in value. Such investments are normally those with less than three months maturity from the date of acquisition, and include certificates of deposit with maturities of less than three months at date of issue.

D4 – Pension fund assets

In addition to the assets recognised directly on the Group's statement of financial position outlined in the disclosures above, the Group is also exposed to the scheme assets that are shown net of the present value of scheme liabilities within the IAS 19 net pension surplus. Pension surpluses are included within other assets and pension deficits are recognised within provisions in the Group's consolidated statement of financial position. Refer to Note B15 for details on the movements in the main schemes' surpluses and deficits.

Scheme assets are stated at their fair values. Total scheme assets are comprised in the UK, Ireland and Canada as follows:

	2015				2014			
	UK £m	Ireland £m	Canada £m	Total £m	UK £m	Ireland £m	Canada £m	Total £m
Bonds								
Fixed interest	5,542	216	133	5,891	5,519	213	130	5,862
Index-linked	5,758	114	—	5,872	5,568	122	—	5,690
Equities	70	—	—	70	98	—	—	98
Property	377	7	—	384	328	9	—	337
Pooled investment vehicles	2,904	143	96	3,143	2,010	137	110	2,257
Derivatives	96	—	—	96	584	1	—	585
Cash and other ¹	1,244	4	3	1,251	626	1	18	645
Total fair value of scheme assets	15,991	484	232	16,707	14,733	483	258	15,474
Less: consolidation elimination for non-transferable Group insurance policy ²	(546)	—	—	(546)	—	—	—	—
Total IAS 19 fair value of scheme assets	15,445	484	232	16,161	14,733	483	258	15,474

¹ Cash and other assets comprise cash at bank, insurance policies, receivables and payables.

² The Friends Provident Pension Scheme (FPPS) assets are included in the UK balances. As at 31 December 2015, the FPPS's cash and other balances includes an insurance policy of £546 million issued by a Group company that is not transferable under IAS 19 and is consequently eliminated from the Group's IAS 19 scheme assets.

Total scheme assets are analysed by those that have a quoted price in an active market and those that do not as follows:

	2015			2014		
	Total Quoted £m	Total Unquoted £m	Total £m	Total Quoted £m	Total Unquoted £m	Total £m
Bonds						
Fixed interest	2,796	3,095	5,891	2,907	2,955	5,862
Index-linked	5,436	436	5,872	5,240	450	5,690
Equities	70	—	70	74	24	98
Property	—	384	384	—	337	337
Pooled investment vehicles	291	2,852	3,143	130	2,127	2,257
Derivatives	6	90	96	(22)	607	585
Cash and other ¹	532	719	1,251	432	213	645
Total fair value of scheme assets	9,131	7,576	16,707	8,761	6,713	15,474
Less: consolidation elimination for non-transferable Group insurance policy ²	—	(546)	(546)	—	—	—
Total IAS 19 fair value of scheme assets	9,131	7,030	16,161	8,761	6,713	15,474

¹ Cash and other assets comprise cash at bank, insurance policies, receivables and payables.

² The Friends Provident Pension Scheme (FPPS) assets are included in the UK balances. As at 31 December 2015, the FPPS's cash and other balances includes an insurance policy of £546 million issued by a Group company that is not transferable under IAS 19 and is consequently eliminated from the Group's IAS 19 scheme assets.

Risk management and asset allocation strategy

The long-term investment objectives of the trustees and the employers are to limit the risk of the assets failing to meet the liabilities of the schemes over the long-term, and to maximise returns consistent with an acceptable level of risk so as to control the long-term costs of these schemes. To meet these objectives, the schemes' assets are invested in a portfolio consisting primarily (approximately 75%) of debt securities. The investment strategy will continue to evolve over time and is expected to match the liability profile increasingly closely with swap overlays to improve interest rate and inflation matching. The schemes are generally matched to interest rate risk relative to the funding basis.

Main UK Scheme

The Company works closely with the trustee, who is required to consult it on the investment strategy.

Interest rate and inflation risk are managed using a combination of liability-matching assets and swaps. Exposure to equity risk has been reducing over time and credit risk is managed within appetite. Currency risk is relatively small and is largely hedged. The other principal risk is longevity risk. In 2014, the Aviva Staff Pension Scheme entered into a longevity swap covering approximately £5 billion of pensioner in payment scheme liabilities.

Other schemes

The other schemes are considerably less material but their risks are managed in a similar way to those in the main UK scheme. During the year, the RAC pension scheme entered into a longevity swap covering approximately £600 million of pensioner in payment scheme liabilities.

D5 – Available funds

To ensure access to liquidity as and when needed, the Group maintains £1.7 billion of undrawn committed central borrowing facilities with various highly rated banks. These facilities are used to support Aviva plc's commercial paper programmes. The expiry profile of the undrawn committed central borrowing facilities is as follows:

	2015 £m	2014 £m
Expiring within one year	575	350
Expiring beyond one year	1,075	1,200
Total	1,650	1,550

D6 – Guarantees

As a normal part of their operating activities, various Group companies have given guarantees and options, including investment return guarantees, in respect of certain long-term insurance and fund management products.

For the UK Life with-profits business, provisions in respect of these guarantees and options are calculated on a market consistent basis, in which stochastic models are used to evaluate the level of risk (and additional cost) under a number of economic scenarios, which allow for the impact of volatility in both interest rates and equity prices. For UK Life non-profit business, provisions do not materially differ from those determined on a market consistent basis.

In all other businesses, provisions for guarantees and options are calculated on a local basis with sensitivity analysis undertaken where appropriate to assess the impact on provisioning levels of a movement in interest rates and equity levels (typically a 1% decrease in interest rates and 10% decline in equity markets).

VNB & Sales analysis

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E1 – Trend analysis of VNB – cumulative

	1Q14 YTD £m	2Q14 YTD £m	3Q14 YTD £m	4Q14 YTD £m	1Q15 YTD £m	2Q15 YTD £m	3Q15 YTD £m	4Q15 YTD £m	Growth ¹ on 4Q14	
									Sterling %	Constant currency %
Gross of tax and non-controlling interests										
United Kingdom ²	89	177	297	473	103	253	404	609	29%	29%
Ireland	3	6	6	9	3	7	11	16	77%	97%
United Kingdom & Ireland	92	183	303	482	106	260	415	625	30%	30%
France	54	110	156	205	56	98	144	198	(4)%	7%
Poland ³	21	34	46	64	15	30	46	65	2%	13%
Italy – excluding Eurovita	15	26	41	63	19	39	57	79	26%	40%
Spain – excluding CxG	6	14	19	30	6	13	20	31	5%	17%
Turkey ⁴	6	14	23	30	6	12	17	27	(10)%	4%
Europe	102	198	285	392	102	192	284	400	2%	14%
Asia ⁵ – excluding South Korea	29	61	92	122	36	76	115	151	23%	22%
Aviva Investors ⁶	—	2	5	9	3	6	9	16	79%	79%
Value of new business – excluding Eurovita, CxG & South Korea	223	444	685	1,005	247	534	823	1,192	19%	24%
Eurovita, CxG & South Korea	1	—	1	4	—	—	—	—	—	—
Total value of new business	224	444	686	1,009	247	534	823	1,192	18%	23%

1 Currency movements are calculated using unrounded numbers so minor rounding differences may exist.

2 United Kingdom includes Friends UK from 10 April 2015.

3 Poland includes Lithuania.

4 The shareholding of Aviva's minority interest in our Turkish joint venture reduced from 49.8% to 41.3% on 13 November 2014 through an initial public offering. Aviva's holding was further reduced to 40.0% on 7 August 2015.

5 Asia includes FPI from 10 April 2015.

6 The UK Retail Fund Management business was transferred from UK Life to Aviva Investors on 9 May 2014.

E2 – Trend analysis of VNB – discrete

	1Q14 Discrete £m	2Q14 Discrete £m	3Q14 Discrete £m	4Q14 Discrete £m	1Q15 Discrete £m	2Q15 Discrete £m	3Q15 Discrete £m	4Q15 Discrete £m	Growth ¹ on 4Q14	
									Sterling %	Constant currency %
Gross of tax and non-controlling interests										
United Kingdom ²	89	88	120	176	103	150	151	205	16%	16%
Ireland	3	3	—	3	3	4	4	5	56%	71%
United Kingdom & Ireland	92	91	120	179	106	154	155	210	17%	17%
France	54	56	46	49	56	42	46	54	11%	21%
Poland ³	21	13	12	18	15	15	16	19	6%	16%
Italy – excluding Eurovita	15	11	15	22	19	20	18	22	(1)%	9%
Spain – excluding CxG	6	8	5	11	6	7	7	11	8%	18%
Turkey ⁴	6	8	9	7	6	6	5	10	40%	63%
Europe	102	96	87	107	102	90	92	116	9%	20%
Asia ⁵ – excluding South Korea	29	32	31	30	36	40	39	36	21%	24%
Aviva Investors ⁶	—	2	3	4	3	3	3	7	90%	90%
Value of new business – excluding Eurovita, CxG & South Korea	223	221	241	320	247	287	289	369	16%	19%
Eurovita, CxG & South Korea	1	(1)	1	3	—	—	—	—	—	—
Total value of new business	224	220	242	323	247	287	289	369	15%	19%

1 Currency movements are calculated using unrounded numbers so minor rounding differences may exist.

2 United Kingdom includes Friends UK from 10 April 2015.

3 Poland includes Lithuania.

4 The shareholding of Aviva's minority interest in our Turkish joint venture reduced from 49.8% to 41.3% on 13 November 2014 through an initial public offering. Aviva's holding was further reduced to 40.0% on 7 August 2015.

5 Asia includes FPI from 10 April 2015.

6 The UK Retail Fund Management business was transferred from UK Life to Aviva Investors on 9 May 2014.

E3 – Trend analysis of PVNBP – cumulative

Present value of new business premiums ¹	1Q14 YTD £m	2Q14 YTD £m	3Q14 YTD £m	4Q14 YTD £m	1Q15 YTD £m	2Q15 YTD £m	3Q15 YTD £m	4Q15 YTD £m	Growth ² on 4Q14	
									Sterling %	Constant currency %
United Kingdom ^{3,4}	2,931	6,052	9,098	12,009	2,445	7,071	11,696	16,236	35%	35%
Ireland	105	196	291	435	132	270	406	561	29%	44%
United Kingdom & Ireland	3,036	6,248	9,389	12,444	2,577	7,341	12,102	16,797	35%	35%
France	1,310	2,427	3,538	4,633	1,319	2,553	3,639	4,821	4%	16%
Poland ⁵	234	332	429	573	110	218	319	448	(22)%	(13)%
Italy – excluding Eurovita	698	1,440	2,060	2,473	603	1,116	1,518	2,147	(13)%	(3)%
Spain – excluding CxG	270	536	743	1,054	224	363	455	622	(41)%	(34)%
Turkey ⁶	110	231	348	495	134	251	347	460	(7)%	7%
Europe	2,622	4,966	7,118	9,228	2,390	4,501	6,278	8,498	(8)%	3%
Asia ⁷ – excluding South Korea	421	867	1,357	1,854	623	1,449	2,218	2,823	52%	51%
Aviva Investors ⁸	5	257	562	881	366	761	1,165	1,647	87%	87%
Total – excluding Eurovita, CxG & South Korea	6,084	12,338	18,426	24,407	5,956	14,052	21,763	29,765	22%	27%
Eurovita, CxG & South Korea	136	292	307	321	—	—	—	—	—	—
Total	6,220	12,630	18,733	24,728	5,956	14,052	21,763	29,765	20%	25%

¹ Present value of new business premiums (PVNBP) is the present value of new regular premiums plus 100% of single premiums, calculated using assumptions consistent with those used to determine the value of new business.

² Currency movements are calculated using unrounded numbers so minor rounding differences may exist.

³ United Kingdom includes Friends UK from 10 April 2015.

⁴ Includes c.£1 billion PVNBP (net of reinsurance) relating to a longevity insurance transaction completed in 3Q15.

⁵ Poland includes Lithuania.

⁶ The shareholding of Aviva's minority interest in our Turkish joint venture reduced from 49.8% to 41.3% on 13 November 2014 through an initial public offering. Aviva's holding was further reduced to 40.0% on 7 August 2015.

⁷ Asia includes FPI from 10 April 2015.

⁸ The UK Retail Fund Management business was transferred from UK Life to Aviva Investors on 9 May 2014.

E4 – Trend analysis of PVNBP – discrete

Present value of new business premiums ¹	1Q14 Discrete £m	2Q14 Discrete £m	3Q14 Discrete £m	4Q14 Discrete £m	1Q15 Discrete £m	2Q15 Discrete £m	3Q15 Discrete £m	4Q15 Discrete £m	Growth ² on 4Q14	
									Sterling %	Constant currency %
United Kingdom ^{3,4}	2,931	3,121	3,046	2,911	2,445	4,626	4,625	4,540	56%	56%
Ireland	105	91	95	144	132	138	136	155	8%	18%
United Kingdom & Ireland	3,036	3,212	3,141	3,055	2,577	4,764	4,761	4,695	54%	54%
France	1,310	1,117	1,111	1,095	1,319	1,234	1,086	1,182	8%	17%
Poland ⁵	234	98	97	144	110	108	101	129	(10)%	(2)%
Italy – excluding Eurovita	698	742	620	413	603	513	402	629	52%	63%
Spain – excluding CxG	270	266	207	311	224	139	92	167	(46)%	(41)%
Turkey ⁶	110	121	117	147	134	117	96	113	(22)%	(10)%
Europe	2,622	2,344	2,152	2,110	2,390	2,111	1,777	2,220	5%	15%
Asia ⁷ – excluding South Korea	421	446	490	497	623	826	769	605	21%	23%
Aviva Investors ⁸	5	252	305	319	366	395	404	482	51%	51%
Total – excluding Eurovita, CxG & South Korea	6,084	6,254	6,088	5,981	5,956	8,096	7,711	8,002	34%	38%
Eurovita, CxG & South Korea	136	156	15	14	—	—	—	—	—	—
Total	6,220	6,410	6,103	5,995	5,956	8,096	7,711	8,002	33%	38%

¹ Present value of new business premiums (PVNBP) is the present value of new regular premiums plus 100% of single premiums, calculated using assumptions consistent with those used to determine the value of new business.

² Currency movements are calculated using unrounded numbers so minor rounding differences may exist.

³ United Kingdom includes Friends UK from 10 April 2015.

⁴ Includes c.£1 billion PVNBP (net of reinsurance) relating to a longevity insurance transaction completed in 3Q15.

⁵ Poland includes Lithuania.

⁶ The shareholding of Aviva's minority interest in our Turkish joint venture reduced from 49.8% to 41.3% on 13 November 2014 through an initial public offering. Aviva's holding was further reduced to 40.0% on 7 August 2015.

⁷ Asia includes FPI from 10 April 2015.

⁸ The UK Retail Fund Management business was transferred from UK Life to Aviva Investors on 9 May 2014.

E5 – Trend analysis of PVNBP by product – cumulative

Present value of new business premiums ¹	1Q14 YTD £m	2Q14 YTD £m	3Q14 YTD £m	4Q14 YTD £m	1Q15 YTD £m	2Q15 YTD £m	3Q15 YTD £m	4Q15 YTD £m	Growth ² on 4Q14	
									Sterling %	Constant currency %
Pensions	1,328	2,794	4,081	5,803	1,319	3,897	6,085	8,950	54%	54%
Annuities ³	500	935	1,656	1,948	136	777	2,205	2,945	51%	51%
Bonds	45	87	135	174	39	80	109	139	(20)%	(20)%
Protection	297	568	862	1,103	268	712	1,152	1,586	44%	44%
Equity release	117	257	462	696	206	458	584	699	—	—
Other ⁴	644	1,411	1,902	2,285	477	1,147	1,561	1,917	(16)%	(16)%
United Kingdom ⁵	2,931	6,052	9,098	12,009	2,445	7,071	11,696	16,236	35%	35%
Ireland	105	196	291	435	132	270	406	561	29%	44%
United Kingdom & Ireland	3,036	6,248	9,389	12,444	2,577	7,341	12,102	16,797	35%	35%
Savings	1,232	2,278	3,347	4,368	1,224	2,389	3,423	4,535	4%	16%
Protection	78	149	191	265	95	164	216	286	8%	20%
France	1,310	2,427	3,538	4,633	1,319	2,553	3,639	4,821	4%	16%
Pensions	302	465	631	904	192	356	493	700	(23)%	(12)%
Savings	890	1,819	2,583	3,182	754	1,330	1,767	2,443	(23)%	(15)%
Annuities	2	2	3	5	—	1	1	1	(66)%	(62)%
Protection	118	253	363	504	125	261	378	533	6%	18%
Poland⁶, Italy⁶, Spain⁶ and Turkey⁷	1,312	2,539	3,580	4,595	1,071	1,948	2,639	3,677	(20)%	(11)%
Europe	2,622	4,966	7,118	9,228	2,390	4,501	6,278	8,498	(8)%	3%
Asia⁶	421	867	1,357	1,854	623	1,449	2,218	2,823	52%	51%
Aviva Investors⁸	5	257	562	881	366	761	1,165	1,647	87%	87%
Total – excluding Eurovita, CxG & South Korea	6,084	12,338	18,426	24,407	5,956	14,052	21,763	29,765	22%	27%
Eurovita, CxG & South Korea	136	292	307	321	—	—	—	—	—	—
Total	6,220	12,630	18,733	24,728	5,956	14,052	21,763	29,765	20%	25%

¹ Present value of new business premiums (PVNBP) is the present value of new regular premiums plus 100% of single premiums, calculated using assumptions consistent with those used to determine the value of new business.

² Currency movements are calculated using unrounded numbers so minor rounding differences may exist.

³ Includes c.£1 billion PVNBP (net of reinsurance) relating to a longevity insurance transaction completed in 3Q15.

⁴ Other UK business includes UK Retail Fund Management and UK long-term health business. UK Retail Fund Management business was transferred from UK Life to Aviva Investors on 9 May 2014.

⁵ United Kingdom includes Friends UK from 10 April 2015.

⁶ Poland includes Lithuania, Italy excludes Eurovita, Spain excludes CxG. Asia includes FPI from 10 April 2015 and excludes South Korea.

⁷ The shareholding of Aviva's minority interest in our Turkish joint venture reduced from 49.8% to 41.3% on 13 November 2014 through an initial public offering. Aviva's holding was further reduced to 40.0% on 7 August 2015.

⁸ The UK Retail Fund Management business was transferred from UK Life to Aviva Investors on 9 May 2014.

E6 – Trend analysis of PVNBP by product – discrete

Present value of new business premiums ¹	1Q14 Discrete £m	2Q14 Discrete £m	3Q14 Discrete £m	4Q14 Discrete £m	1Q15 Discrete £m	2Q15 Discrete £m	3Q15 Discrete £m	4Q15 Discrete £m	Growth ² on 4Q14	
									Sterling %	Constant currency %
Pensions	1,328	1,466	1,287	1,722	1,319	2,578	2,188	2,865	66%	66%
Annuities ³	500	435	721	292	136	641	1,428	740	154%	154%
Bonds	45	42	48	39	39	41	29	30	(23)%	(23)%
Protection	297	271	294	241	268	444	440	434	81%	81%
Equity release	117	140	205	234	206	252	126	115	(51)%	(51)%
Other ⁴	644	767	491	383	477	670	414	356	(28)%	(28)%
United Kingdom ⁵	2,931	3,121	3,046	2,911	2,445	4,626	4,625	4,540	56%	56%
Ireland	105	91	95	144	132	138	136	155	8%	18%
United Kingdom & Ireland	3,036	3,212	3,141	3,055	2,577	4,764	4,761	4,695	54%	54%
Savings	1,232	1,046	1,069	1,021	1,224	1,165	1,034	1,112	9%	18%
Protection	78	71	42	74	95	69	52	70	(6)%	2%
France	1,310	1,117	1,111	1,095	1,319	1,234	1,086	1,182	8%	17%
Pensions	302	163	166	273	192	164	137	207	(24)%	(14)%
Savings	890	929	764	599	754	576	437	676	13%	21%
Annuities	2	—	1	2	—	1	—	—	(98)%	(98)%
Protection	118	135	110	141	125	136	117	155	12%	22%
Poland⁶, Italy⁶, Spain⁶ and Turkey⁷	1,312	1,227	1,041	1,015	1,071	877	691	1,038	3%	12%
Europe	2,622	2,344	2,152	2,110	2,390	2,111	1,777	2,220	5%	15%
Asia⁶	421	446	490	497	623	826	769	605	21%	23%
Aviva Investors⁸	5	252	305	319	366	395	404	482	51%	51%
Total – excluding Eurovita, CxG & South Korea	6,084	6,254	6,088	5,981	5,956	8,096	7,711	8,002	34%	38%
Eurovita, CxG & South Korea	136	156	15	14	—	—	—	—	—	—
Total	6,220	6,410	6,103	5,995	5,956	8,096	7,711	8,002	33%	38%

¹ Present value of new business premiums (PVNBP) is the present value of new regular premiums plus 100% of single premiums, calculated using assumptions consistent with those used to determine the value of new business.

² Currency movements are calculated using unrounded numbers so minor rounding differences may exist.

³ Includes c.£1 billion PVNBP (net of reinsurance) relating to a longevity insurance transaction completed in 3Q15.

⁴ Other UK business includes UK Retail Fund Management and UK long-term health business. UK Retail Fund Management business was transferred from UK Life to Aviva Investors on 9 May 2014.

⁵ United Kingdom includes Friends UK from 10 April 2015.

⁶ Poland includes Lithuania, Italy excludes Eurovita, Spain excludes CxG. Asia includes FPI from 10 April 2015 and excludes South Korea.

⁷ The shareholding of Aviva's minority interest in our Turkish joint venture reduced from 49.8% to 41.3% on 13 November 2014 through an initial public offering. Aviva's holding was further reduced to 40.0% on 7 August 2015.

⁸ The UK Retail Fund Management business was transferred from UK Life to Aviva Investors on 9 May 2014.

E7 – Geographical analysis of regular and single premiums

	Regular premiums							Single premiums		
	2015 £m	Constant currency growth ¹	WACF	Present value £m	2014 £m	WACF	Present value £m	2015 £m	2014 £m	Constant currency growth ¹
United Kingdom ^{2,3}	1,450	73%	5.8	8,480	946	5.4	5,108	7,756	6,901	12%
Ireland	24	2%	6.3	152	26	5.7	149	409	286	59%
United Kingdom & Ireland	1,474	71%	5.9	8,632	972	5.4	5,257	8,165	7,187	14%
France	86	9%	8.5	729	87	8.1	709	4,092	3,924	16%
Poland ⁴	41	(8)%	8.0	328	50	8.7	435	120	138	(3)%
Italy – excluding Eurovita	12	(65)%	7.8	93	38	5.7	215	2,054	2,258	1%
Spain – excluding CxG	32	(5)%	6.0	192	37	6.0	221	430	833	(43)%
Turkey ⁵	97	1%	3.8	365	111	3.8	421	95	74	48%
Europe	268	(7)%	6.4	1,707	323	6.2	2,001	6,791	7,227	5%
Asia ⁶ – excluding South Korea	300	33%	6.9	2,060	221	6.7	1,487	763	367	107%
Aviva Investors ⁷	—	—	—	—	—	—	—	1,647	881	87%
Total – excluding Eurovita, CxG & South Korea	2,042	49%	6.1	12,399	1,516	5.8	8,745	17,366	15,662	17%
Eurovita, CxG & South Korea	—	—	—	—	33	4.2	138	—	183	—
Total	2,042	45%	6.1	12,399	1,549	5.7	8,883	17,366	15,845	15%

1 Currency movements are calculated using unrounded numbers so minor rounding differences may exist.

2 United Kingdom includes Friends UK from 10 April 2015.

3 Includes c.£1 billion PVNBP (net of reinsurance) relating to a longevity insurance transaction completed in 3Q15.

4 Poland includes Lithuania.

5 The shareholding of Aviva's minority interest in our Turkish joint venture reduced from 49.8% to 41.3% on 13 November 2014 through an initial public offering. Aviva's holding was further reduced to 40.0% on 7 August 2015.

6 Asia includes FPI from 10 April 2015.

7 The UK Retail Fund Management business was transferred from UK Life to Aviva Investors on 9 May 2014.

E8 – Trend analysis of Investment sales – cumulative

Investment sales ¹	1Q14 YTD £m	2Q14 YTD £m	3Q14 YTD £m	4Q14 YTD £m	1Q15 YTD £m	2Q15 YTD £m	3Q15 YTD £m	4Q15 YTD £m	Growth ² on 4Q14	
									Sterling %	Constant currency %
United Kingdom & Ireland ³	486	1,043	1,405	1,742	271	710	1,041	1,315	(25)%	(25)%
Aviva Investors ⁴	730	1,616	2,195	3,089	1,073	2,102	3,475	4,993	62%	72%
Asia ⁵	36	75	110	146	41	78	103	129	(12)%	(12)%
Total investment sales	1,252	2,734	3,710	4,977	1,385	2,890	4,619	6,437	29%	35%

1 Investment sales are calculated as new single premiums plus the annualised value of new regular premiums.

2 Currency movements are calculated using unrounded numbers so minor rounding differences may exist.

3 Some of UK & Ireland investment sales are also reported in UK Life PVNBP following the extension of MCEV covered business in 2014. 2014 investment sales are included at the same amount in UK Life 2014 PVNBP. 4Q15 YTD investment sales of £1,315 million are equivalent to £1,352 million on a PVNBP basis.

4 The UK Retail Fund Management business was transferred from UK Life to Aviva Investors on 9 May 2014. YTD investment sales of £250 million for 2Q14, £549 million for 3Q14, £864 million for 4Q14, £362 million for 1Q15, £755 million for 2Q15, £1,156 million for 3Q15 and £1,635 million for 4Q15 are also included in Aviva Investors' PVNBP at the same level following the extension of MCEV covered business.

5 Asia investment sales are also reported in Asia PVNBP following an extension of MCEV covered business in 2015.

E9 – Trend analysis of Investment sales – discrete

Investment sales ¹	1Q14 Discrete £m	2Q14 Discrete £m	3Q14 Discrete £m	4Q14 Discrete £m	1Q15 Discrete £m	2Q15 Discrete £m	3Q15 Discrete £m	4Q15 Discrete £m	Growth ² on 4Q14	
									Sterling %	Constant currency %
United Kingdom & Ireland ³	486	557	362	337	271	439	331	274	(19)%	(19)%
Aviva Investors ⁴	730	886	579	894	1,073	1,029	1,373	1,518	70%	79%
Asia ⁵	36	39	35	36	41	37	25	26	(29)%	(28)%
Total investment sales	1,252	1,482	976	1,267	1,385	1,505	1,729	1,818	43%	49%

1 Investment sales are calculated as new single premiums plus the annualised value of new regular premiums.

2 Currency movements are calculated using unrounded numbers so minor rounding differences may exist.

3 Some of UK & Ireland investment sales are also reported in UK Life PVNBP following the extension of MCEV covered business in 2014. 2014 investment sales are included at the same amount in UK Life 2014 PVNBP. 1Q15 investment sales of £271 million, 2Q15 investment sales of £439 million, 3Q15 investment sales of £331 million and 4Q15 investment sales of £274 million are equivalent to £295 million, £479 million, £336 million and £242 million respectively on a PVNBP basis.

4 The UK Retail Fund Management business was transferred from UK Life to Aviva Investors on 9 May 2014. Discrete investment sales of £250 million for 2Q14, £299 million for 3Q14, £315 million for 4Q14, £362 million for 1Q15 £393 million for 2Q15, £401 million for 3Q15 and £479 million for 4Q15 are also included in Aviva Investors' PVNBP at the same level following the extension of MCEV covered business.

5 Asia investment sales are also reported in Asia PVNBP following an extension of MCEV covered business in 2015.

E10 – Trend analysis of general insurance and health net written premiums – cumulative

	1Q14 YTD £m	2Q14 YTD £m	3Q14 YTD £m	4Q14 YTD £m	1Q15 YTD £m	2Q15 YTD £m	3Q15 YTD £m	4Q15 YTD £m	Growth ¹ on 4Q14	
									Sterling %	Constant currency %
General insurance										
United Kingdom ²	845	1,836	2,742	3,663	855	1,851	2,750	3,685	1%	1%
Ireland	65	136	205	272	63	134	210	282	4%	15%
United Kingdom & Ireland	910	1,972	2,947	3,935	918	1,985	2,960	3,967	1%	2%
Europe	440	747	999	1,313	399	674	910	1,200	(8)%	2%
Canada	426	1,026	1,584	2,104	409	1,013	1,519	1,992	(5)%	1%
Asia & Other	7	12	15	20	3	6	8	12	(42)%	(42)%
	1,783	3,757	5,545	7,372	1,729	3,678	5,397	7,171	(3)%	1%
Health insurance										
United Kingdom ³	144	302	394	518	158	315	423	529	2%	2%
Ireland	33	47	65	93	28	42	58	85	(10)%	—
United Kingdom & Ireland	177	349	459	611	186	357	481	614	—	2%
Europe	94	138	182	243	89	128	157	210	(13)%	(4)%
Asia ⁴	29	45	61	74	33	55	75	95	28%	29%
	300	532	702	928	308	540	713	919	(1)%	3%
Total	2,083	4,289	6,247	8,300	2,037	4,218	6,110	8,090	(3)%	2%

¹ Currency movements are calculated using unrounded numbers so minor rounding differences may exist.

² Excludes the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

³ These premiums are also reported in UK Life PVNBP following the extension of MCEV covered business in 2014. 1Q14 NWP of £144 million, 2Q14 YTD NWP of £302 million, 3Q14 YTD NWP of £394 million, 4Q14 YTD NWP of £518 million, 1Q15 NWP of £158 million, 2Q15 YTD NWP of £315 million, 3Q15 YTD NWP of £423 million and 4Q15 YTD NWP of £529 million are equivalent to £158 million, £368 million, £497 million, £542 million, £182 million, £373 million, £451 million and £565 million on a PVNBP basis respectively.

⁴ Singapore long-term health business is also reported in Asia PVNBP following the extension of MCEV covered business in 2014. For Singapore long-term health business, 1Q14 NWP of £5 million, 2Q14 YTD NWP of £9 million, 3Q14 YTD NWP of £15 million, 4Q14 YTD NWP of £22 million, 1Q15 NWP of £10 million and 2Q15 YTD NWP of £23 million, 3Q15 YTD NWP of £36 million and 4Q15 YTD NWP of £51 million are equivalent to £37 million, £87 million, £130 million, £183 million, £48 million, £120 million, £184 million and £214 million on a PVNBP basis respectively.

E11 – Trend analysis of general insurance and health net written premiums – discrete

	1Q14 Discrete £m	2Q14 Discrete £m	3Q14 Discrete £m	4Q14 Discrete £m	1Q15 Discrete £m	2Q15 Discrete £m	3Q15 Discrete £m	4Q15 Discrete £m	Growth ¹ on 4Q14	
									Sterling %	Constant currency %
General insurance										
United Kingdom ²	845	991	906	921	855	996	899	935	2%	2%
Ireland	65	71	69	67	63	71	76	72	6%	15%
United Kingdom & Ireland	910	1,062	975	988	918	1,067	975	1,007	2%	2%
Europe	440	307	252	314	399	275	236	290	(7)%	1%
Canada	426	600	558	520	409	604	506	473	(9)%	(3)%
Asia & Other	7	5	3	5	3	3	2	4	(27)%	(27)%
	1,783	1,974	1,788	1,827	1,729	1,949	1,719	1,774	(3)%	1%
Health insurance										
United Kingdom ³	144	158	92	124	158	157	108	106	(14)%	(14)%
Ireland	33	14	18	28	28	14	16	27	(8)%	1%
United Kingdom & Ireland	177	172	110	152	186	171	124	133	(13)%	(12)%
Europe	94	44	44	61	89	39	29	53	(12)%	(5)%
Asia ⁴	29	16	16	13	33	22	20	20	50%	53%
	300	232	170	226	308	232	173	206	(9)%	(6)%
Total	2,083	2,206	1,958	2,053	2,037	2,181	1,892	1,980	(4)%	—

¹ Currency movements are calculated using unrounded numbers so minor rounding differences may exist.

² Excludes the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.

³ These premiums are also reported in UK Life PVNBP following the extension of MCEV covered business in 2014. 1Q14 NWP of £144 million, 2Q14 NWP of £158 million, 3Q14 NWP of £92 million, 4Q14 NWP of £124 million, 1Q15 NWP of £158 million, 2Q15 NWP of £157 million, 3Q15 NWP of £108 million and 4Q15 NWP of £106 million are equivalent to £158 million, £210 million, £129 million, £45 million, £182 million, £191 million, £78 million and £114 million on a PVNBP basis respectively.

⁴ Singapore long-term health business is also reported in Asia PVNBP following the extension of MCEV covered business in 2014. For Singapore long-term health business, 1Q14 NWP of £5 million, 2Q14 NWP of £4 million, 3Q14 NWP of £6 million, 4Q14 NWP of £7 million, 1Q15 NWP of £10 million and 2Q15 NWP of £13 million, 3Q15 NWP of £13 million and 4Q15 NWP of £15 million are equivalent to £37 million, £50 million, £43 million, £53 million, £48 million, £72 million, £64 million and £30 million on a PVNBP basis respectively.

MCEV financial statements

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Reconciliation of IFRS total equity to Life MCEV

As at 31 December 2015

	2015 £m			2014 £m		
	Life and related businesses ¹	General business and other	Group	Life and related businesses	General business and other	Group
Total assets included in the IFRS statement of financial position	354,768	33,106	387,874	255,478	30,241	285,719
Liabilities of the long-term business	(337,757)	—	(337,757)	(244,186)	—	(244,186)
Liabilities of the general insurance and other businesses	—	(31,885)	(31,885)	—	(29,257)	(29,257)
Total equity on an IFRS basis	17,011	1,221	18,232	11,292	984	12,276
Equity of general insurance and other businesses included in Life MCEV ²	136	(136)	—	160	(160)	—
Additional value of in-force long-term business	5,654	—	5,654	6,120	—	6,120
Total equity on a MCEV basis	22,801	1,085	23,886	17,572	824	18,396
Notional allocation of IAS 19 pension fund surplus to long-term business ³	(659)	—	—	(703)	—	—
Goodwill and intangible assets allocated to long-term business ⁴	(1,494)	—	—	(476)	—	—
Life MCEV (gross of non-controlling interests)	20,648			16,393		
Non-controlling interests	(1,088)			(1,119)		
Life MCEV (net of non-controlling interests)	19,560			15,274		

¹ The acquisition of Friends Life in April 2015 increased IFRS and MCEV equity by £5,975 million, of which £1,063 million relates to goodwill and intangible assets allocated to long-term business. Further details can be found in note F1 – Basis of preparation.

² Refers to the IFRS equity of the UK and Singapore health business and the Aviva Investors and Singapore retail fund management business now included in covered business.

³ The value of the Aviva Staff Pension Scheme surplus has been notionally allocated between segments, based on current funding. Within the long-term business net assets on an MCEV basis, the Life proportion has been included. The pension fund surplus notionally allocated to long-term business is net of the agreed funding borne by the UK with-profits funds.

⁴ Goodwill and intangible assets includes amounts related to associated undertakings and joint ventures and are after adjustments reflected in the additional value of in-force long-term business above. In 2015, goodwill and intangible assets have been impaired by an additional £4 million compared to IFRS (FY14: £14 million). In aggregate, the goodwill and intangibles on an MCEV basis is £127 million (FY14: £130 million) lower than on an IFRS basis, allowing for exchange rate movements. Refer to the next table for goodwill allocated to long-term business on an IFRS basis.

Reconciliation of IFRS total equity to MCEV net worth

As at 31 December 2015

	2015 £m	2014 £m
Net assets on a statutory IFRS net basis¹	18,232	12,276
Adjusting for general business and other net assets on a statutory IFRS net basis	(1,221)	(984)
Life and related businesses net assets on a statutory IFRS net basis	17,011	11,292
Equity of general insurance and other businesses included in Life MCEV	136	160
Goodwill and other intangibles net of tax	(1,621)	(606)
Acquired value of in-force business net of tax	(3,792)	(92)
Adjustment for share of joint ventures and associates	(2)	(9)
Adjustment for assets to regulatory value net of tax	(730)	(566)
Adjustment for DAC and DIR net of tax	(1,365)	(1,159)
Adjustment for differences in technical provisions	815	(47)
Other accounting and tax differences	1,057	990
MCEV net worth (gross of non-controlling interests)¹	11,509	9,963
MCEV value of in-force (gross of non-controlling interests) ²	9,139	6,430
MCEV (gross of non-controlling interests)	20,648	16,393
Non-controlling interests	(1,088)	(1,119)
MCEV (net of non-controlling interests)	19,560	15,274

¹ The acquisition of Friends Life in April 2015 increased IFRS equity and MCEV net worth by £5,975 million and £984 million respectively. Further details can be found in note F1 – Basis of preparation.

² Comprises PVFP of £12,091 million (FY14: £9,248 million), FC of £(487) million (FY14: £(389) million), CNHR of £(1,370) million (FY14: £(970) million) and TVOG of £(1,095) million (FY14: £(1,459) million), all of which are gross of tax and non-controlling interests.

Group MCEV analysis of earnings

For the year ended 31 December 2015

Net of tax & non-controlling interests 31 December 2015	Covered business ^{1,4} £m A	Non-covered but related to life business ² £m B	Total life business ³ £m A+B	Non-covered relating to non-life £m C	Total non- covered business ^{4,5} £m B+C	Total £m A+B+C
Opening Group MCEV	15,274	1,040	16,314	325	1,365	16,639
Operating MCEV earnings	1,734	—	1,734	5	5	1,739
Non-operating MCEV earnings	(678)	(51)	(729)	(389)	(440)	(1,118)
Total MCEV earnings	1,056	(51)	1,005	(384)	(435)	621
Other movements in IFRS net equity	—	(44)	(44)	(92)	(136)	(136)
Capital and dividend flows	(1,074)	—	(1,074)	6,591	6,591	5,517
Foreign exchange variances	(329)	(18)	(347)	(124)	(142)	(471)
Acquired/divested business	4,633	1,099	5,732	(5,732)	(4,633)	—
Closing Group MCEV	19,560	2,026	21,586	584	2,610	22,170
Direct capital instrument and tier 1 notes						(1,123)
Equity attributable to shareholders of Aviva plc on an MCEV basis						21,047

- 1 Covered business represents the business that the MCEV calculations cover, as detailed in note F1 – Basis of preparation. The embedded value is presented net of non-controlling interests and tax.
- 2 Non-covered but related to life business represents the adjustments to the MCEV, including goodwill, to calculate the long-term business net assets on an MCEV basis. An analysis of net assets on an MCEV basis gross of non-controlling interests is provided in the table 'Reconciliation of IFRS total equity to Life MCEV' above.
- 3 Net assets for the total life businesses on an MCEV basis presented net of non-controlling interests.
- 4 The acquisition of Friends Life in April 2015 increased MCEV equity by £5,975 million at the acquisition balance sheet date by virtue of the issue of share capital, with profits in the period also contributing to the closing MCEV. Further details can be found in note F1 – Basis of preparation.
- 5 Non-covered business reflects £38 million less profit than IFRS reporting, reflecting the inclusion within covered business profits of asset management profits for managing covered business assets, as well as results for fund management and health business treated as short-term business for IFRS reporting.

Net of tax & non-controlling interests 31 December 2014	Covered business ^{1,4} £m A	Non-covered but related to life business ² £m B	Total life business ³ £m A+B	Non-covered relating to non-life £m C	Total non- covered business ⁴ £m B+C	Total £m A+B+C
Opening Group MCEV	14,990	599	15,589	(898)	(299)	14,691
Opening adjustments ⁵	766	—	766	(232)	(232)	534
Adjusted opening Group MCEV	15,756	599	16,355	(1,130)	(531)	15,225
Operating MCEV earnings	1,950	—	1,950	(34)	(34)	1,916
Non-operating MCEV earnings	(331)	(34)	(365)	107	73	(258)
Total MCEV earnings	1,619	(34)	1,585	73	39	1,658
Other movements in IFRS net equity	—	533	533	794	1,327	1,327
Capital and dividend flows	(1,116)	—	(1,116)	64	64	(1,052)
Foreign exchange variances	(468)	(20)	(488)	(48)	(68)	(536)
Acquired/divested business	(517)	(38)	(555)	572	534	17
Closing Group MCEV	15,274	1,040	16,314	325	1,365	16,639
Direct capital instrument and tier 1 notes						(892)
Equity attributable to shareholders of Aviva plc on an MCEV basis						15,747

- 1 Covered business represents the business that the MCEV calculations cover, as detailed in note F1 – Basis of preparation. The embedded value is presented net of non-controlling interests and tax.
- 2 Non-covered but related to life business represents the adjustments to the MCEV, including goodwill, to calculate the long-term business net assets on an MCEV basis. An analysis of net assets on an MCEV basis gross of non-controlling interests is provided in the table 'Reconciliation of IFRS total equity to Life MCEV' above.
- 3 Net assets for the total life businesses on an MCEV basis presented net of non-controlling interests.
- 4 A £490 million decrease to the closing Group MCEV of covered business and increase in the closing Group MCEV of non-covered business is due to the sale of Aviva Life and Pensions Ireland Limited (ALPI) to Aviva Life & Pensions UK Limited (UKLAP) from Aviva Insurance Limited (AIL), as detailed in note F1 – Basis of preparation.
- 5 Represents a restatement of opening 2014 MCEV relating to a reassessment of liquidity premium and extension in scope of covered business.

F1 – Basis of preparation

The Group MCEV analysis of earnings on page 133 presents the Group's results and financial position for the covered life and related businesses on the Market Consistent Embedded Value (MCEV) basis and for its non-covered businesses and non-covered but related to life businesses on the International Financial Reporting Standards (IFRS) basis.

The MCEV methodology adopted is in accordance with the MCEV Principles[©] published by the CFO Forum in October 2009. Consistent with CFO Forum guidance issued in 2012 and revised in October 2015, no explicit allowance has been made for the new European regulatory regime (Solvency II), which will become effective on 1 January 2016, and associated consequences. The impact of allowing for Solvency II would be expected to increase the net worth with a corresponding reduction in the value of in-force business. The aggregate impact of this change on the overall MCEV has not been quantified.

The CFO Forum Guidance is not adopted in a number of respects:

- Guidance 17.3.5 indicates that where covered business includes business in several IFRS segments sufficient disclosure should be made to show both the IFRS and MCEV values by IFRS segment. This is not the case for Aviva Investors and Singapore retail fund management business, UK health business and Singapore guaranteed renewable health business. These product lines are classified as 'Fund management' and 'General Insurance and Health' operating segments as appropriate under IFRS, but are included within other long-term business for MCEV reporting as part of the 'Other', 'UK & Ireland' and 'Asia' operating segments as appropriate.
- Guidance 17.3.29 indicates that changes to models to reflect improvements or rectify errors should be included in the 'other operating variances' line in the analysis of earnings. Where possible, such model refinements have been reported in the analysis of earnings on the line where the impact would have occurred in order to provide better information when considering assumption changes/experience variances over multiple reporting periods.
- Guidance 17.3.32 and 17.3.47 indicate that, when a company has more than one geographical area of operation, the business classifications disclosed should be consistent with those used for the IFRS financial statements. While MCEV results have been aligned with Aviva's management structure the classifications have been presented at a more aggregated level than those segments presented in the Group's IFRS financial statements.

The directors consider that, under the current Solvency I reporting regime effective at 31 December 2015, the MCEV methodology gives useful insight into the drivers of financial performance of the Group's life and related businesses. This basis values future cash flows from assets consistently with market prices, including explicit allowance for the impact of uncertainty in future investment returns and other risks. Embedded value is also consistent with the way pricing is assessed and the business is managed.

The results for our 2015 and 2014 report have been audited by our auditors, PricewaterhouseCoopers LLP, who issued, without modifying their 2015 opinion, an emphasis of matter to draw attention that as permitted by the additional guidance issued in October 2015 by the European Insurance CFO Forum, the consolidated MCEV financial statements have been prepared making no allowance for the impact of Solvency II regulatory requirements.

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(a) MCEV methodology

Overview

Under the MCEV methodology, profit is recognised as it is earned over the life of products defined within covered business. The total profit recognised over the lifetime of a policy is the same as under the IFRS basis of reporting, but the timing of recognition is different.

Calculation of the embedded value

The shareholders' interest in the life and related businesses is represented by the embedded value. The embedded value is the total of the net worth of the life and related businesses and the value of in-force covered business. Calculations are performed separately for each business and are based on the cash flows of that business, after allowing for both external and intra-Group reinsurance. Where one life business has an interest in another, the net worth of that business excludes the interest in the dependent company.

The embedded value is calculated on an after-tax basis applying current legislation and practice together with future known changes, with the exception of Solvency II, as stated above. It has been assumed that there will be no changes to the methods and bases used to calculate the statutory technical provisions and current surrender values, except where driven by varying future investment conditions under stochastic economic scenarios. Where gross results are presented, these have been calculated by grossing up post-tax results at the full rate of corporation tax for each country based on opening period tax rates, apart from the UK where a 20% tax rate was used for 2015 for grossing up (FY14: 20%).

Net Worth

The net worth is the market value of the shareholders' funds and the shareholders' interest in the surplus held in the non-profit component of covered business, determined on a statutory solvency basis and adjusted to add back any non-admissible assets, and consists of the required capital and free surplus.

Required capital is the market value of assets attributed to the covered business over and above that required to back liabilities for covered business, for which distribution to shareholders is restricted. Required capital is reported net of implicit items permitted on a local regulatory basis to cover minimum solvency margins which are assessed at a local entity level. The level of required capital for each business unit is generally set equal to the highest of:

- The level of capital at which the local regulator is empowered to take action;
- The capital requirement of the business unit under the Group's economic capital requirements; and
- The target capital level of the business unit;

where 'highest of' is assessed as the basis yielding the lowest level of free assets.

F1 – Basis of preparation continued

This methodology reflects the level of capital considered by the directors to be appropriate to manage the business, and includes any additional shareholder funds not available for distribution, such as some of the reattributed inherited estates in the UK. The remaining reattributed inherited estate is predominantly in the form of the VIF of non-profit business written within the fund, and to the extent that this VIF emerges into cash, may be available to be transferred to the shareholders' fund subject to passing the relevant financial strength tests.

The same definition of required capital is used for both existing and new business except in certain entities in Italy where new business reflects the targeted capital level which better reflects the capital requirements of the new business. The total required capital for the entities in question is still based on the overall biting constraint. There is a true-up within economic variances for the difference between calculating the new business required capital on a target rather than economic capital basis, where the latter is the biting constraint. The level of required capital across the business units expressed as a percentage of the EU minimum solvency margin (or equivalent) can be found in note F2.

Statutory required capital relating to with-profits business is generally assumed to be covered by the surplus within the with-profit funds, with any required capital in excess of this attributed to the shareholder. Where the surplus in the fund is insufficient and additional shareholder support is required, this is included within required capital, including the RIEESA in the UK. Bonus rates on participating business have been set at levels consistent with the economic assumptions. The distribution of profit between policyholders and shareholders within the with-profit funds assumes that the shareholder interest in conventional with-profit business in the UK and Ireland continues at the current rate. For some of the UK business, this rate is one-ninth of the cost of bonus; while in other cases this rate is variable and dependent on scheme rules.

During 2014, two capital management actions were taken in the UK that enable certain shareholder assets to be reflected on the regulatory balance sheet and the economic risk to be hedged more efficiently. The first involved the transfer of certain assets and associated liabilities from the RIEESA to the New With Profits Sub Fund (NWPSF). The second capital management action resulted in future shareholder transfers (that arise as bonuses are paid to policyholders) emerging in the NWPSF rather than the Non Profit Sub Fund (NPSF) and this reduced the present value of in-force covered business with an offsetting increase in required capital and free surplus. These effects are presented within 'Other operating variances' in note F5. The total impact at FY14 was an increase in free surplus of £199 million, an increase in required capital of £851 million and a reduction in the present value of in-force covered business of £1,055 million.

The free surplus is the market value of any assets allocated to, but not required to support, the in-force covered business at the valuation date.

Value of in-force covered business (VIF)

The value of in-force covered business consists of the following components:

- present value of future profits;
- time value of financial options and guarantees;
- frictional costs of required capital; and
- cost of residual non-hedgeable risks.

Present value of future profits (PVFP)

This is the present value of the distributable profits to shareholders arising from the in-force covered business projected on a best estimate basis.

Distributable profits generally arise when they are released following actuarial valuations. These valuations are carried out in accordance with any local statutory requirements designed to ensure and demonstrate solvency in long-term business funds. Future distributable profits will depend on experience in a number of areas such as investment return, discontinuance rates, mortality, administration costs, as well as management and policyholder actions. Releases to shareholders arising in future years from the in-force covered business and associated required capital can be projected using assumptions of future experience.

Future profits are projected using best estimate non-economic assumptions and market consistent economic assumptions. In principle, each cash flow is discounted at a rate that appropriately reflects the riskiness of that cash flow, so higher risk cash flows are discounted at higher rates. In practice, the PVFP is calculated using the 'certainty equivalent' approach, under which the reference rate is used for both the investment return and the discount rate. This approach ensures that asset cash flows are valued consistently with the market prices of assets without options and guarantees. Further information on the risk-free rates is given in note F2.

The PVFP includes the capitalised value of profits and losses arising from subsidiary companies providing administration, investment management and other services to the extent that they relate to covered business. This is referred to as the 'look-through' into service company expenses. In addition, expenses arising in holding companies that relate directly to acquiring or maintaining covered business have been allowed for. Where external companies provide services to the life and related businesses, their charges have been allowed for in the underlying projected cost base.

F1 – Basis of preparation continued

Time value of financial options and guarantees (TVOG)

The PVFP calculation is based on a single (base) economic scenario; however, a single scenario cannot appropriately allow for the effect of certain product features. If an option or guarantee affects shareholder cash flows in the base scenario, the impact is included in the PVFP and is referred to as the intrinsic value of the option or guarantee; however, future investment returns are uncertain and the actual impact on shareholder profits may be higher or lower. The value of in-force business needs to be adjusted for the impact of the range of potential future outcomes. Stochastic modelling techniques can be used to assess the impact of potential future outcomes, and the difference between the intrinsic value and the total stochastic value is referred to as the time value of the option or guarantee.

Stochastic modelling typically involves projecting the future cash flows of the business under thousands of economic scenarios that are representative of the possible future outcomes for market variables such as interest rates and equity returns. Under a market consistent approach, the economic scenarios generated reflect the market's tendency towards risk aversion. Allowance is made, where appropriate, for the effect of management and/or policyholder actions in different economic conditions on future assumptions such as asset mix, bonus rates and surrender rates.

In the current period, stochastic models in France are calibrated to market yield curves and adjusted volatility levels at the valuation date; the approach has changed during 2015 to better reflect the sustained low interest rate and high volatility environment. Tests are performed to confirm that the scenarios used produce results that replicate the market price of similar financial instruments. Further information on adjustments to volatility levels is given in note F2. In the comparative period, stochastic models were calibrated to market yield curves and volatility levels at the valuation date.

Where evidence exists that persistency rates are linked to economic scenarios, dynamic lapse assumptions are set that vary depending on the individual scenarios. This cost is included in the TVOG. Dynamic lapses are modelled for parts of the UK, Italian, French and Spanish businesses. Asymmetries in non-economic assumptions that are linked to economic scenarios, but that have insufficient evidence for credible dynamic assumptions, are allowed for within mean best estimate assumptions.

Frictional costs of required capital

The additional costs to a shareholder of holding the assets backing required capital within an insurance company rather than directly in the market are called frictional costs. They are explicitly deducted from the PVFP. The additional costs allowed for are the taxation costs and any additional investment expenses on the assets backing the required capital. The level of required capital has been set out above in the net worth section.

Frictional costs are calculated by projecting forwards the future levels of required capital in line with drivers of the capital requirement. Tax on investment return and investment expenses are payable on the assets backing required capital, up until the point that they are released to shareholders.

Cost of residual non-hedgeable risk (CNHR)

The cost of residual non-hedgeable risk (CNHR) covers risks not already allowed for in the time value of options and guarantees or the PVFP. The allowance includes the impact of: non-hedgeable financial risks; non-financial risks; and other product level asymmetries. No allowance has been made for symmetrical risks as these are diversifiable by investors.

The most significant category within the CNHR is non-financial risk, which includes insurance, expense, persistency and operational risks. It is assumed that there are no hedgeable non-financial risks. The allowances for non-hedgeable financial risks and product level asymmetries are not material. This is because they are either modelled explicitly and included in the TVOG or are included in the PVFP through the use of appropriate best-estimate assumptions. The asymmetric risks allowed for in the TVOG or PVFP are described earlier in the Basis of preparation.

The CNHR capital is calculated such that capital levels are projected to be sufficient to cover non-hedgeable risks at the 99.5% confidence level one-year after the valuation date. The capital is equal to the capital from the ICA results for those risks considered including allowance for management actions consistent with the base MCEV. Diversification benefits are included between non-hedgeable risks of the covered business. No diversification benefit is assumed with hedgeable risks of the covered business or with non-covered business in general. The capital has been projected as running off over the remaining life of the in-force portfolio in line with the drivers of the capital requirement.

(b) Covered business

The MCEV calculations cover the following lines of business unless specifically noted below:

- Life insurance;
- Long-term health and accident insurance
- Short-term health business in the UK and Singapore managed on a long-term basis (introduced 1 January 2014);
- Savings and annuity business;
- Managed pension fund business;
- Equity release business in the UK;
- UK retail fund management business (introduced 1 January 2014); and
- Singapore retail fund management business (introduced 1 January 2015)

From 1 January 2014, health business managed as long-term business in the UK and Singapore and some retail fund management business in the UK are classified as long-term covered business under MCEV. From 1 January 2015, the retail fund management business in Singapore is also classified as long-term covered business. In the IFRS financial statements these contracts remain classified as short-term business.

Effective 9 May 2014, the UK's retail fund management business was sold to Aviva Investors by UK Life, and the MCEV balance sheet value of this business has since been disclosed in the 'Other' operating segment (where Aviva Investors is presented). In the geographical analysis of life MCEV operating earnings, results for the current period are also included in the 'Other' operating segment; in the comparative period the first 4 months profit or loss is included in the 'United Kingdom and Ireland' operating segment with the remaining months in the 'Other' operating segment.

F1 – Basis of preparation continued

Covered business includes that written by the Group's life insurance subsidiaries as well as the Group's share of certain life and related business written in our associated undertakings and joint ventures, including Indonesia, India, China, Turkey, Taiwan and South Korea (until its disposal in June 2014).

In addition, the results of Group companies providing significant administration, fund management and other services and of Group holding companies have been included to the extent that they relate to covered business. Together these businesses are referred to as 'Life and related businesses'.

For MCEV reporting, borrowings are valued on an IFRS basis, consistent with the IFRS primary statements. At 31 December 2015 the market value of the Group's external debt, subordinated debt, preference shares (including General Accident plc preference shares classified as non-controlling interests) and direct capital instrument was £9,094 million (31 December 2014: £7,511 million). External debt remains classified as non-covered business, consistent with the approach taken in the prior period. In addition, internal debt between covered and non-covered business within the Group is generally valued on an IFRS basis in both parts of the business to ensure that the Group MCEV is neither positively nor negatively impacted by the existence of such debt.

In addition the Group MCEV includes earnings from non-covered business such as the Group's fund management operations and subsidiaries, where not arising due to the provision of services to our Life business. These earnings are included in the Group MCEV at their IFRS value.

(c) Acquisition of Friends Life

On 10 April 2015, the Group completed the acquisition of 100% of the outstanding ordinary shares of Friends Life Group Limited ('Friends Life') through an all share exchange which gave Friends Life shareholders 0.74 Group shares for every Friends Life share held. In total, 1,086,326,606 Group shares were issued and commenced trading on 13 April 2015.

Following the acquisition, several key adjustments were made to the Friends Life base MCEV balance sheet to arrive at the final MCEV acquisition balance sheet. These changes include alignments to Aviva's methodology for the calculation and application of the liquidity premium, annuitant mortality assumptions, project costs and cost of non-hedgeable risk. Further, a number of adjustments and reclassifications were made to the IFRS and local statutory balance sheets which had a consequential impact on the MCEV acquisition balance sheet. In total, the alignments had an impact of £(547) million on the life covered MCEV (net of tax and minority interests). In addition, the 2003 and 2005 Step-up Tier one Insurance Capital Securities ('STICS') issuances were reclassified to non-covered business with an impact of £517 million on the life covered MCEV (net of tax and minority interests). The total impact of all adjustments was a reduction in life covered MCEV of £(30) million (net of tax and minority interest) as at the acquisition balance sheet date.

For MCEV reporting, results for Friends UK have been included in the 'UK & Ireland' operating segment and results for Friends Provident International ('FPI') have been included in the 'Asia and other' operating segment as these are the most appropriate geographical areas of operation for each of these businesses. This classification is consistent with the IFRS financial statements.

The acquisition increased life covered MCEV by £4,650 million and total Group MCEV by £5,975 million (both net of tax and minority interest) as at the acquisition date. In the period from 10 April 2015 to 31 December 2015 the acquired subsidiaries impacted total MCEV operating profit and total MCEV profit by £146 million and £(261) million (both net of tax and minority interest) respectively.

(d) IFRS Restatement of prior period figures

Restatements of IFRS financial statements have been consistently reflected in the Group MCEV financial statements, where applicable. During 2015, management has changed the definition of Group operating profit on an IFRS basis to exclude amortisation and impairment of acquired value of in-force business ('AVIF'), aligning the presentation to the amortisation and impairment of intangible assets as non-operating items. The change in presentation had no impact on the Group MCEV analysis of earnings.

(e) Held for Sale operations

There are no held for sale operations included in life covered business at 31 December 2015, and no material operations were sold during 2015.

Operations sold, held for sale or reclassified in the comparative period

During 2014 several operations were held for sale and sold. Details are as follows:

- The sale of Aviva Corporacion Caixa Galicia de Seguros y Reaseguros S.A. ('CxG'), a Spanish life assurance company, was completed on 11 December 2014.
- The sale of the Italian long-term business Eurovita Assicurazioni S.p.A ('Eurovita') was completed on 30 June 2014.
- The disposal of the Group's Korean joint venture business, Woori Aviva Life Insurance ('WALI') completed on 27 June 2014.
- During 2013, the Group's 60% stake in the Indonesian business 'Aviva Indonesia' was classified as held for sale following the intention to structure the business as a joint venture where Aviva's ownership is 50%. The restructure completed on 26 May 2014.
- During the first half of 2014 it was determined that the value of the Group's Taiwan joint venture, First-Aviva Life Insurance Co., Ltd would no longer be recovered principally through a sale. As a result, the business was reclassified out of 'assets of operations held for sale'.

F1 – Basis of preparation continued

(f) Restructuring

During 2015, Aviva International Insurance Limited ('All') increased its shared ownership in Poland's insurance joint ventures (BZ WBK-Aviva Towarzystwo Ubezpieczeń Ogólnych SA and BZ WBK-Aviva Towarzystwo Ubezpieczeń na Życie SA) from 34% to 51%. The result is an increase in closing MCEV of £3 million (net of tax and minority interest).

On 3 July 2015 Aviva Poland acquired 100% of the shares of Expander Advisors Sp. z o.o. ('Expander'), with a resulting reduction in closing MCEV of £23 million.

In 2014 significant restructuring of the Irish, Turkish, Polish and Italian businesses took place. The Irish and Turkish restructuring continued during 2015. Details are as follows:

- The sale of Aviva Insurance Limited's ('AIL') investment in Aviva Life & Pensions Ireland Limited ('ALPI') to Aviva UK Life & Pensions Limited ('UKLAP') was completed on 31 December 2014. The methodology used to calculate the MCEV in ALPI was unchanged at 31 December 2014 as the entity was still regulated by the CBI and remained an entity in its own right. The total closing MCEV as at 31 December 2014 of the Group was unchanged from this restructuring. The transfer of the ALPI business to UKLAP took place on 1 January 2015, and an alignment of methodologies and bases resulted in an increase to closing MCEV of £34 million.
- On 13 November 2014 Aviva and its joint venture partner Sabanci Holdings completed an initial public offering of a minority share of their Turkish life and pensions joint venture AvivaSa Emeklilik ve Hayat A.S ('Aviva SA'), reducing the Group's holdings in Aviva SA from 49.8% to 41.3%. On 7 August 2015 the Group further reduced its holding in Aviva SA to 40.0%. Sabanci and the Group continue to share contractual joint control of Aviva SA.
- On 30 September 2014, Aviva International Insurance Limited ('All') sold its Polish business, Aviva Powszechne Towarzystwo Emerytalne Aviva BZ WBK SA ('Poland Pensions') to Aviva Towarzystwo Ubezpieczeń na Życie S.A. ('Poland Life'). The transaction resulted in a reduction in the share of the Poland Pensions business owned by Aviva from 84.9% to 81%.
- On 22 December 2014, the Italian long-term business Aviva S.p.A., which was 50% owned by Aviva Italia Holdings ('AIH'), transferred its share in the joint venture Aviva Vita S.p.A. ('Aviva Vita') to AIH. AIH increased its interest in Aviva Vita from 25.5% to 80% and its interest in the joint venture Aviva Assicurazioni Vita S.p.A. from 50% to 80%.

(g) New business premiums

New business premiums include:

- premiums arising from the sale of new contracts during the period;
- non-contractual additional premiums;
- expected renewals on new contracts and expected future contractual alterations to new contracts; and
- payments on recurring single premium policies, except for some existing stakeholder-style pensions business in the UK where, if a regular pattern in the receipt of premiums for individuals has been established, the regular payment is treated as a renewal of an existing policy and not new business.

The Group's definition of new business under MCEV includes contracts that meet the definition of 'non-participating investment' contracts under IFRS.

For products sold to individuals, premiums are considered to represent new business where a new contract has been signed, or where underwriting has been performed. Renewal premiums include contractual renewals, non-contractual variations that are reasonably predictable and recurrent single premiums that are pre-defined and reasonably predictable except for some existing stakeholder-style pensions business as set out above.

For group products, new business includes new contracts and increases to aggregate premiums under existing contracts. Renewal premiums are based on the level of premium received during the reporting period and allow for premiums expected to be received beyond the expiry of any guaranteed premium rates.

(h) Life and pensions operating earnings

For life and pensions operating earnings, Aviva uses normalised investment returns. The use of asset risk premia reflects management's long-term expectations of asset returns in excess of the swap yield from investing in different asset classes. The normalised investment return on equities and property has been calculated by reference to the ten-year swap rate in the relevant currency plus an appropriate risk premium. The expected return on bonds has been calculated by reference to the swap rate consistent with the duration of the backing assets in the relevant currency plus an appropriate risk premium (expected return is equivalent to the gross redemption yield less an allowance for defaults).

The expected existing business contribution (in excess of reference rate) is calculated using the start of period implied discount rate (IDR). The IDR is the rate of discount such that a traditional embedded value calculation for the covered business equates to the MCEV. As such, the IDR is based on normalised investment returns. The methodology applies the IDR to the Value of In Force (VIF) and Required Capital (RC) components of the MCEV and adds to this the total expected return for Free Surplus (FS) to derive the total expected return, in a manner consistent with that previously used under European Embedded Value reporting.

The total expected return is therefore the total of:

- expected existing business contribution, based on reference rates;
- expected existing business contribution, due to returns in excess of reference rates; only this component is impacted by the approach; and
- expected return on shareholders' net worth (grossed up for tax for pre-tax presentation)

The approach to expected return has no impact on total return or on the closing balance sheet.

F1 – Basis of preparation continued

(i) Participating business

Future regular bonuses on participating business are projected in a manner consistent with current bonus rates and expected future market-consistent returns on assets deemed to back the policies.

For with-profits funds in the UK and Ireland, for the purpose of recognising the value of the estate, it is assumed that terminal bonuses are increased to exhaust all of the assets in the fund over the future lifetime of the in-force with-profits policies. However, under stochastic modelling there may be some extreme economic scenarios when the total assets in the Group's with-profits funds are not sufficient to pay all policyholder claims. The average additional shareholder cost arising from this shortfall has been included in the TVOG.

For profit-sharing business in continental Europe, where policy benefits and shareholder value depend on the timing of realising gains, the apportionment of unrealised gains between policyholders and shareholders reflect contractual requirements as well as existing practice. Under certain economic scenarios where additional shareholder injections are required to meet policyholder payments, the average additional cost has been included in the TVOG.

(j) Consolidation adjustments

The effect of transactions between the Group's life companies such as loans and reinsurance arrangements have been included in the results split by territory in a consistent manner. No elimination is required on consolidation.

During 2014, UK Annuities (UKA) and UK General Insurance (UK GI) entered into a quota share reinsurance arrangement with Aviva International Insurance Limited (AII). Both treaties have an effective date of 1 January 2014 covering 10% of the UKA business and 5% of the UK GI business and remain in place during 2015. The impact of this arrangement has been reflected within the Group MCEV results.

As the MCEV methodology incorporates the impact of profits and losses arising from subsidiary companies providing administration, investment management and other services to the Group's life companies, the equivalent profits and losses have been removed from the relevant segment (other operations or fund management) and are instead included within the results of life and related businesses. In addition, the underlying basis of calculation for these profits has changed from the IFRS basis to the MCEV basis.

The capitalised value of the future profits and losses from such service companies are included in the embedded value and value of new business calculations for the relevant business, but the net assets (representing historical profits and other amounts) remain under other operations or fund management. In order to reconcile the profits arising in the financial period within each segment with the assets on the opening and closing Group MCEV, a transfer of IFRS profits from life and related business to the appropriate segment is deemed to occur. An equivalent approach has been adopted for expenses within our holding companies.

The assessments of goodwill, intangibles and pension schemes relating to life insurance business utilise the IFRS measurement basis and are included as part of non-covered but related to life business in the Group MCEV.

(k) Exchange rates

The Group's principal life overseas operations during the period were located within the eurozone, Poland and Singapore. The results and cash flows of these operations have been translated at the average rates for that period and the assets and liabilities have been translated at the period end rates. Please refer to note F2.

F2 – Principal Assumptions

Economic Assumptions – deterministic

(a) Reference rates and expense inflation

Economic assumptions are derived actively, based on market yields on risk-free fixed interest assets at the end of each reporting period.

In setting the risk-free rate we have, wherever possible, used the mid-price swap yield curve for an AA-rated bank. For some businesses, where the impact is immaterial, a flat yield curve has been assumed. For most businesses, the curve is extrapolated beyond the last available market data point to an ultimate forward rate using the Nelson-Siegel functional form if necessary. For markets in which there is no reliable swap yield curve, the risk-free rate is based on relevant government bond yields with adjustments made to reflect the local market environment where necessary. For certain business, swap rates are adjusted for a 'liquidity premium' in deriving the risk-free rates, and these adjustments are shown below the reference rate table.

The principal economic assumptions used are as follows:

Reference rate (spot, swap rates) and expense inflation

United Kingdom	2015	2014
Reference Rate		
1 year	0.7%	0.6%
5 years	1.6%	1.5%
10 years	2.0%	1.9%
15 years	2.2%	2.1%
20 years	2.3%	2.2%
Expense inflation ¹	2.9%	3.0%

¹ The expense inflation rate quoted relates to the UK life & pensions business (UKLAP) and the UK annuity business (UKA). The methodology used to set the expense inflation assumption in Friends UK is calculated in a consistent manner and results in an assumption of 3.7% at FY15.

Eurozone	2015	2014
Reference Rate		
1 year	0.1%	0.2%
5 years	0.3%	0.4%
10 years	1.0%	0.8%
15 years	1.5%	1.2%
20 years	1.6%	1.4%
Expense inflation ¹	1.0%	0.9%

¹ Based on France, the largest eurozone business. Inflation is modelled using a real yield curve; the figures disclosed above show the inflation rate at a duration of 10 years.

Poland	2015	2014
Reference Rate		
1 year	1.6%	1.8%
5 years	2.0%	1.9%
10 years	2.5%	2.2%
15 years	2.7%	2.4%
20 years	2.8%	2.5%
Expense inflation	1.0%	0.7%

For service companies, expense inflation relates to the underlying expenses rather than the fees charged to the life company.

F2 – Principal Assumptions continued

(b) Liquidity premiums

The following liquidity premium adjustments are made to the swap rate for certain contracts. The risk-free rate is taken as the swap yield curve for the currency of the liability, adjusted by adding the following to each swap rate:

	4Q 2015	3Q 2015	2Q 2015	1Q 2015	4Q 2014	3Q 2014	2Q 2014	1Q 2014	New business	Embedded value
									2015	2014
UK immediate annuities ¹	1.41%	1.40%	1.59%	1.59%	1.31%	0.89%	0.98%	1.05%	1.14%	1.09%
UK deferred annuities ²	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.86%	0.82%
Ireland immediate annuities	0.45%	0.28%	0.16%	0.19%	0.19%	0.21%	0.24%	0.28%	0.38%	0.19%
France immediate annuities	0.45%	0.28%	0.16%	0.19%	0.19%	0.21%	0.24%	0.28%	0.38%	0.19%
France participating business	0.34%	0.21%	0.12%	0.15%	0.14%	0.16%	0.18%	0.21%	0.29%	0.15%
Italy participating business	0.34%	0.21%	0.12%	0.15%	0.14%	0.16%	0.18%	0.21%	0.29%	0.15%
Spain annuities	0.45%	0.28%	0.16%	0.19%	0.19%	0.21%	0.24%	0.28%	0.38%	0.19%
Spain participating business	0.34%	0.21%	0.12%	0.15%	0.14%	0.16%	0.18%	0.21%	0.29%	0.15%

¹ Immediate annuities have also been sold in the UK life and pensions business (UKLAP) and Friends UK as well as the UK annuity business (UKA). At FY15, the liquidity premium for Friends UK policies is 77 bps for existing business and 90 bps for new business, and for UKLAP policies is 76 bps (FY14: 61 bps).

² Deferred annuities and participating business eligible for a liquidity premium have been sold in the Aviva UK life and pensions business (UKLAP) and Friends UK as well as in the UK Annuity business (UKA). The liquidity premium for UKLAP policies at FY15 is 57 bps (FY14: 46 bps). The approach to estimating the liquidity premium in the UKLAP business was revised during 2014 to be consistent with the approach taken for these products in other businesses. The liquidity premium in Friends UK at FY15 is 58 bps for existing business; volumes of new business sold are not material.

The CEIOPS (now EIOPA) Task Force on Liquidity Premium issued a set of Principles dated 1 March 2010 on the application of the liquidity premium. Principle 2 states that 'the liquidity premium should be independent of the investment strategy followed by the company'. In agreement with this, from 1 January 2014 Aviva removed the requirement for the liquidity premium to only apply to those liabilities backed by corporate bonds or certain illiquid non-traded assets (notably UK commercial mortgages). As a consequence an optimised notional portfolio is assumed which can include the actual assets backing the liabilities and the matching that exists between them.

For assets valued on a mark to model basis (notably UK commercial mortgages and equity release assets) the liquidity premium continues to be estimated consistently with the underlying valuation model. For all other assets, the formula structure proposed by the CFO / CRO Forum and adopted in the Solvency II Fifth Quantitative Impact Study (QIS 5) is adopted. The formula for the liquidity premium is:

United Kingdom/Europe: 50% of (iBoxx Corporate bond spread – 40bps)

For immediate and bulk purchase annuities, 100% of the full liquidity premium is applied, while 75% liquidity premium is applied to participating business and deferred annuities. No liquidity premium is applied to any other products. The liquidity premium is applied to all components of the MCEV with the exception of the adjustment for the 'look-through' into service company expenses.

(c) Risk premium

For life and pensions operating earnings, Aviva uses normalised investment returns. The normalised investment returns are expressed as a swap rate based on the typical duration of the assets held plus an asset risk premium. This risk premium is used for operating profit, Implied Discount Rates (IDR), Internal Rates of Return (IRR) and payback period. More detail is given in note F1 – Basis of preparation.

The use of asset risk premia only impacts operating earnings as expected returns reflect management's long-term expectations of asset returns in excess of the reference rate from investing in different asset classes. This assumption does not impact the embedded value or value of new business as asset risk premia are not recognised until earned. The asset risk premia set out in the table below are added to the ten year swap rate to calculate expected returns.

All territories	2015	2014
Equity risk premium	3.5%	3.5%
Property risk premium	2.0%	2.0%

Future returns on fixed interest investments are calculated from prospective yields less an adjustment for credit risk; this includes an adjustment for credit risk on all eurozone sovereign debt.

Economic Assumptions – stochastic

(a) Methodology used to derive assumptions

The calculation of time value of options and guarantees allows for expected management and policyholder actions in response to varying future investment conditions. The management actions modelled include changes to asset mix, bonus rates and rates of interest and other guarantees granted to policyholders. Modelled policyholder actions are described under 'Non-economic assumptions'.

F2 – Principal assumptions continued

Model – United Kingdom

Swap rates are generated by a model, the LIBOR Market Model Plus (LMM+), which projects a full swap curve at monthly intervals. Forward rates are assumed to have a distribution that lies between the log-normal and normal distributions. Although this does not guarantee non-negative interest rates, it maintains interest rates within a more plausible range than the standard Libor Market Model, and gives a better fit to certain swaption volatility surfaces. The introduction of a liquidity premium results in a parallel shift to the underlying yield curve. After making this adjustment, the model is calibrated to volatilities for swaptions for ten year swaps for a range of option terms and strike rates. Swaption volatilities are taken from SuperDerivatives. Tests have been performed to ensure that sufficient scenarios have been used that the result converges to the stochastic value of the business being valued.

The total annual return on equities is calculated as the return on one-year swaps plus a liquidity premium plus an excess return. A stochastic volatility jump diffusion model is used, which allows for varying levels of volatility over time and across strike prices. Option volatilities are taken from Markit.

The model also generates property total returns and real yield curves, which is a significant asset class for the UK. In the absence of liquid market data, the property volatilities are based on historic data.

Assumptions for correlations between asset classes have been set based on historic data.

Model – Europe and Asia

Swap rates are generated by a model, the LIBOR Market Model (LMM) that projects a full swap curve at monthly intervals. Forward rates are assumed to have a log-normal distribution which guarantees non-negative interest rates. The introduction of a liquidity premium results in a parallel shift in the underlying yield curve. After making this adjustment, the model is calibrated to at-the-money swaptions of a variety of terms and tenors. Swaption volatilities are taken from SuperDerivatives. Tests are performed to confirm that the scenarios used produce results that replicate the market price of similar financial instruments. In France, the calibration approach was changed during 2015 with stochastic models now calibrated to market yield curves (with a liquidity premium) and adjusted volatility levels at the valuation date to target the market observed prices of such options, in order to better reflect the sustained low interest rate and high volatility environment. In the comparative period, stochastic models were calibrated to market yield curves (with a liquidity premium) and volatility levels at the valuation date.

The total annual return on equities is calculated as the return on one-year swaps plus a liquidity premium, where applicable, plus an excess return. This excess return is generally modelled using a log-normal model where volatility varies by time horizon. This allows the model to capture the term structure of implied volatilities. For most business, the model is calibrated to at-the-money options for a variety of terms; the exception is the model in Poland which uses a fixed volatility based on historic data, given the lack of a deep and liquid market for options in Poland. Option volatilities are taken from Markit.

Assumptions for correlations between asset classes have been set based on historic data.

(b) Volatilities

Swaption implied volatilities

The implied volatility is that determined by Black-Scholes' formula to reproduce the market price of the option. The following table sets out the swaption implied volatilities used for the majority of business in each territory.

Option length	2015 Swap length				2014 Swap length			
	10 years	15 years	20 years	25 years	10 years	15 years	20 years	25 years
UK Sterling								
10 years	30.6%	30.4%	30.2%	30.1%	27.2%	26.0%	25.2%	24.6%
15 years	30.7%	30.1%	29.5%	28.9%	25.5%	24.5%	23.7%	22.9%
20 years	30.6%	29.8%	29.0%	28.0%	25.2%	23.9%	22.8%	21.7%
25 years	30.4%	29.2%	28.1%	26.4%	24.7%	23.4%	22.0%	20.6%
Euro								
10 years	34.6%	34.5%	34.5%	35.1%	38.4%	34.8%	32.6%	30.9%
15 years	38.0%	36.7%	35.5%	35.9%	37.4%	33.4%	30.7%	29.4%
20 years	43.8%	40.5%	37.3%	37.5%	36.2%	31.9%	28.9%	28.0%
25 years	44.0%	41.0%	38.1%	38.1%	33.8%	29.9%	27.2%	26.3%

F2 – Principal assumptions continued

Equity implied volatilities

The implied volatility is that determined by the Black-Scholes formula to reproduce the market price of the option, except for Poland as noted above, where a fixed volatility based on historic data is used. The following table sets out the equity implied volatilities used for the majority of business in each territory. Where market data is not available (particularly for 15 year options), equity volatilities are based on implied volatilities from modelled returns.

Option length	2015		2014	
	UK	France	UK	France
5 years	20.5%	21.5%	20.3%	20.7%
10 years	22.6%	21.5%	22.3%	20.8%
15 years ¹	24.0%	21.8%	22.7%	20.9%

¹ Based on implied volatilities from modelled returns.

Property implied volatilities

Best estimate levels of volatility have been used in the absence of meaningful option prices from which implied levels of volatility can be derived. Model property implied volatility at FY15 is 16% for the majority of business in the UK and 13% for other markets (FY14: 15% for the UK and 13% for other markets).

Non-economic assumptions

(a) Demographic assumptions

Assumed future mortality, morbidity and lapse rates have been derived from an analysis of recent operating experience with a view to giving a best estimate of future experience. We have anticipated future changes in experience where that is appropriate, for example we have allowed for improvements in future policyholder longevity.

We have set the assumptions based on a best estimate of shareholder outcomes. In particular, where the policyholder behaviour varies with economic experience, we have set assumptions which are dynamic, that is, vary depending on the economic assumptions.

For example, surrender and option take up rate assumptions that vary according to the investment scenario under consideration have been used in the calculation of the time value of options and guarantees, based on our assessment of likely policyholder behaviour in different investment scenarios.

Additionally, where demographic experience is not driven by economic scenarios but is asymmetric on a stand-alone basis, the best estimate assumption considers the weighted-average expected experience, not simply the median or most likely outcome.

(b) Expense assumptions

Management expenses and operating expenses of holding companies attributed to life and related businesses have been included in the MCEV calculations and split between expenses relating to the acquisition of new business, the maintenance of business in-force and project expenses. Future expense assumptions include an allowance for maintenance expenses and a proportion of recurring project expenses. Certain expenses of an exceptional nature, when they occur, are identified separately and are generally charged as incurred. No future productivity gains have been anticipated, although in a number of start-up operations an allowance is made for the spreading of fixed costs over a larger volume of business. In the UK, maintenance expense assumption changes in the current period are driven by expense savings, both as a result of reduced property rental charges in UK Life entities and continued efficiency savings that have been delivered. In addition, the approach to projection of future expenses within the UK Life service company has been refined.

Where subsidiary companies provide administration, investment management or other services to our life businesses, the value of profits or losses arising from these services have been included in the embedded value and value of new business.

Other assumptions

(a) Poland financial levy

Following the election of a new government in Poland in October 2015 a levy is expected to be charged against financial service providers who manage assets above a certain threshold. For insurers the levy is expected to be 0.44% on assets over 2 billion PLN and implemented in February 2016. The levy has been fully reflected in the closing MCEV of covered business as at 31 December 2015 as although the levy applies to all short and long-term insurance business, the majority of the impact is on long-term business. The impact of the levy is £(76) million (net of tax and minority interest), presented within other non-operating variances in the analysis of earnings.

(b) Poland Pensions legislation change

On 4 September 2013, the Polish government announced a preferred option to change the Pillar II Pensions system (OFE), with the draft law being published on 10 October 2013. The changes were significant and in summary involved the transfer of over 50% of existing pensions assets to the state system along with an additional gradual transfer 10 years before retirement; in addition new premiums will be credited to the state system unless pension scheme members specifically stated otherwise.

The document enacting the change became law on 1 February 2014. Subsequently, customers had the opportunity to decide whether to stay with Aviva; this window closed in 2014 and the long-term implications of the regulation change were fully reflected in the MCEV at 31 December 2014, with no impact expected in any future period.

(c) Poland regulatory change on surrender charges

During 2015 there has been a regulatory change in Poland whereby surrender charges on unit-linked business have been restricted, with an impact of £(1) million on closing MCEV (net of tax and minority interest) at 31 December 2015.

F2 – Principal assumptions continued

(d) UK budget announcement on annuity reform

On 19 March 2014, the UK Chancellor of the Exchequer announced new legislation that removes the requirement for people who are retiring to take their defined contribution pension as an annuity. From April 2015 anyone who is aged 55 or over is able to take their entire pension fund as cash, although only the first 25% is tax-free. The remaining 75% of the fund is taxed at the saver's marginal rate.

Following the announcement, Aviva has experienced decreased demand for annuities in the UK, although annuities still play a central role in post-retirement financial planning as a tax efficient method of securing a guaranteed lifetime income. The reforms allow pension savers a greater level of flexibility that is likely to lead to changes in policyholder behaviour that may affect when customers take their retirement benefits and also lapse experience. There is continuing uncertainty within pension markets and an allowance of £75 million (net of tax and minority interest) was made at FY15 (*FY14: £50 million*), with the increase since FY14 reflecting the acquisition of Friends Life. This amount was deducted from the value-in-force at FY14 and FY15, thereby reducing the opening and closing MCEV and is presented within other non-operating variances.

(e) UK pension scheme charge caps and commission

On 27 March 2014 the Pensions Minister announced that fees on default funds in auto-enrolment schemes would be capped at 0.75% p.a. from April 2015; and both active member discounts and commission payments will not be permitted from April 2016. On 17 October 2014 the Department for Work and Pensions issued a consultation paper containing draft legislation for these changes. This consultation closed on 14 November 2014. These changes were approved by Parliament and became regulation in March 2015.

Aviva's response has been to:

- Apply a cap on annual management charges on default funds of 0.75% p.a.
- Abolish active member discounts and set leaver charges to active member levels.
- Remove initial commission immediately and renewal commission by the regulatory requirement date in April 2016.

At 31 December 2014 the expected impact on Group's MCEV was estimated as £165 million (net of tax and minority interest). Of this, £20 million related to new business, and was deducted from the value of new business. The remaining £145 million related to existing business and was included within other non-operating variances, thereby reducing the closing MCEV. At 31 December 2015 the expected impact on the Group's MCEV has been estimated at £147 million (net of tax and minority interest) with the £18 million benefit since FY14 reflecting the acquisition of Friends Life and a refinement in the estimation technique used in the UK Life calculations.

(f) UK exit charges

On 19 January 2016 the Chancellor of the Exchequer announced that the UK government will change the law to place a duty on the Financial Conduct Authority to cap excessive early exit charges for pension savers. The FCA will be responsible for setting the level of the cap and will consult fully on this in due course. Aviva has been planning for a degree of voluntary reduction in exit charges, but there is a risk that the FCA will impose a cap at a more onerous level and with wider scope than has been assumed to date, which could result in a provision being required when there is greater clarity from the FCA.

(g) Spain pensions legislation change

During 2014 the Spanish government reduced the cap on annual management charges on pensions products from 2% p.a. to 1.5% p.a. The impact of this at 31 December 2014 was to reduce the value in force by £4 million (net of tax and minority interests).

(h) Cost of residual non-hedgeable risk (CNHR)

For the balance sheet and operating profit, a charge of 3.0% (*FY14: 3.2%*) has been applied to the group-diversified capital required on a 1-in-200 one-year basis over the remaining lifetime of in-force business. The charge is set so as to give an aggregate allowance that is in excess of the expected operational risk costs arising from the in-force covered business over its remaining lifetime. The decrease in the charge since FY14 results from a reassessment of the group diversification benefit.

(i) Economic assumption changes in France

The French business is particularly sensitive to interest rates and swaption volatilities. This is primarily due to the high proportion of guarantees on some of their participating business and a dynamic lapse methodology that assumes policies lapse if the expected crediting rates payable to policyholders become substantially lower than a rate assumed to be payable by the French market in general. Over 2014, the eurozone saw a significant fall in interest rates and increase in swaption volatilities. At FY14, as part of their usual assumption review, Aviva France made a number of economic assumption changes to reflect the current low interest rate environment. In particular amendments were made to the future crediting rates assumed to be payable in the French market in general as well as the future crediting rates payable to Aviva France's policyholders. The effect of this change was reported within economic variances along with all other economic movements affecting the MCEV over the reporting period and increased the value of in force business by £293 million (net of tax and minority interest) mainly due to the impact of lower expected future lapses.

During 2015, France made further economic assumption changes, with a total benefit of £170 million on the closing MCEV (net of tax and minority interest) reported within economic variances. Adjusting the split between the income and capital component of equity and property returns in order to better reflect actual asset holdings and the historic dividend yield on these assets had a benefit of £82 million (net of tax and minority interests).

In addition a change was made to the economic scenarios used to calculate the cost of guarantees to ensure that projected future cashflows are valued in line with the market prices of similar financial instruments in the recent low interest rate and high volatility environment, with a benefit of £88 million. Details of this change are noted in the above section on stochastic economic assumptions.

F2 – Principal assumptions continued

(j) Calculation of equity release assets and liabilities in the UK

At 31 December 2014 the model used to value the equity release assets held in the UK annuity fund was refined. This model derives a best estimate view on property growth based on current market conditions and explicitly calculates the additional return that would be demanded by investors due to uncertainties in the asset cash flows. Additionally there was a change to the methodology for deriving the liquidity premium which is used to discount the asset cash flows. These changes affected both assets and IFRS liabilities by a broadly similar amount. However, there was a negative impact on MCEV as the reduction in yield due to the additional return demanded by investors was not reflected in the MCEV reference rate, meaning that the reduction in asset value was not offset by an increase in VIF. This resulted in an adverse impact of £(312) million which was reflected in the closing MCEV at 31 December 2014.

During 2015, further enhancements have been made to refine the modelling of future withdrawals from customers utilising the drawdown facility of their mortgage, as well as refinements to the calibration of the residential property stress applied when calculating the cost of capital and refinements to the modelling of mortgage assets held in the UK equity release business. These changes have had an adverse impact of £(110) million (net of tax and minority interest) on the closing MCEV at FY15, and are presented within economic variances.

(k) Required capital and tax

	Tax rates ¹		Required capital (% EU minimum or equivalent)	
	2015	2014	2015	2014
United Kingdom ^{2,3}	18.0%	20.0%	100% / 200%	100% / 200%
Ireland ⁴	12.5%	12.5%	100%	180.0%
France	34.4%	34.4%	107.5%	107.5%
Spain ⁵	25.0%	25.0%	152.6%	146.7%
Italy ⁶	30.8%	34.3%	129.4%	115.5%
Poland	19.0%	19.0%	125.3%	125.5%
Singapore	17.0%	17.0%	150.0%	146.7%

¹ Current tax legislation and rates have been assumed to continue unaltered except where changes in future tax rates are known.

² For UKA and UKLAP, the required capital under MCEV is 100% for unit-linked and other non-participating business and annuity business with 200% for BPA business. In addition, the reattribution of the inherited estate has led to additional capital being locked in to support the with-profits business, and this has been included within required capital. For Friends UK, the required capital is 150%.

³ For offshore business sold in the Isle of Man by FPI the corporation tax rate is 0%.

⁴ Required capital in Ireland has reduced following the transfer of Aviva Life & Pensions Ireland Limited (ALPI) to Aviva UK Life & Pensions Limited (UKLAP).

⁵ This is the aggregate required capital for in force business in Spain. A higher percentage in the current period reflects changes to business mix over the year.

⁶ This is the aggregate required capital level for in force business in Italy. A higher percentage in the current period reflects changes to the economic capital methodology implemented at FY14.

The main rate of UK Corporation tax reduced from 21% to 20% at 1 April 2015. This change was considered a known future change for MCEV purposes from 2013 onwards and therefore was already reflected in the opening and closing balances for both the current and comparative period.

As announced in the Summer Budget on 8 July 2015, the UK corporation tax rate is expected to reduce from 20% to 19% from 1 April 2017 and to 18% from 1 April 2020. This change was reflected in the closing MCEV at 31 December 2015 with a benefit of £118 million (net of tax and minority interest) presented within other non-operating variances.

There has been a reduction in the tax rate in Italy from 34.3% to 30.8%, following the reduction in the standard rate of tax (IRES) from 27.5% to 24.0%, with effect from 1 January 2017. This change was reflected in the closing MCEV at 31 December 2015 with a benefit of £14 million (net of tax and minority interest) presented within other non-operating variances.

In France, the long-term tax rate of 34.43% was temporarily increased to 38% in 2013 and this increase was renewed during 2014. The French government also announced that this temporary increase would remain in force during 2015. The impact of this was to reduce the closing MCEV at 31 December 2014 by £13 million (net of tax and minority interests) presented within other non-operating variances. There has been no change to the long-term tax rate assumption in 2015.

In France, legislation was introduced with effect from 1 January 2016 to tax 1% of dividend distributions between French companies at the French corporation tax rate. This applies to the distributions of profits between French companies within Aviva France. A provision has been included in the Group MCEV net assets at 31 December 2015 and results in a reduction in net assets of £12 million and is presented within economic variances.

There has been a reduction to the corporation tax rate in Spain, from 30% in 2014 to 28% for 2015 and 25% for 2016 onwards. From 31 December 2014, this reduction was considered a known future change for MCEV purposes and was reflected in the closing MCEV at 31 December 2014 with a benefit of £8 million (net of tax and minority interests) presented within other non-operating variances.

During 2014 Aviva undertook a review to ensure that dividend withholding taxes across the territories in which it does business are consistently treated in its results. As a result, the MCEV of Aviva's Turkish and Chinese joint venture businesses were adjusted at 31 December 2014 to reflect withholding taxes of 15% and 5% respectively, payable on distribution of profits to their Aviva Group UK shareholder, with adverse impacts of £(19) million and £(6) million respectively (net of tax and minority interest) on the opening MCEV. The adjustments made to the opening MCEV were presented within economic variances in the comparative periods in note F4. Components of MCEV profit during 2014 and 2015 reflect the additional withholding tax due.

F2 – Principal assumptions continued

(I) Exchange rates

The Group's principal life overseas operations during the period were located within the eurozone, Poland and Singapore. The results and cash flows of these operations have been translated into sterling at the average rates for the period and the assets and liabilities have been translated at the period end rates as follows:

	2015	2014
Eurozone		
Average rate (€1 equals)	£0.72	£0.81
Period end rate (€1 equals)	£0.74	£0.78
Poland		
Average rate (PLN1 equals)	£0.17	£0.19
Period end rate (PLN1 equals)	£0.17	£0.18
Singapore		
Average rate (\$SGD1 equals)	£0.48	£0.48
Period end rate (\$SGD 1 equals)	£0.48	£0.48

F3 – Development of MCEV

The tables below present the key life and pension MCEV results for 31 December 2015 on both a gross of tax and gross of non-controlling interest basis, and on a net of tax and net of non-controlling interest basis.

	Full Year 2015 £m	Full Year 2014 £m
Present value of new business premiums (gross of tax & non-controlling interests)	29,765	24,728
New business margins (gross of tax & non-controlling interests)	4.0%	4.1%
Value of new business ¹	1,192	1,009
Expected returns	1,267	1,246
Experience variances	9	38
Operating assumption changes	153	448
Other operating variances	(232)	6
Operating earnings (gross of tax & non-controlling interests)	2,389	2,747
Economic variances	(743)	(152)
Other non-operating variances	11	(258)
Non-operating earnings (gross of tax & non-controlling interests)	(732)	(410)

¹ The value of new business figure for 2014 includes Eurovita, CxG and South Korea.

	Full Year 2015 £m	Full Year 2014 £m
Present value of new business premiums (net of tax & non-controlling interests)	28,130	22,504
New business margins (net of tax & non-controlling interests)	3.1%	3.2%
Value of new business ¹	869	712
Expected returns	918	854
Experience variances	(4)	26
Operating assumption changes	114	353
Other operating variances	(163)	5
Operating earnings (net of tax & non-controlling interests)	1,734	1,950
Economic variances	(677)	(125)
Other non-operating variances	(1)	(206)
Non-operating earnings (net of tax & non-controlling interests)	(678)	(331)

¹ The value of new business figure for 2014 includes Eurovita, CxG and South Korea.

All commentary below is on a net of tax and net of non-controlling interest basis.

Profitability

Operating earnings for FY15 are £1,734 million (*FY14: £1,950 million*). These are offset by £(678) million (*FY14: £(331) million*) non-operating earnings to give total MCEV earnings of £1,056 million (*FY14: £1,619 million*).

New business

VNB has increased to £869 million (*FY14: £712 million*), primarily driven by growth in the UK & Ireland, Italy and Asia. Friends UK contributed £73 million to the total UK & Ireland new business value of £502 million at FY15. UK & Ireland excluding Friends UK has seen VNB increase by £43 million over the year, with the improvement driven mainly by higher margins on pension and health business, together with increased sales and improved margins on bulk purchase annuities.

In Europe, all markets showed an increase in VNB on a constant currency basis. VNB in Italy increased primarily due to higher margins on with-profits products following management actions to reduce the cost of guarantees, together with an improved mix of business away from with-profits products towards protection business. VNB growth in France (on a constant currency basis) was driven mainly by volume growth and improved margins on protection business. In Poland, VNB showed a small increase on a constant currency basis reflecting increased sales of higher margin business and the 2014 result included a £8 million one-off benefit from regulatory pension changes in Lithuania. An increase in VNB in Spain (on a constant currency basis) was mainly driven by an improved mix within protection business, partly offset by reduced sales of with-profits business following management actions to reduce guarantees available.

In Asia, increases in VNB reflect a continued focus on sales of higher margin products, particularly protection products in China and Singapore as well as retail health business in Singapore. In addition, the current period includes the new business contribution from FPI.

F3 – Development of MCEV continued

Expected return

The total expected return was £918 million (*FY14: £854 million*). Expected return for existing business was £806 million (*FY14: £723 million*) and expected return on shareholder net worth was £112 million (*FY14: £131 million*). The increase in total expected return from FY14 was driven mainly by an increase in expected return in the UK and Asia, offset partially by lower levels of expected return from Europe due in part to the impact of adverse foreign exchange rate movements. In the UK, this increase was principally due to the acquisition of Friends UK which added £130 million to expected return. In France, a reduction in expected return was due to a lower opening MCEV at the start of 2015 compared to the start of 2014 driven by the negative impact of falling risk-free rates and increased swaption volatilities on the costs of guarantees. In Poland, Spain and Italy, falling risk-free rates and narrowing bond spreads led to a reduction in IDR at the end of 2014 and therefore a reduction in expected return in FY15 compared to FY14. In Italy this has been offset by an increase in Aviva's share of ownership of the business at the end of 2014, and the inclusion of previously unmodelled business.

Experience variances

Experience variances of £(4) million (*FY14: £26 million*) are driven by negative variances in the UK and Asia, partially offset by positive variances in France and Poland. In the UK, negative variances are driven by project costs related to development of systems and processes, offset partially by positive lapse and mortality experience. In France and Poland positive variances are mainly driven by favourable lapse experience. France also benefits from positive experience variances driven by lower levels of policyholder transfers between unit-linked and with-profits contracts.

Operating assumption changes

Operating assumption changes of £114 million (*FY14: £353 million*) are driven by assumption changes in the UK mainly reflecting a reduction to the current and long-term cost base due to continuing restructuring and process improvements and changes to lapse assumptions. Morbidity assumption changes in Singapore and a strengthening of expense assumptions in France partially offset the positive impacts in the UK, as did the increased levels of non-hedgeable risk capital in the CNHR calculation following updated economic capital risk calibrations.

Other operating variances

Other operating variances of £(163) million (*FY14: £5 million*) are driven mainly by the impact in France of a modelling change to reflect policyholder actions to transfer funds between unit-linked and with-profits contracts. The adverse impact in the UK mainly reflects model changes, pricing actions to improve retention of existing corporate pension contracts and the loss of tax relief following the recapture of an Insurance Special Purpose Vehicle (ISPV) within the Group.

Non-operating earnings

Non-operating earnings in the period were £(678) million (*FY14: £(331) million*).

Economic variances of £(677) million (*FY14: £(125) million*), are primarily due to negative economic variances in the UK and Asia partially offset by positive variances in France.

In the UK, the adverse impact primarily reflects widening corporate bond spreads on annuity business, partially offset by increases in liquidity premiums. In addition, equity market underperformance has reduced expected future unit-linked fund charges and shareholder transfers from with-profits funds.

The adverse impact in Asia is mainly driven by falling interest rates in China increasing the cost of guarantees. Positive variances in France are mainly due to an increase in risk-free rates and falling swaption volatilities resulting in a reduction in the cost of guarantees. Economic assumption changes relating to capital and dividend apportionment for equity returns and a change to the ESG calibration to better reflect the low interest rate environment further added to the positive variance in France. Further detail on economic assumption changes in France can be found in Note F2(i).

Other non-operating variances were £(1) million (*FY14: £(206) million*), reflecting several offsetting effects. There were negative variances relating to integration costs following the acquisition of Friends Life, the costs associated with the Group's Solvency II program, new legislation in Poland resulting in a levy on insurance companies (to be implemented in February 2016) and newly enacted legislation in Turkey whereby future fees on pensions would be reduced. These negative variances were broadly offset by the partial release of a provision in the UK established at the end of 2014 (related to charge capping on auto-enrolment pension funds), the announcement to reduce the UK corporation tax rate to 18% by 2020 and the impact of increased assets under management following the acquisition of Friends Life. A further benefit to MCEV resulted from the announcement to reduce tax rates in Italy (effective 2017).

Total Life MCEV

The life covered MCEV is £19,560 million, an increase of £4,286 million in the period from the opening MCEV of £15,274 million. This movement comprises of operating earnings of £1,734 million in the year, economic variances of £(677) million and other non-operating variances of £(1) million, resulting in total MCEV earnings of £1,056 million. Dividend and capital flows from covered business reduce MCEV by £1,074 million. The increase in acquired/divested business of £4,633 million is primarily due to the acquisition of Friends Life on 10 April 2015. Adverse foreign exchange rate impacts also reduced closing MCEV by £329 million.

F4 – Geographical analysis of life MCEV operating earnings

The table below presents the components of the life and pensions MCEV earnings. The components of operating profit are calculated using economic assumptions as at the start of the year (in-force business) or start of the quarter or more frequently (new business) and operating (demographic and expenses) assumptions as at the end of the period.

Net of tax and non-controlling interests Full Year 2015	UK & Ireland £m	Europe £m	Asia £m	Other £m	Total £m
Value of new business	502	232	122	13	869
Earnings from existing business					
– expected existing business contribution (reference rate)	139	57	19	3	218
– expected existing business contribution (in excess of reference rate)	371	181	33	3	588
	510	238	52	6	806
Experience variances					
– maintenance expense	6	(4)	(10)	—	(8)
– project and other related expenses	(88)	—	(10)	—	(98)
– mortality/morbidity	16	8	4	—	28
– lapses	15	15	(6)	—	24
– other	10	31	6	3	50
	(41)	50	(16)	3	(4)
Operating assumption changes:					
– maintenance expense	145	(57)	(2)	5	91
– project and other related expenses	(17)	—	(4)	—	(21)
– mortality/morbidity	(9)	23	(18)	—	(4)
– lapses	97	28	(2)	(3)	120
– other	(84)	2	11	(1)	(72)
	132	(4)	(15)	1	114
Expected return on shareholders' net worth	49	51	12	—	112
Other operating variances	(56)	(102)	(16)	11	(163)
Operating earnings after tax and non-controlling interests	1,096	465	139	34	1,734
Economic variances					(677)
Other non-operating variances					(1)
Earnings after tax and non-controlling interests					1,056

Please refer to F3 for the complete analysis of the components of MCEV earnings

F4 – Geographical analysis of life MCEV operating earnings continued

Net of tax and non-controlling interests Full Year 2014	UK & Ireland £m	Europe £m	Asia £m	Other £m	Total £m
Value of new business	386	217	101	8	712
Earnings from existing business					
– expected existing business contribution (reference rate)	114	81	16	2	213
– expected existing business contribution (in excess of reference rate)	275	218	14	3	510
	389	299	30	5	723
Experience variances					
– maintenance expense	9	(3)	(2)	(3)	1
– project and other related expenses ¹	(81)	(1)	(1)	—	(83)
– mortality/morbidity	(12)	1	1	—	(10)
– lapses	(24)	26	(1)	1	2
– other ²	91	18	5	2	116
	(17)	41	2	—	26
Operating assumption changes:					
– maintenance expenses ³	110	38	(6)	—	142
– project and other related expenses	(33)	—	—	—	(33)
– mortality/morbidity ⁴	158	4	12	—	174
– lapses	(26)	17	(5)	11	(3)
– other ⁵	71	—	2	—	73
	280	59	3	11	353
Expected return on shareholders' net worth	60	62	9	—	131
Other operating variances ⁶	(76)	(15)	50	46	5
Operating earnings after tax and non-controlling interests	1,022	663	195	70	1,950
Economic variances ⁷					(125)
Other non-operating variances ⁸					(206)
Earnings after tax and non-controlling interests					1,619

¹ Within the UK, project and other related expenses reflect higher than expected expenditure on development of systems and processes.

² Other experience variances in the UK are most notably due to the impact of changes to the pattern of required capital releases as a result of capital management transactions and a reduction in reserves arising from improvements to valuation data.

³ Maintenance expense operating assumption changes in the UK are driven by continuing restructuring and process improvements reducing the current and long-term cost base. In Europe the positive impact of expense assumption changes relate to all territories.

⁴ In the UK, mortality/morbidity assumption changes primarily relate to annuitant mortality assumption changes.

⁵ Other assumption changes in the UK include the impact of including age related premium increases on healthcare business and the impact of increased annual management charges following enhancements to unitised with-profits asset shares in NWPSF.

⁶ Other operating variances include management actions taken to change terms and conditions on some of Asia's healthcare business in Singapore, as well as the impact of refinements to the CNHR calculation in Singapore. There is an impact from prior period adjustments in Aviva Investors (reported in the 'Other' operating segment). In the UK, this partly reflects the impact on frictional costs of capital restrictions as a result of two reinsurance transactions undertaken in 2014.

⁷ Economic variances are materially driven by negative variances in France and Asia partly offset by positive variances in the UK, Spain and Poland. In particular in France there is a significant adverse impact, partly mitigated by a number of economic assumption changes. Note F2(i) provides further details of economic assumption changes made at FY14.

⁸ Other non-operating variances are primarily driven by the impact of pension legislation changes in the UK, resulting in lower future management charges levied on auto-enrolment pension funds, and the extension of the temporary corporate tax rate to 2015 in France.

F5 – Analysis of life and pension earnings

The following table provides an analysis of the movement in embedded value for covered business. The analysis is shown separately for free surplus, required capital and the value of in-force covered business, and includes amounts transferred between these categories.

Net of tax and non-controlling interests Full Year 2015	Free surplus £m	Required capital ¹ £m	VIF £m	Total MCEV £m
Opening MCEV	1,918	7,450	5,906	15,274
New business value	(352)	405	816	869
Expected existing business contribution (reference rate)	—	—	218	218
Expected existing business contribution (in excess of reference rate)	—	—	588	588
Expected return on shareholders' net worth	8	104	—	112
Transfers from VIF and required capital to the free surplus	1,558	(384)	(1,174)	—
Experience variances ²	(10)	(55)	61	(4)
Assumption changes ³	532	120	(538)	114
Other operating variances ⁴	205	(161)	(207)	(163)
	727	(96)	(684)	(53)
Operating MCEV earnings	1,941	29	(236)	1,734
Economic variances ⁵	276	(147)	(806)	(677)
Other non-operating variances ⁶	(283)	138	144	(1)
Total MCEV earnings	1,934	20	(898)	1,056
Capital & dividend flows ⁷	(1,177)	6	97	(1,074)
Foreign exchange variances	(40)	(143)	(146)	(329)
Acquired/divested business ⁸	(132)	1,101	3,664	4,633
Closing MCEV	2,503	8,434	8,623	19,560

- Required capital is shown net of implicit items permitted by local regulators to cover minimum solvency margin.
- Experience variances include the impact of negative variances in the UK, driven by project costs related to development of systems and processes partially offset by favourable lapse experience in France and Poland.
- Assumption changes primarily relate to maintenance expenses and lapses in the UK, partially offset by a strengthening of expense assumptions in France. The reduction in VIF and corresponding increase in free surplus largely reflects a weakening of regulatory mortality assumptions in the UK.
- Other operating variances include the negative impact of a model change in France to allow for policyholder actions to transfer funds between unit-linked and with-profits business. The movement in free surplus includes a c.£200 million benefit arising from the portfolio transfer of our Irish Life business, Aviva Life and Pensions Ireland Limited, to Aviva Life and Pensions UK Limited on 1 January 2015, which resulted in reduced regulatory capital requirements and reserve releases from alignment with the UK reserving basis.
- The reduction in VIF is primarily driven by the UK resulting mainly from widening corporate bond spreads on annuity business partially offset by increases in liquidity premiums, as well as equity under-performance.
- Includes several offsetting effects. Negative variances include integration costs following the acquisition of Friends Life, the Group's Solvency II program costs and new legislation in Poland and Turkey. Positive variances were driven by the partial release of a charge-capping provision in the UK, the announcement to reduce the UK corporation tax rate to 18% by 2020 and the impact of increased assets under management following the acquisition of Friends Life. A further benefit to MCEV resulted from the announcement to reduce tax rates in Italy (effective 2017).
- Included within capital and dividend flows is the transfer to Life and related businesses from other segments consisting of service company profits and losses during the reported period that have emerged from the value of in-force. Since the 'look-through' into service companies includes only future profits and losses, these amounts must be eliminated from the closing embedded value. Capital and dividend flows also includes a transfer of an intercompany balance from non-covered to covered business, reducing non-covered assets and increasing the VIF of covered business by £97 million.
- Acquired/divested business is principally due to the acquisition of the Friends Life business on 10 April 2015, as set out in note F1 – basis of preparation.

Net of tax and non-controlling interests Full Year 2014	Free surplus £m	Required capital ¹ £m	VIF £m	Total MCEV £m
Opening MCEV	2,310	6,551	6,129	14,990
Opening Adjustments ²	125	107	534	766
Adjusted Opening MCEV	2,435	6,658	6,663	15,756
New business value	(350)	297	765	712
Expected existing business contribution (reference rate)	—	—	213	213
Expected existing business contribution (in excess of reference rate)	—	—	510	510
Expected return on shareholders' net worth	46	85	—	131
Transfers from VIF and required capital to the free surplus	1,221	(267)	(954)	—
Experience variances	(11)	(78)	115	26
Assumption changes ³	223	(66)	196	353
Other operating variances ⁴	32	1,152	(1,179)	5
	244	1,008	(868)	384
Operating MCEV earnings ⁵	1,161	1,123	(334)	1,950
Economic variances ⁶	37	(24)	(138)	(125)
Other non-operating variances ⁷	(32)	—	(174)	(206)
Total MCEV earnings	1,166	1,099	(646)	1,619
Capital & dividend flows ⁸	(1,116)	—	—	(1,116)
Foreign exchange variance	(48)	(206)	(214)	(468)
Acquired/divested business ⁹	(519)	(101)	103	(517)
Closing MCEV	1,918	7,450	5,906	15,274

- Required capital is shown net of implicit items permitted by local regulators to cover minimum solvency margin.
- Represents restatement of opening 2014 MCEV relating to a reassessment of liquidity premium and extension in scope of covered business.
- Assumption changes include annuitant mortality and maintenance expense assumption changes in the UK.
- Other operating variances are driven by prior period adjustments in Aviva Investors, UK and France and management actions taken to change terms and conditions on some of Asia's healthcare business in Singapore, as well as refinements to the CNHR calculation in Singapore. The large reduction in VIF and offsetting increase in required capital is a result of capital transactions in the UK.
- Two internal reinsurance arrangements were undertaken in 2014. The first to reinsure an additional 10% of UK Annuity business to Aviva International Insurance Limited and the second to reinsure 10% of UK Annuity business to UKLAP. These transactions had an adverse impact on Group MCEV free surplus of £204 million in total. On an economic capital basis these transactions improve the UK Life position and as a result the adverse impact on MCEV has therefore been excluded from operating capital generation to reflect the economic substance of the management actions.
- The reduction in VIF is primarily driven by France, where falling interest rates and increased swaption volatilities have increased the cost of guarantees, mitigated to some extent by a number of economic assumption changes.
- Other non-operating variances include the impact of the Department for Work and Pensions announcement in the UK and the temporary increase in the corporation tax rate in France.
- Included within capital and dividend flows is the transfer to Life and related businesses from other segments consisting of service company profits and losses during the reported period that have emerged from the value of in-force. Since the 'look-through' into service companies includes only future profits and losses, these amounts must be eliminated from the closing embedded value.
- A decrease of £490 million is due to the sale of ALPI to UKLAP. This line also includes the sale of Eurovita and the decrease in minority interest holding in Italy, the sale of CxG in Spain, a reduction in Aviva's share of Poland Pensions business, and the sale of Woori Aviva Life in South Korea.

F6 – Segmental analysis of life and related business embedded value

The required capital across our life businesses varies between 100% and 200% of EU minimum or equivalent (103% to 180% at FY14). The weighted average level of required capital for our life businesses expressed as a percentage of the EU minimum (or equivalent) solvency margin (Solvency I) has increased to 125% (FY14: 109%), mainly due to the acquisition of Friends Life, which has a required capital percentage of 150%, as set out in F2 – Principal assumptions. These levels of required capital are used in the calculation of the Group's embedded value to evaluate the cost of locked in capital. At 31 December 2015 the aggregate regulatory requirements based on the EU minimum test (Solvency I) amounted to £6.8 billion (FY14: £6.9 billion). At this date, the actual net worth held in our long-term business was £10.9 billion (FY14: £9.4 billion) which represents 160% (FY14: 136%) of these minimum requirements.

Net of tax and non-controlling interests Full Year 2015	Free surplus £m	Required capital ¹ £m	VIF £m	Total MCEV £m
United Kingdom & Ireland ²	1,786	5,442	4,924	12,152
France ³	221	2,066	1,179	3,466
Poland	136	101	843	1,080
Italy	41	398	273	712
Spain	46	102	147	295
Other Europe	1	14	97	112
Europe	445	2,681	2,539	5,665
Asia ⁴	243	289	1,036	1,568
Other	29	22	124	175
Total	2,503	8,434	8,623	19,560

¹ Required capital is shown net of implicit items permitted by local regulators to cover minimum solvency margins.

² The increase in all components of MCEV in the UK & Ireland since FY14 is primarily due to the impact of the acquisition of Friends UK, as set out in F1 – Basis of preparation.

³ The increase in VIF in France since FY14 is driven by the reduction in cost of guarantees as a result of increased risk-free rates and reduced swaption volatilities, as well as the benefit of equity outperformance on unit-linked business and economic assumption changes (see note F2(i) for further details).

⁴ In Asia, the increase in VIF since FY14 primarily relates to the acquisition of FPI, as set out in F1 – Basis of preparation.

Net of tax and non-controlling interests Full Year 2014	Free surplus £m	Required capital ¹ £m	VIF £m	Total MCEV £m
United Kingdom & Ireland ²	1,079	4,527	2,743	8,349
France	250	2,118	976	3,344
Poland	152	102	946	1,200
Italy	127	348	248	723
Spain	49	117	153	319
Other Europe	5	12	103	120
Europe	583	2,697	2,426	5,706
Asia	235	203	624	1,062
Other	21	23	113	157
Total	1,918	7,450	5,906	15,274

¹ Required capital is shown net of implicit items permitted by local regulators to cover solvency margins.

² Two internal reinsurance arrangements were undertaken in 2014. The first to reinsure an additional 10% of the UK Annuity business to Aviva International Insurance Limited and the second to reinsure 10% of UK Annuity business to UKLAP. These transactions had an adverse impact on Group MCEV free surplus of £204 million in total. On an economic capital basis these transactions improve the UK Life position and as a result the adverse impact on MCEV has therefore been excluded from OCG to reflect the economic substance of the management actions.

F7 – Present value of life new business premiums

The tables below set out the present value of new business premiums (PVNBP) written by the life and related businesses, gross of tax and non-controlling interests. The PVNBP calculation is equal to total single premium sales received in the period plus the discounted value of regular premiums expected to be received over the term of the new contracts, and is expressed at the point of sale.

The premium volumes and projection assumptions used to calculate the present value of regular premiums for each product are the same as those used to calculate the value of new business, so the components of the new business margin are on a consistent basis.

The weighted average capitalisation factor (WACF) is the multiple of the annualised regular premium which gives the present value at point of sale of the regular premiums.

Gross of tax and non-controlling interests Full Year 2015	Regular premiums £m	WACF	Present value of regular premiums £m	Single premiums £m	Present value of new business premiums £m
United Kingdom ^{1,2}	1,450	5.8	8,480	7,756	16,236
Ireland	24	6.3	152	409	561
United Kingdom & Ireland	1,474	5.9	8,632	8,165	16,797
France	86	8.5	729	4,092	4,821
Poland ³	41	8.0	328	120	448
Italy ⁴	12	7.8	93	2,054	2,147
Spain	32	6.0	192	430	622
Other Europe	97	3.8	365	95	460
Europe	268	6.4	1,707	6,791	8,498
Asia ⁵	300	6.9	2,060	763	2,823
Other	—	—	—	1,647	1,647
Total life and pensions	2,042	6.1	12,399	17,366	29,765

1 Includes approximately £1 billion PVNBP relating to a longevity insurance transaction completed in the third quarter of 2015. The PVNBP for this transaction is, as permitted in certain circumstance in MCEV Guidance 10.8, calculated net of reinsurance to enable a more representative new business margin figure.

2 United Kingdom includes Friends UK from 10 April 2015.

3 The Poland WACF has decreased due to reduced sales of pensions business in Lithuania, which has a longer duration.

4 The Italy WACF has increased due to proportionately more protection business (relative to with-profits business) being sold.

5 Asia includes FPI from 10 April 2015.

Gross of tax and non-controlling interests Full Year 2014	Regular premiums £m	WACF	Present value of regular premiums £m	Single premiums £m	Present value of new business premiums £m
United Kingdom	946	5.4	5,108	6,901	12,009
Ireland	26	5.7	149	286	435
United Kingdom & Ireland	972	5.4	5,257	7,187	12,444
France	87	8.1	709	3,924	4,633
Poland	50	8.7	435	138	573
Italy	41	5.7	232	2,410	2,642
Spain	40	6.1	245	864	1,109
Other Europe	111	3.8	421	74	495
Europe	329	6.2	2,042	7,410	9,452
Asia	248	6.4	1,584	367	1,951
Other	—	—	—	881	881
Total life and pensions	1,549	5.7	8,883	15,845	24,728

F8 – Geographical analysis of value of new business

The tables below set out the present value of new business premiums (PVNBP) written by the life and related businesses, the value of the new business and the resulting margin, firstly gross and then net of tax and non-controlling interests. The value generated by new business written during the period is the present value of the projected stream of after-tax distributable profit from that business, including expected profit between point of sale and the valuation date. It reflects the additional value to shareholders created through the activity of writing new business including the impacts of interactions between in force and new business. The value of new business has been calculated using economic assumptions at the point of sale which has been implemented with the assumptions being taken as those appropriate to the start of each quarter. For contracts that are re-priced more frequently, weekly or monthly economic assumptions have been used. The operating assumptions are consistent with those used to determine the embedded value. The value of new business is shown after the effect of the frictional costs of holding required capital, and after the effect of the costs of residual non-hedgeable risks on the same basis as for the in-force covered business.

	Present value of new business premiums		Value of new business		New business margin	
	Full Year 2015 £m	Full Year 2014 £m	Full Year 2015 £m	Full Year 2014 £m	Full Year 2015 %	Full Year 2014 %
Gross of tax and non-controlling interests						
United Kingdom ¹	16,236	12,009	609	473	3.8%	3.9%
Ireland	561	435	16	9	2.9%	2.1%
United Kingdom & Ireland	16,797	12,444	625	482	3.7%	3.9%
France	4,821	4,633	198	205	4.1%	4.4%
Poland	448	573	65	64	14.5%	11.2%
Italy	2,147	2,642	79	54	3.7%	2.0%
Spain	622	1,109	31	38	5.0%	3.4%
Other Europe	460	495	27	30	5.9%	6.1%
Europe	8,498	9,452	400	391	4.7%	4.1%
Asia ²	2,823	1,951	151	127	5.3%	6.5%
Other	1,647	881	16	9	1.0%	1.0%
Total life and pensions	29,765	24,728	1,192	1,009	4.0%	4.1%

1 United Kingdom includes Friends UK from 10 April 2015.

2 Asia includes FPI from 10 April 2015.

	Present value of new business premiums		Value of new business		New business margin	
	Full Year 2015 £m	Full Year 2014 £m	Full Year 2015 £m	Full Year 2014 £m	Full Year 2015 %	Full Year 2014 %
Net of tax and non-controlling interests						
United Kingdom ¹	16,236	12,009	488	379	3.0%	3.2%
Ireland	561	435	14	7	2.5%	1.6%
United Kingdom & Ireland	16,797	12,444	502	386	3.0%	3.1%
France	4,060	3,906	117	121	2.9%	3.1%
Poland	407	515	48	47	11.8%	9.1%
Italy	1,559	1,670	35	13	2.2%	0.8%
Spain	377	642	10	12	2.7%	1.9%
Other Europe	460	495	22	24	4.8%	4.8%
Europe	6,863	7,228	232	217	3.4%	3.0%
Asia ²	2,823	1,951	122	101	4.3%	5.2%
Other	1,647	881	13	8	0.8%	0.9%
Total life and pensions	28,130	22,504	869	712	3.1%	3.2%

1 United Kingdom includes Friends UK from 10 April 2015.

2 Asia includes FPI from 10 April 2015.

F9 – Risk allowance within present value of in-force (VIF)

Within the VIF, there are additional allowances for risks not included within the present value of future profits calculation.

Net of non-controlling interests 31 December 2015	PVFP £m	Frictional costs £m	Non- hedgeable risks £m	Time value of financial options and guarantees £m	VIF £m
United Kingdom & Ireland	6,361	(329)	(945)	(163)	4,924
France	2,145	(84)	(149)	(733)	1,179
Poland	981	(6)	(91)	(41)	843
Italy	325	(10)	(13)	(29)	273
Spain	173	(2)	(17)	(7)	147
Other Europe	101	(2)	(2)	—	97
Europe	3,725	(104)	(272)	(810)	2,539
Asia	1,214	(39)	(109)	(30)	1,036
Other	127	—	(3)	—	124
Total	11,427	(472)	(1,329)	(1,003)	8,623

Total risk allowances have increased compared to FY14:

- Frictional costs have increased by £94 million principally driven by the UK following the acquisition of the Friends UK business.
- The allowance for the cost of non-hedgeable risks has increased by £402 million, mainly due to the impact of the acquisition of Friends Life on the UK and Asia operating segments.
- The Time Value of Options and Guarantees has fallen by £343 million primarily due to increasing risk-free rates and falling swaption volatilities in France as well as economic assumption changes. In the UK, the increase is primarily due to the acquisition of the Friends UK business.

Net of non-controlling interests 31 December 2014	PVFP £m	Frictional costs £m	Non- hedgeable risks £m	Time value of financial options and guarantees £m	VIF £m
United Kingdom & Ireland	3,650	(254)	(528)	(125)	2,743
France	2,350	(80)	(189)	(1,105)	976
Poland	1,118	(5)	(115)	(52)	946
Italy	301	(7)	(9)	(37)	248
Spain	179	(2)	(20)	(4)	153
Other Europe	106	(1)	(2)	—	103
Europe	4,054	(95)	(335)	(1,198)	2,426
Asia	737	(29)	(61)	(23)	624
Other	116	—	(3)	—	113
Total	8,557	(378)	(927)	(1,346)	5,906

F10 – Sensitivity analysis

(a) Economic assumptions

The following tables show the sensitivity of the embedded value and the value of new business to:

- 10 basis point increase in the liquidity premium adjustment, where applicable;
- one percentage point increase and decrease in the risk-free rate with a floor of 0%, including all consequential changes (including assumed investment returns for all asset classes, market values of fixed interest assets, risk discount rates);
- 10% increase and decrease in market values of equity and property assets;
- 25% multiplicative increase in equity, property and swaption volatilities;
- 50 basis point increase and decrease in credit spreads with no change to liquidity premium; and
- decrease in the level of required capital to 100% EU minimum (or equivalent).

In each sensitivity calculation, all other assumptions remain unchanged except where they are directly affected by the revised economic conditions. For example, future bonus rates are automatically adjusted to reflect sensitivity changes to future investment returns. Some of the sensitivity scenarios may have consequential effects on valuation bases, where the basis for certain blocks of business is actively updated to reflect current economic circumstances. Consequential valuation impacts on the sensitivities are allowed for where an active valuation basis is used. Where businesses have a target asset mix, the portfolio is re-balanced after a significant market movement otherwise no re-balancing is assumed.

For new business, the sensitivities reflect the impact of a change immediately after inception of the policy.

In general, the magnitude of the sensitivities will reflect the size of the embedded values, though this will vary as the sensitivities have different impacts on the different components of the embedded value. In addition, other factors can have a material impact, such as the nature of the options and guarantees, as well as the types of investments held.

The credit spread sensitivities assume that the change relates to credit risk and not liquidity risk; in practice, credit spread movements may be partially offset due to changes in liquidity risk. Own sovereign debt is excluded from credit spread sensitivities.

Sensitivities will also vary according to the current economic assumptions, mainly due to the impact of changes to both the intrinsic cost and time value of options and guarantees. Options and guarantees are the main reason for the asymmetry of the sensitivities where the guarantee impacts to different extents under the different scenarios.

Life and related business embedded value

2015 Embedded value (net of non-controlling interests)	As reported in F6 £m	10bps increase in adjustment to risk-free rates £m	Interest rates		
			1% increase £m	1% decrease £m	25% increase in swaption implied volatilities £m
United Kingdom & Ireland	12,152	460	(265)	290	—
France	3,466	70	60	(415)	(140)
Poland, Italy, Spain and Other Europe	2,199	—	(45)	65	(5)
Asia and Other	1,743	—	85	(120)	(5)
Total	19,560	530	(165)	(180)	(150)

2015 Embedded value (net of non-controlling interests)	As reported in F6 £m	Equity/property			Credit spread		EU minimum capital or equivalent £m
		10% increase in market values £m	10% decrease in market values £m	25% increase in volatility £m	50bps increase £m	50bps decrease £m	
United Kingdom & Ireland	12,152	335	(330)	(155)	(1,600)	1,690	50
France	3,466	240	(255)	(200)	(55)	40	10
Poland, Italy, Spain and Other Europe	2,199	40	(40)	(20)	(5)	25	—
Asia and Other	1,743	60	(60)	—	(20)	20	15
Total	19,560	675	(685)	(375)	(1,680)	1,775	75

F10 – Sensitivity analysis continued

New business

2015	As reported in F8 £m	10bps increase in adjustment to risk-free rates £m	Interest rates		25% increase in swaption implied volatilities £m
			1% increase £m	1% decrease £m	
Value of new business (net of tax and non-controlling interests)					
United Kingdom & Ireland	502	19	3	(9)	—
France	117	—	7	(35)	(6)
Poland, Italy, Spain and Other Europe	115	—	(5)	5	—
Asia and Other	135	—	17	(17)	—
Total	869	19	22	(56)	(6)

2015	As reported in F8 £m	Equity/property			Credit spread		EU minimum capital or equivalent £m
		10% increase in market values £m	10% decrease in market values £m	25% increase in volatility £m	50bps increase £m	50bps decrease £m	
Value of new business (net of tax and non-controlling interests)							
United Kingdom & Ireland	502	2	(2)	—	(42)	46	1
France	117	5	(8)	(10)	—	(3)	1
Poland, Italy, Spain and Other Europe	115	—	—	—	—	—	—
Asia and Other	135	—	—	—	—	—	8
Total	869	7	(10)	(10)	(42)	43	10

(b) Non-economic assumptions

The following tables below show the sensitivity of the embedded value and the value of new business to the following changes in non-economic assumptions:

- 10% decrease in maintenance expenses (a 10% sensitivity on a base expense assumption of £10 pa would represent an expense assumption of £9 pa). Where there is a 'look-through' into service company expenses the fee charged by the service company is unchanged while the underlying expense decreases;
- 10% decrease in lapse rates (a 10% sensitivity on a base assumption of 5% pa would represent a lapse rate of 4.5% pa); and
- 5% decrease in both mortality and morbidity rates disclosed separately for life assurance and annuity business.

No future management actions are modelled in reaction to the changing non-economic assumptions. In each sensitivity calculation all other assumptions remain unchanged. No changes to valuation bases have been included.

Life and related business embedded value

	As reported in F6 £m	10% decrease in maintenance expenses £m	10% decrease in lapse rates £m	5% decrease in mortality/ morbidity rates – life assurance £m	5% decrease in mortality/ morbidity rates – annuity business £m
2015					
Embedded value (net of non-controlling interests)					
United Kingdom & Ireland	12,152	360	230	240	(625)
France	3,466	100	25	25	(25)
Poland, Italy, Spain and Other Europe	2,199	35	75	30	(5)
Asia and Other	1,743	70	45	50	—
Total	19,560	565	375	345	(655)

New Business

2015	As reported in F8 £m	10% decrease in maintenance expenses £m	10% decrease in lapse rates £m	5% decrease in mortality/ morbidity rates – life assurance £m	5% decrease in mortality/ morbidity rates – annuity business £m
Value of new business (net of tax and non-controlling interests)					
United Kingdom & Ireland	502	28	27	34	(39)
France	117	8	4	2	—
Poland, Italy, Spain and Other Europe	115	4	9	4	—
Asia and Other	135	13	12	12	5
Total	869	53	52	52	(34)

MCEV

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Product definitions

Annuities

A type of policy that pays out regular amounts of benefit, either immediately and for the remainder of a person's lifetime, or deferred to commence from a future date. Immediate annuities may be purchased for an individual and his or her dependants or on a bulk purchase basis for groups of people. Deferred annuities are accumulation contracts, which may be used to provide benefits in retirement. Annuities may be guaranteed, unit-linked or index-linked.

Bonds and savings

These are accumulation products with single or regular premiums and unit-linked or guaranteed investment returns.

Critical illness cover

Pays out a lump sum if the insured person is diagnosed with a serious illness that meets the plan definition.

Deferred annuity

An annuity (or pension) due to be paid from a future date or when the policyholder reaches a specified age. A deferred annuity may be funded by a policyholder by payment of a series of regular contributions or by a capital sum.

Equity Release

Equity Release Mortgages allow a homeowner to receive a lump sum in return for a mortgage secured on their house. No interest is payable on the loan; instead, interest is rolled-up on the loan, and the loan and accrued interest are repayable at redemption (upon death or moving into long-term care).

General insurance

Also known as non-life or property and casualty insurance. Property insurance covers loss or damage through fire, theft, flood, storms and other specified risks. Casualty insurance primarily covers losses arising from accidents that cause injury to other people or damage the property of others.

Group pension

A pension plan that covers a group of people, which is typically purchased by a company and offered to their employees.

Health insurance

Provides cover against loss from illness or bodily injury. Can pay for medicine, visits to the doctor, hospital stays, other medical expenses and loss of earnings, depending on the conditions covered and the benefits and choices of treatment available on the policy.

Income drawdown

The policyholder can transfer money from any pension fund to an income drawdown plan from which they receive an income. The remainder of the pension fund continues to be invested, giving it the potential for growth.

Investment sales

Comprise retail sales of mutual fund-type products such as unit trusts, individual savings accounts (ISAs) and open ended investment companies (OEICs).

Individual savings account (ISAs)

Tax-efficient plans for investing in stocks and shares, cash deposits or life insurance investment funds, subject to certain limits.

Mortgage endowment

An insurance contract combining savings and protection elements which is designed to repay the principal of a loan or mortgage.

Mortgage life insurance

A protection contract designed to pay off the outstanding amount of a mortgage or loan in the event of death of the insured.

Open ended investment company (OEIC)

A collective investment fund structured as a limited company in which investors can buy and sell shares.

Pension

A means of providing income in retirement for an individual and possibly his/her dependants.

Personal pension

A pension plan tailored to the individual policyholder, which includes the options to stop, start or change their payments.

Protection

An insurance contract that protects the policyholder or his/her dependants against financial loss on death or ill-health.

Regular premium

A series of payments are made by the policyholder, typically monthly or annually, for part of or all of the duration of the contract.

Collective investment scheme (SICAVs)

This is an open-ended investment fund, structured as a legally independent joint stock company, whose units are issued in the form of shares.

Single premium

A single lump sum is paid by the policyholder at commencement of the contract.

Stakeholder pensions

Low cost and flexible pension plans available in the UK, governed by specific regulations.

Term assurance

A simple form of life insurance, offering cover over a fixed number of years during which a lump sum will be paid out if the life insured dies.

Unit trusts

A form of open ended collective investment constituted under a trust deed, in which investors can buy and sell units.

Whole life

A protection policy that remains in force for the insured's whole life; a lump sum will be paid out on death. Traditional whole life contracts have fixed premium payments that typically cannot be missed without lapsing the policy. Flexible whole life contracts allow the policyholder to vary the premium and/or amount of life cover, within certain limits.

General terms

Annual premium equivalent (APE)

Used as a measure of annual sales, taking the annual premium of regular premium contracts plus 10% of single premium contracts.

Available for sale (AFS)

Securities that have been acquired neither for short-term sale nor to be held to maturity. These are shown at fair value on the statement of financial position and changes in value are taken straight to equity instead of the income statement.

Association of British Insurers (ABI)

A major trade association for UK insurance companies, established in July 1985.

Acquired value of in force business (AVIF)

The present value of future profits on a portfolio of long-term insurance and investment contracts, acquired either directly or through the purchase of a subsidiary.

Bancassurance/Affinity

An arrangement whereby banks and building societies sell insurance and investment products to their customers on behalf of other financial providers.

Best Estimate Liabilities (BEL)

The expected present value of future cash flows for a company's current insurance obligations, calculated using best estimate assumptions, projected over the contract's run-off period, taking into account all up-to-date financial market and actuarial information.

Cash remittances

Amounts paid by our businesses to the Group, comprising dividends and interest on internal loans.

Combined operating ratio (COR)

A financial measurement of general insurance underwriting profitability calculated as incurred claims expressed as a percentage of net earned premiums, plus written commissions and written expenses expressed as a percentage of net written premiums. A COR below 100% indicates profitable underwriting.

Deferred acquisition costs (DAC)

The costs directly attributable to the acquisition of new business for insurance and investment contracts may be deferred to the extent that they are expected to be recoverable out of future margins in revenue on these contracts.

Excess centre cash flow

A measure of excess cash flow, calculated by deducting central operating expenses and debt financing costs from cash remitted by business units.

Fair value

The price that would be received to sell or paid to transfer an asset or a liability in an orderly transaction between market participants at the measurement date (i.e. an exit price).

Financial Conduct Authority (FCA)

The FCA is a company limited by guarantee and is independent of the Bank of England. It is responsible for the conduct business regulation of all firms (including those firms subject to prudential regulation by the PRA) and the prudential regulation of firms not regulated by the PRA. The FCA has three statutory objectives: securing an appropriate degree of protection for consumers, protecting and enhancing the integrity of the UK financial system and promoting effective competition in the interests of consumers.

Funds under management

Represents all assets actively managed or administered by or on behalf of the Group including those funds managed by third parties.

Gross written premiums

The total earnings or revenue generated by sales of insurance products, before any reinsurance is taken into account. Not all premiums written will necessarily be treated as income in the current financial year, because some of them could relate to insurance cover for a subsequent period.

Independent Financial Advisers (IFAs)

A person or organisation, authorised under the FCA, to give independent advice on financial matters.

Internal rate of return (IRR)

A discount rate used to measure profitability. The rate used is that which will bring a series of cash flows to a net present value of nil.

International financial reporting standards (IFRS)

These are accounting regulations designed to ensure comparable financial statements preparation and disclosure, and are the standards that all publicly listed companies in the European Union are required to use.

Inherited estate

In the UK, the assets of the long-term with-profits funds less the realistic reserves for non-profit policies written within the with-profits funds, less asset shares aggregated across the with-profits policies and any additional amounts expected at the valuation date to be paid to in-force policyholders in the future in respect of smoothing costs and guarantees.

Latent claims

General insurance claims that are often not made until many years after the period of cover provided, due to the impact of perils or causes not becoming evident for a number of years. Sources of latent claims include asbestos-related diseases, environmental pollution and industrial deafness.

Minimum capital requirement (MCR)

The Minimum Capital Requirement is the minimum amount of capital that an insurer needs to hold to cover its risks under the Solvency II regulatory framework. If an insurer's capital falls below the MCR then authorisation will be withdrawn by the regulator unless a firm is able to meet the MCR within a short period of time.

Long-term and savings business

Collective term for life insurance, pensions, savings, investments and related business.

Net written premiums

Total gross written premiums for the given period, minus premiums paid over or 'ceded' to reinsurers.

New business strain (NBS)

The name given to the initial impact on shareholders' net assets when an insurance contract is sold. This 'strain' arises because, in addition to meeting costs associated with the sale of contracts, insurance companies must meet capital and reserving requirements at the outset of a contract that are often significantly higher than the premiums received.

Operating expenses

The day-to-day expenses involved in running a business, such as sales and administration, as opposed to production costs.

Operating expense ratio

The Group operating expense ratio is calculated as the Group's operating expenses from continuing operations expressed as a percentage of the Group's operating profit from continuing operations before Group debt costs and operating expenses

Operating profit

This is a non-GAAP financial performance measure also referred to as adjusted operating profit or operating profit (IFRS basis). It is based on expected investment returns and stated before tax and before non-operating items including impairment of goodwill and amortisation and impairment of acquired value of in-force business and other items.

Own Funds

The amount of capital a firm actually holds under Solvency II on a market value basis. This is the sum of the economic value of assets less the economic value of liabilities. Basic own funds are calculated as the difference between the assets (including transitional measure on technical provisions) and liabilities (including subordinated liabilities) calculated on a combination of best estimate and market consistent assumptions. Available own funds are calculated as basic own funds with any adjustments including off-balance sheet own funds approved by the regulator (known as ancillary own funds). Eligible own funds reflect any tiering restrictions and are the amount of own funds eligible to cover the SCR and MCR.

Present value of new business premiums (PVNBP)

Present value of new regular premiums plus 100% of single premiums, calculated using assumptions consistent with those used to determine the value of new business under Market Consistent Embedded Value (MCEV) principles published by the CFO Forum.

Prudential Regulatory Authority (PRA)

The PRA is a part of the Bank of England and is responsible for the prudential regulation of deposit taking institutions, insurers and major investment firms. The PRA has two statutory objectives: to promote the safety and soundness of these firms and, specifically for insurers, to contribute to the securing of an appropriate degree of protection for policyholders.

Risk-adjusted returns

Adjusting profits earned and investment returns by how much risk is involved in producing that return or profit.

Risk Margin

The amount an insurance company would require, in excess of best estimate liabilities, in order to take over and meet the whole portfolio of insurance and reinsurance obligations. It reflects the cost of providing capital equal to the solvency capital requirement for non-hedgable risks necessary to support the insurance obligations over their lifetime. Risk Margin represents the value of deviation risk of the actual outcome compared with the best estimate, expressed in terms of a defined risk measure.

Solvency II

These are insurance regulations designed to harmonise EU insurance regulation. Primarily this concerns the amount of capital that European insurance companies must hold under a measure of capital and risk. Solvency II became effective from 1 January 2016.

Solvency Capital Requirement (SCR)

The Solvency Capital Requirement is the amount of capital the Regulator requires an insurer to hold to meet the requirements under the Solvency II regulatory framework. Holding capital in excess of the SCR demonstrates an insurer has adequate financial resources in place to meet all its liabilities as and when they fall due and that there is sufficient capital to absorb significant losses. Firms may use their own internal model, the European Insurance and Occupational Pensions Authority (EIOPA) prescribed standard formula or a partial internal model to determine SCR.

Total shareholder return

A measure of company performance based on the overall value to shareholders of their investment in a stock over a given period of time. Includes movement in the share price and dividends paid and reinvested, expressed as a percentage of the initial value of the investment or share price at the beginning of the period.

Value of new business (VNB)

VNB is the present value of future profits from new business written at the point of sale. It is calculated on a market consistent basis using economic assumptions set at the start of each quarter or more frequently and the same operating assumptions as those used to determine the embedded value at the end of the reporting period and is stated after the effect of any frictional costs. Unless otherwise stated, it is quoted net of tax and non-controlling interests.

Market Consistent Embedded Value (MCEV) terms

Asymmetric risk

Risks that will cause shareholder profits to vary where the variation above and below the average are not equal in distribution.

CFO Forum

The CFO Forum (www.cfoforum.nl) is a group formed by the chief financial officers of major European listed and non-listed insurance companies. Its aim is to discuss issues relating to proposed new accounting regulations for their businesses and how they can create greater transparency for investors.

Cost of non-hedgeable risks

This is the cost of undertaking those risks for which a deep and liquid market in which to hedge that risk does not exist. This can include both financial risks and non-financial risks such as mortality, persistency and expense.

Covered business

The contracts to which the MCEV methodology has been applied.

Financial options and guarantees

Features of the covered business conferring potentially valuable guarantees underlying, or options to change, the level or nature of policyholder benefits and exercisable at the discretion of the policyholder, whose potential value is impacted by the behaviour of financial variables.

Free surplus

The amount of any capital and surplus allocated to, but not required to support, the in-force covered business.

Frictional costs

The additional taxation and investment costs incurred by shareholders through investing the Required Capital in the Company rather than directly.

Group MCEV

A measure of the total consolidated value of the Group with covered life business included on an MCEV basis and non-covered business (including pension schemes and goodwill) included on an IFRS basis.

Gross risk-free yields

Gross of tax yields on risk-free fixed interest investments, generally swap rates under MCEV.

Implicit items

Amounts allowed by local regulators to be deducted from capital amounts when determining the EU required minimum margin.

Life business

Subsidiaries selling life and pensions contracts that are classified as covered business under MCEV.

Life MCEV

The MCEV of covered business as at the reporting date.

Liquidity premium

An addition to the risk-free rate used when projecting investment returns and discounting cash flows on certain types of contracts where the liabilities are illiquid and have cash flows that are predictable.

Look-through basis

Inclusion of the capitalised value of profits and losses arising from subsidiary companies providing administration, investment management and other services to the extent that they relate to covered business.

Market consistent embedded value (MCEV)

A measure of the value of a life business to its shareholders. It is the sum of shareholders net assets and today's value of the future profits that are expected to emerge from business already written, where the assumptions used to calculate future profits are consistent with current market prices for traded assets.

Net worth

The market value of the shareholders' funds and the shareholders' interest in the surplus held in the non-profit component of the long-term business funds, determined on a statutory solvency basis and adjusted to add back any non-admissible assets, and consists of the required capital and free surplus.

New business margin

New business margins are calculated as the value of new business divided by the present value of new business premiums (PVNBP), and expressed as a percentage.

Real world equivalent Embedded Value (EqEV)

As for other embedded value measures, EqEV is a way of measuring the current value to shareholders of the in-force portfolio of a life and pensions business. EqEV includes the value of future profits and uses a set of realistic assumptions, including real world expected investment returns, allowing for the impact of the uncertainty in these returns in the risk discount rate.

Required capital

The amount of assets, over and above the value placed on liabilities in respect of covered business, whose distribution to shareholders is restricted.

Service companies

Companies providing administration or fund management services to the covered business.

Solvency cover

The excess of the regulatory value of total assets over total liabilities, divided by the regulatory value of the required minimum solvency margin.

Statutory basis

The valuation basis and approach used for reporting financial statements to local regulators.

Stochastic techniques

Techniques that allow for the potential future variability in assumptions.

Symmetric risks

Risks that will cause shareholder profits to vary where the variation above and below the average are equal and opposite. Financial theory says that investors do not require compensation for non-market risks that are symmetrical as the risks can be diversified away by investors.

Time value and intrinsic value

A financial option or guarantee has two elements of value, the time value and intrinsic value. The intrinsic value is the discounted value of the option or guarantee at expiry, assuming that future economic conditions follow best estimate assumptions. The time value is the additional value arising from uncertainty about future economic conditions.

Shareholder profile as at 31 December 2015

By category of shareholder	Number of shareholders	%*	Number of shares	%*
Individual	592,515	97.61	254,442,278	6.28
Banks and nominee companies	11,815	1.95	3,760,660,092	92.89
Pension fund managers and insurance companies	339	0.06	1,775,061	0.04
Other corporate bodies	2,335	0.38	31,587,742	0.78
Total	607,004	100	4,048,465,173	100

By size of shareholding	Number of shareholders	%*	Number of shares	%*
1–1,000	553,644	91.21	138,713,646	3.43
1,001–5,000	47,387	7.81	89,801,821	2.22
5,001–10,000	3,258	0.54	22,643,173	0.56
10,001–250,000	2,075	0.34	89,084,399	2.20
250,001–500,000	169	0.03	58,295,300	1.44
500,001 and above	470	0.08	3,609,400,848	89.15
American Depositary Receipts (ADRs)+	1	0.00	40,525,986	1.00
Total	607,004	100	4,048,465,173	100

+ The number of registered ordinary shares represented by ADRs. Please note that each Aviva ADR represents two (2) ordinary shares.

* Percentages do not necessarily add up due to rounding.

2016 financial calendar

Annual General Meeting

11am on 4 May 2016

* The full financial calendar will be available at www.aviva.com/investor-relations/financial-calendar

2015 final dividend dates – ordinary shares

Ex-dividend date (ordinary)*	7 April 2016
Record date (ordinary and ADR)	8 April 2016
Last day for Dividend Reinvestment Plan election	25 April 2016
Dividend payment date*	17 May 2016

* Please note that the ADR local payment date will be approximately five business days after the proposed dividend date for ordinary shares. The ex-dividend date for ADR holders will be 6 April 2016.

Dividends

- **Ordinary Dividends** – are normally paid in May and November – please see the table above for the key dates in respect of the 2015 final dividend
- **Preference share dividends** – are normally paid in March, June, September and December
- **Currency** – holders of ordinary and preference shares will receive any dividends payable in sterling and holders of ADRs will receive any dividends payable in US dollars
- **Direct payment of dividends** – receive your payments directly into your UK bank or building society account on the dividend payment date. Using this option will prevent any postal delay, risk of loss or having to visit your bank or building society to deposit cheques
- **Global payment service** – provided by the Company's Registrar, Computershare Investor Services PLC (Computershare), this service enables shareholders living overseas to elect to receive their dividends in a choice of over 60 international currencies. For further details and fees for this service please visit www.investorcentre.co.uk/faq and select the Dividends and Payments tab, followed by Global Payment Service
- **Dividend Reinvestment Plan** – enables eligible shareholders to reinvest their cash dividend in additional ordinary shares in the Company
- **Further information** – including the 2016 dividend timetable can be found at www.aviva.com/dividends or by contacting Computershare using the details on the next page

Form 20-F

- Aviva is a foreign private issuer in the United States of America and is subject to certain reporting requirements of the Securities Exchange Commission (SEC). Aviva files its Form 20-F with the SEC, copies of which can be found at www.aviva.com/reports

Annual General Meeting (AGM)

- The 2016 AGM will be held at The Queen Elizabeth II Centre, Broad Sanctuary, Westminster, London SW1P 3EE, on Wednesday, 4 May 2016, at 11am
- Details of each resolution to be considered at the meeting and voting instructions are provided in the Notice of AGM, which is available on the Company's website at www.aviva.com/agm
- The voting results of the 2016 AGM will be accessible on the Company's website at www.aviva.com/agm shortly after the meeting

Aviva plc strategic report

- The strategic report sets out a review of Aviva's business by addressing key issues such as: its business model; strategy; and principal risks and uncertainties facing the business. It also includes information on environmental matters and employees; social, community and human rights issues; and gender diversity within the business.
- The strategic report forms part of the annual report and accounts. However, shareholders can also choose to receive Aviva's standalone strategic report as an alternative to the full annual report and accounts. Please view the Aviva plc strategic report at www.aviva.com/2015ar.

ShareGift

ShareGift is a UK registered charity (No. 1052686) which specialises in realising the value locked up in small shareholdings for charitable purposes. During 2015, Aviva shareholders have donated £55,000 (including Gift Aid) to ShareGift, which in turn supported local, national and international charities large and small. To donate your Aviva plc shares to ShareGift please visit www.ShareGift.org/donate-shares

Manage your shares online using the Investor Centre at www.aviva.com/online



Change your address



Change payment options



Switch to electronic communications



View your shareholding



View any outstanding payments

Group Company Secretary

Shareholders may contact the Group Company Secretary as follows:



By Email: Aviva.shareholders@aviva.com



In Writing: Kirstine Cooper, Group Company Secretary, St Helen's, 1 Undershaft, London, EC3P 3DQ



By Telephone: +44 (0)20 7283 2000

Useful Links for Shareholders

Shareholder services centre:

www.aviva.com/shareholders

Manage your shares online:

www.aviva.com/online

Dividend Information:

www.aviva.com/dividends

Annual General Meeting information and electronic voting:

www.aviva.com/agm

www.investorcentre.co.uk/eproxy

Aviva reports information:

www.aviva.com/reports

Aviva share price:

www.aviva.com/shareprice

Aviva preference share price:

www.londonstockexchange.com

Ordinary and preference shares – Contact:

For any queries regarding your shareholding, or to make changes to your personal details, please contact the Company's Registrar, Computershare:



By Telephone: 0371 495 0105 – Lines are open 8.30am to 5.30pm (UK time), Monday to Friday (excluding public holidays). Please call +44 117 378 8361 if calling from outside of the UK



By Email: AvivaSHARES@computershare.co.uk



In Writing: Computershare Investor Services PLC, The Pavilions, Bridgwater Road, Bristol, BS99 6ZZ

American Depositary Receipts (ADRs) – Contact:

For any queries regarding Aviva ADRs, please contact Citibank Shareholder Services (Citibank):



By Telephone: 1 877 248 4237 (1 877-CITI-ADR), or +1 781 575 4555 if calling from outside of the US – Lines are open 8.30am to 6pm, Monday to Friday US Eastern Standard Time.



By Email: Citibank@shareholders-online.com



In Writing: Citibank Shareholder Services, PO Box 43077, Providence, Rhode Island, 02940-3077 USA

Be on your guard – beware of fraudsters!

Please be very wary of any unsolicited telephone calls or correspondence offering to buy shares at a discount or offering free financial advice or company reports.

The Financial Conduct Authority (FCA) takes action against fraudsters; for tips on how to protect your savings please visit www.fca.org.uk/scams. Alternatively please visit our warning to shareholders page at www.aviva.com/shareholderservices.

Remember:

- If it sounds too good to be true, it probably is
- Keep in mind that firms authorised by the FCA are unlikely to call you out of the blue
- Do not get into a conversation, note the name of the firm and hang up