| Retirement | Investments | Insurance | Health |

News
Release

9 March 2017

AVIVA PLC 2016 PRELIMINARY RESULTS ANNOUNCEMENT

Mark Wilson, Group Chief Executive Officer, said:

"Aviva's results are simple and clear cut: more operating profit, more capital, more cash, more dividend. And there is more to come.

Aviva's financial position has been transformed and a distinctly stronger balance sheet and excess capital give Aviva more options. We are now actively planning a capital return to our shareholders and debt reduction in 2017 and will invest further to grow our businesses.

The numbers speak for themselves. Fund management delivered a breakout year with strong positive net flows and operating profit up 30%. General insurance is growing, with operating profit up 17%[1], and in UK Digital we have doubled online registrations to five million. We are becoming a digital disruptor for the benefit of our customers.

In 2016 we made strong progress on our commitments of cash flow and growth. Reflecting these results, we are increasing the total dividend per share by 12% to 23.3p."

Please click here to see a short film with Mark Wilson talking about today's result

Profit	• Operating profit[2,3] up 12% to £3,010 million *(2015: £2,688 million[4])* • Operating EPS[2,3] up 3% to 51.1p *(2015: 49.7p[4])* • Operating profit and operating EPS exclude the impact of the change in the Ogden discount rate in UK general insurance, which has been classified as an exceptional item • IFRS profit after tax down 22% to £859 million *(2015: £1,097 million[4])* including the £380 million after-tax charge due to the reduction in the Ogden discount rate
Capital	• Solvency II capital surplus[5] £11.3 billion *(2015: £9.7 billion)* • Solvency II coverage ratio[5,6] of 189% *(2015: 180%)* • Solvency II operating capital generation £3.5 billion • Net asset value up 6% to 414p per share *(2015: 390p[4])* • Holding company liquidity[7] £1.8 billion *(2015: £1.3 billion)*
Cash	• 2016 total dividend up 12% to 23.3p *(2015: 20.8p)* • Dividend pay-out ratio 46% (*2015: 42%[4]*), progress towards 50% target • Cash remittances up 20% to £1,805 million *(2015: £1,507 million)*
Growth	• General insurance net written premiums[3] up 15% to £8,211 million *(2015: £7,171 million)* • Life insurance value of new business up 13% to £1,352 million (*2015: £1,192 million)* • Fund management operating profit up 30% to £138 million *(2015: £106 million)* • AIMS AUM trebled to £9 billion (*2015: £3 billion*) • Total group assets under management up to £450 billion
Combined ratio	• General insurance combined operating ratio 95.2% *(2015: 94.6%)* excluding the Ogden discount rate impact. Including the Ogden impact, the combined operating ratio was 101.1%.

1. 2016 comparatives have been rebased for the reduction in the internal loan.
2 Operating profit is a non-GAAP measure used by management and excludes the impact of the exceptional Ogden charge. Refer to 'Financial supplement' for the reconciliation of Group operating profit to profit after tax – IFRS basis and refer to B7 – Earnings per share for a reconciliation of operating earnings per share to basic earnings per share.
3 2016 and 2015 exclude the impact from an outward quota share reinsurance agreement written in 2015 and completed in 2016 in Aviva Insurance Limited (AIL). See note A10 for further details.
4 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for full year 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
5 The estimated Solvency II position includes an estimated adverse impact of a notional reset of the transitional measure on technical provisions ('TMTP') to reflect interest rates at 31 December 2016. Removing this notional reset of TMTP would increase the estimated Solvency II surplus by £0.4 billion. Amortisation of TMTP since 1 January 2016 is also reflected. Also included are the proforma impacts of the disposal of Aviva's 50% shareholding in Antarius to Sogecap expected to complete 1 April 2017 (£0.2 billion increase to surplus) and a future change to UK tax rules restricting the tax relief that can be claimed in respect of tax losses (£0.4 billion decrease to surplus).
6 The estimated Solvency II ratio represents the shareholder view. This excludes the contribution to Group Solvency Capital Requirement (SCR) and Group Own Funds of fully ring fenced with-profits funds £2.9 billion (*2015: £2.7 billion*) and staff pension schemes in surplus £1.1 billion (*2015: £0.7 billion*) – these exclusions have no impact on Solvency II surplus.
7 As at the end of February in 2017 and 2016 respectively.

Operating profit

	2016 £m	Restated[1] 2015 £m	Sterling % change
Life business	**2,642**	2,442	8%
General insurance and health	**833**	765	9%
Fund management	**138**	106	30%
Other[2]	**(603)**	(625)	4%
Total[3,4]	**3,010**	2,688	12%
Operating earnings per share[3,4,5]	**51.1p**	49.7p	3%

Cash remittances and Operating capital generation: Solvency II basis

	2016		2015	
	Cash Remittances £m	Operating Capital Generation £bn	Cash Remittances £m	Operating Capital Generation[6] £bn
United Kingdom & Ireland Life	**1,096**	**2.5**	667	
United Kingdom & Ireland General Insurance and Health	**91**	**0.3**	358	
Europe	**449**	**1.0**	431	
Canada	**130**	**0.3**	6	
Asia, Aviva Investors & Other	**39**	**(0.6)**	45	
Total	**1,805**	**3.5**	1,507	

Expenses

	2016 £m	Restated[1] 2015 £m	Sterling % change
Operating expenses	**3,408**	3,030	12%
Integration & restructuring costs	**212**	379	(44)%
Expense base	**3,620**	3,409	6%
Operating expense ratio[1]	**50.5%**	49.8%	0.7pp

Value of new business: MCEV basis

	2016 £m	2015 £m	Sterling % Change[7]	Constant currency % Change[7]
United Kingdom & Ireland	**695**	625	11%	11%
France	**224**	198	13%	—
Poland[8]	**65**	65	(1)%	(9)%
Italy	**124**	79	58%	39%
Spain	**42**	31	33%	18%
Turkey	**25**	27	(7)%	(9)%
Asia	**148**	151	(2)%	(11)%
Aviva Investors	**29**	16	77%	77%
Total	**1,352**	1,192	13%	8%

General insurance combined operating ratio

	2016 excluding Ogden[9]	2016	2015	Change
United Kingdom & Ireland	**94.9%**	**106.3%**	95.0%	11.3pp
Europe	**95.8%**	**95.8%**	95.4%	0.4pp
Canada	**94.6%**	**94.6%**	93.8%	0.8pp
Combined operating ratio	**95.2%**	**101.1%**	94.6%	6.5pp

IFRS profit after tax

	2016 £m	Restated[1] 2015 £m	Sterling % change
IFRS profit after tax[3]	**859**	1,097	(22)%
Basic earnings per share[3]	**15.3p**	23.1p	(34)%

Dividend

	2016	2015	Sterling % change
Final dividend per share	**15.88p**	14.05p	13%
Total dividend per share	**23.30p**	20.80p	12%

Capital position

	2016	2015	Sterling % change
Estimated Solvency II cover ratio[10,11]	**189%**	180%	9.0pp
Estimated Solvency II surplus[11]	**£11.3bn**	£9.7bn	16%
Net asset value per share (restated)[1]	**414p**	390p	6%

1. Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for full year 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
2. Other includes other operations, corporate centre costs and group debt and other interest costs.
3. Operating profit is a non-GAAP measure used by management and excludes the impact of the exceptional Ogden charge. Refer to 'Financial supplement' for the reconciliation of Group operating profit to profit after tax – IFRS basis and refer to note B7 – Earnings per share for a reconciliation of operating earnings per share to basic earnings per share.
4. 2016 and 2015 exclude the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL).
5. Operating EPS is shown net of tax, non-controlling interests, preference dividends, and coupon payments in respect of direct capital instrument (DCI) and tier 1 notes (net of tax).
6. Operating capital generation was calculated on a Solvency II basis for the first time in 2016. No comparatives are available for 2015.
7. Currency movements are calculated using unrounded numbers so minor rounding differences may exist.
8. Poland includes Lithuania.
9. Excludes the impact of the change in the Ogden discount rate.
10. The estimated Solvency II ratio represents the shareholder view. This excludes the contribution to Group Solvency Capital Requirement (SCR) and Group Own Funds of fully ring fenced with-profits funds, £2.9 billion (*2015: £2.7 billion*) and staff pension schemes in surplus, £1.1 billion (*2015: £0.7 billion*) – these exclusions have no impact on Solvency II surplus.
11. The estimated Solvency II position includes an estimated adverse impact of a notional reset of the transitional measure on technical provisions ("TMTP") to reflect interest rates at 31 December 2016. Removing this notional reset of TMTP would increase the estimated Solvency II surplus by £0.4 billion. Amortisation of TMTP since 1 January 2016 is also reflected. Also included are the proforma impacts of the disposal of Aviva's 50% shareholding in Antarius to Sogecap, expected to complete 1 April 2017 (£0.2 billion increase to surplus) and a future change to UK tax rules restricting the tax relief that can be claimed in respect of tax losses (£0.4 billion decrease to surplus).

All references to operating profit and combined operating ratio in the Group CEO's report exclude the 2016 impact of the change in the Ogden discount rate which has been classified as an exceptional item. See the CFO's report for more details.

Overview

Aviva has extended its track record of growing operating profit and dividends while further enhancing balance sheet strength.

Aviva's focused and high quality businesses are delivering growth. Operating profit[1] gained 12% to £3,010 million *(2015: £2,688 million[2])*, operating capital generation was particularly strong at £3.5 billion and business unit cash remittances increased 20% to £1.8 billion *(2015: £1.5 billion)*. Our Solvency II coverage ratio[3,4] rose to 189% *(2015: 180%)* and is now above our 150% to 180% working range.

In light of these positive operating trends, we have increased our total dividend 12% to 23.3p *(2015: 20.8p)*. Having reached a position of surplus capital and with £1.8 billion of centre liquidity[5] *(2015: £1.3 billion)*, we are now planning additional capital returns and hybrid debt reduction during 2017.

A number of milestones were reached in 2016. We exceeded our target for the integration of Friends Life, delivering £270 million of run-rate synergies. Our UK Digital business completed development of a single customer database and increased customer registrations to 5 million. We acquired RBC General Insurance (RBCI), increasing our scale and strengthening distribution in the attractive Canadian general insurance market.

Our results demonstrate the benefits of our diversity and composite strategy. We will maintain our focus on simplifying the group, further strengthening core businesses and growing operating profits and dividends. Given the strength of our core franchises, our sustained focus on cost efficiency and capacity for capital management, we look forward with confidence.

Operating Profit

Group operating profit[1] increased 12% to £3,010 million *(2015: £2,688 million[2])* while operating EPS[1] grew 3% to 51.1p *(2015: 49.7p[2])*. Operating profit growth was underpinned by strong performances from Aviva Investors, Canada, UK and Ireland General Insurance and Italy, together with an additional three month contribution from Friends Life in the UK and beneficial foreign exchange effects.

Life insurance operating profit increased 8% to £2,642 million *(2015: £2,442 million[2])*. In UK Life, operating profit benefitted from an additional quarter of Friends Life, delivery of integration synergies and growth in protection, pensions and individual annuities. This more than offset lower bulk annuity sales and reduced income from other. Operating profit from our European life businesses increased as supportive foreign exchange translation and growth in protection income offset the adverse effect of volatile financial markets in France and a regulatory asset levy in Poland. In Asia, life operating profit increased in Singapore despite the discontinuation of the DBS agreement, though this was offset by a lower contribution from FPI and investment into high growth markets such as Indonesia and Vietnam.

In general insurance and health, operating profit[1] gained 16% to £833 million *(2015: £719 million[6])*. General insurance net written premiums[1] increased 15% due to new distribution partnerships with Homeserve and TSB in the UK, a six month contribution from RBCI in Canada and foreign exchange benefits. The combined operating ratio was 95.2% *(2015: 94.6%)* with benign weather offset by higher commission strain from new partnerships and increased Government levies.

Fund management operating profit increased 30% to £138 million *(2015: £106 million)* reflecting higher assets under management, an increase in revenue margin and improved cost to income ratio.

Capital

At 31 December 2016, our Solvency II capital ratio[3,4] was 189% *(2015: 180%)* with a surplus[3] of £11.3 billion *(2015: £9.7 billion)*. As the Solvency II ratio is above our 150% to 180% working range, we are actively planning to return additional capital to shareholders and reduce hybrid debt in 2017. Capital generation was exceptionally strong at £3.5 billion, with underlying generation augmented by model approvals and other adjustments that improved our position under the Solvency II regime.

1 2016 and 2015 exclude the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL).
2 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for full year 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
3 The estimated Solvency II position includes an estimated adverse impact of a notional reset of the transitional measure on technical provisions ("TMTP") to reflect interest rates at 31 December 2016. Removing this notional reset of TMTP would increase the estimated Solvency II surplus by £0.4 billion. Amortisation of TMTP since 1 January 2016 is also reflected. Also included are the proforma impacts of the disposal of Aviva's 50% shareholding in Antarius to Sogecap expected to complete on 1 April 2017 (£0.2 billion increase to surplus) and a future change to UK tax rules restricting the tax relief that can be claimed in respect of tax losses (£0.4 billion decrease to surplus).
4 The estimated solvency II ratio represents the shareholder view. This excludes the contribution to Group Solvency Capital Requirement (SCR) and Group Own Funds of fully ring fenced with-profits funds £2.9 billion (*2015: £2.7 billion*) and staff pension schemes in surplus £1.1 billion (*2015: £0.7 billion*) – these exclusions have no impact on Solvency II surplus
5 As at the end of February in 2017 and 2016 respectively.
6 2016 comparatives have been rebased for the reduction in the internal loan

Cash	Cash remittances from business units to group centre increased 20% to £1,805 million *(2015: £1,507 million)*. This included £250 million of special remittances from UK Life in conjunction with the integration of Friends Life. Remittances from UK & Ireland General Insurance were lower at £91 million as cash generated was used to fund an increase in an internal reinsurance vehicle. At our capital markets day in July 2016, we outlined a target of £7 billion of cumulative business unit remittances in 2016 to 2018 inclusive. We remain fully committed to achieving this target.
Friends Life Integration	The Friends Life integration is now complete. At the end of 2016, we had delivered £270 million of run-rate synergies, well ahead of the original £225 million target and one year earlier than the original schedule. We have also delivered £1.0 billion of capital synergies to date, showing good progress towards our £1.2 billion target, with further benefits to come. In conjunction with these capital synergies, UK Life paid a £250 million special remittance to group centre in 2016. We continue to expect the remaining £750 million of special remittances to be paid by the end of 2018.
Oaks, Acorns and Apple Trees	At our capital markets day in July 2016, we summarised our group through a strategic lens, using the analogy of oaks, acorns and apple trees. This guides our decisions on capital allocation. Oaks are businesses that provide consistent, sustainable growth in profits and cash. In the UK, we are planning to combine the management of our insurance businesses under the leadership of Andy Briggs[7]. In Canada, we completed the RBCI acquisition, enhancing our scale and strengthening our distribution. In France, we announced the sale of Antarius, our joint venture with Crédit du Nord, for approximately £425 million. Acorn businesses accelerate long-term growth. Aviva Investors has trebled assets under management in the flagship AIMS range of funds to £9 billion. Our Asian business' strategy is disruption. In Singapore, Aviva Financial Advisors has grown its network to 450[8] since its launch in 2016, and we have recently announced our new joint venture with Tencent and Hillhouse on digital insurance in Hong Kong. Apple trees are businesses requiring simplification and restructuring. Italy is a stand out performer among these markets, delivering strong growth in operating profits and new business sales. In Spain, we are examining options to withdraw more capital. In FPI and Taiwan, we have initiated strategic reviews.
Digital	Digital unlocks the potential of our composite business model. We will be a 320 year-old disruptor in the insurance market. In the UK, we have built the critical infrastructure, connecting 15 million of our customers to a single database. We are rapidly scaling up the numbers of users on MyAviva, with registrations doubling to 5 million as customers respond positively to the simplicity and convenience of dealing with Aviva digitally. The next phase of our digital journey in the UK will focus on increasing the number of multi-product customers and increasing engagement with the Friends Life customer base. We are also developing our digital capabilities in our international markets. In January 2017, we announced the sale of a 60% stake in our Hong Kong business to Tencent and Hillhouse. Together, we will launch simple digital insurance products in a market that has historically been dominated by high cost agency and bancassurance distribution channels.
Outlook	In 2016, we have simply done what we said we would; delivering growth and strengthening our balance sheet. Looking forward, we will remain focused on achieving our financial objectives: mid single digit annual growth in operating EPS; £7 billion of cumulative business unit remittances in 2016-18 inclusive; and an increase in the dividend payout ratio to 50% by the end of 2017.

Mark Wilson
Group Chief Executive Officer

7 Subject to regulatory approval.
8 As at 30 January 2017.

Overview

Aviva has delivered another year of progress in 2016. We have grown operating profit, significantly strengthened Solvency II capital surplus and increased cash remittances. Reflecting these financial results and in view of our confidence in the outlook for Aviva, the Board of Directors has proposed a 12% increase in our total shareholder dividend in 2016 to 23.3p.

Operating profit[1] increased 12% to £3,010 million *(2015: £2,688 million[2])*. Growth in operating profit was underpinned by strong performances from UK and Ireland General Insurance, Canada and Aviva Investors, while UK Life benefitted from a full-year contribution from Friends Life and improved cost efficiency from realised integration synergies. After incorporating an increase in weighted average shares on issue arising from the Friends Life acquisition, operating EPS[1] increased 3% to 51.1p *(2015: 49.7p[2])*.

Operating profit excludes the impact of the reduction in the Ogden discount rate (£475 million, *2015: nil*). The Lord Chancellor's and subsequent Chancellor of the Exchequer's statements confirm that a consultation will be launched in the coming weeks that will allow the Government to consider the methodology for setting the discount rate. This gives rise to uncertainty with respect to the ultimate level of claims payable and we believe the volatility in our operating profit arising from the "catch up" impact on prior year claims coupled with the potential impact from a subsequent adjustment to the discount rate in 2017 or 2018 would provide a distorted view of the group's year to year financial performance. Our target of paying a progressive dividend with a dividend payout ratio of 50% of operating EPS for 2017 remains, and we have maintained the alignment of our dividend trajectory and operating EPS by treating the Ogden impact as an exceptional item.

IFRS profit after tax was £859 million in 2016, down from £1,097 million[2] in 2015. This includes a £380 million after-tax charge due to the reduction in the Ogden discount rate. Integration and restructure costs declined to £212 million *(2015: £379 million)* but remained elevated as we completed the Friends Life and RBCI integrations. Investment variances were £(381) million *(2015: £(170) million)*. Net asset value per share rose 6% to 414p *(2015: 390p[2])* as operating profits, foreign exchange gains and increase in IAS 19 pension surplus offset the Ogden charge, negative investment variances and higher amortisation expenses.

The Solvency II coverage ratio increased to 189%[3,4] *(2015: 180%)*. Operating capital generation was £3.5 billion in 2016, comprising £4.0 billion generated by our business units, net of £0.5 billion of debt interest, head office and other costs. Operating capital generation included benefits from non-recurring items such as approved model changes as we optimised capital for Solvency II. Remittances from our business units were £1.8 billion *(2015: £1.5 billion)* and excess centre cash-flow was £0.9 billion *(2015: £0.7 billion)*.

Our financial results in 2016 demonstrated the benefits of Aviva's diversity and the strength of our franchises. We continue to target consistent mid-single digit growth in operating EPS over the medium term.

Business unit performance

UK and Ireland Life increased operating profit 7% to £1,555 million *(2015: £1,455 million[2])*. In the UK, operating profit was £1,523 million *(2015: £1,431 million[2])* reflecting a full year contribution from Friends Life (acquired April 2015), integration synergies and growth in sales and managed assets. Our core growth engines in UK Life all delivered strong momentum. Operating profit from long term savings increased 39% to £142 million *(2015: £102 million)*, protection grew 52% to £242 million *(2015: £159 million)* and retirement (annuities and equity release) gained 26% to £656 million *(2015: £519 million)*. These were partially offset by a modest reduction in legacy profits to £332 million *(2015: £341 million)* and a 51% reduction in income from other to £151 million *(2015: £310 million)*. In Ireland, life insurance operating profit increased 33% to £32 million.

Aviva Investors delivered 32% growth in fund management operating profit to £139 million *(2015: £105 million)*. Revenue increased 12% to £506 million driven by increased external new business flow, significantly increased origination of infrastructure and other illiquid assets primarily for Aviva and completion of on-boarding of Friends Life assets. Operating expenses increased 6% to £367 million reflecting continued investment in the business. Assets under management increased 19% to £345 billion *(2015: £290 billion)* due to positive net flows, the inward transfer of a further £14 billion of Friends Life assets and positive market returns.

1 2016 and 2015 exclude the impact from an outward quota share reinsurance agreement completed in 2015 in Aviva Insurance Limited (AIL).

2 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for full year 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.

3 The estimated Solvency II position includes an estimated adverse impact of a notional reset of the transitional measure on technical provisions ("TMTP") to reflect interest rates at 31 December 2016. Removing this notional reset of TMTP would increase the estimated Solvency II surplus by £0.4 billion. Amortisation of TMTP since 1 January 2016 is also reflected. Also included are the proforma impacts of the disposal of Aviva's 50% shareholding in Antarius to Sogecap expected to complete on 1 April 2017 (£0.2 billion increase to surplus) and a future change to UK tax rules restricting the tax relief that can be claimed in respect of tax losses (£0.4 billion decrease to surplus).

4 The estimated solvency II ratio represents the shareholder view. This excludes the contribution to Group Solvency Capital Requirement (SCR) and Group Own Funds of fully ring fenced with-profits funds £2.9 billion (*2015: £2.7 billion*) and staff pension schemes in surplus £1.1 billion (*2015: £0.7 billion*) – these exclusions have no impact on Solvency II surplus

Excluding the exceptional charge associated with the change in the Ogden discount rate, operating profit[1] from UK and Ireland General Insurance and Health increased by 23% to £471 million *(2015: £384 million[4])*. In UK general insurance, net written premiums[1] increased 7% due to new distribution relationships with Homeserve and TSB. Excluding the exceptional Ogden discount rate impact, the combined operating ratio of the UK business remained relatively stable at 95.3% in 2016 *(2015: 95.1%)* with lower weather claims and the positive effect of portfolio re-balancing and cost initiatives offsetting the Flood Re levy and commission strain from new distribution partnerships. In Ireland, general insurance operating profits increased to £41 million *(2015: £30 million)* reflecting strong growth in net written premiums (19% in local currency) and an improvement in combined ratio to 91.2% *(2015: 94.6%)*. Operating profit from Health increased 19% to £38 million *(2015: £32 million)* due to a 30% improvement in underwriting profit to £35 million.

Europe responded well to challenging market conditions by delivering resilient results in 2016. Operating profit fell 3% in local currency terms but benefitted from foreign currency translation to reach £964 million *(2015: £880 million)*. In France, operating profit fell 5% in constant currency terms to £499 million *(2015: £466 million)* due to weak investment markets, an increase in weather claims in general insurance and higher operating expenses. Italy increased operating profits by 9% in constant currency to £212 million *(2015: £172 million)* as a result of growing sales volumes and improved margins in life insurance. In Poland, the underlying performance remained solid, though the cost of the financial sector asset levy implemented by the Polish Government caused operating profits to decline 7% in local currency to £140 million *(2015: £139 million)*.

Canada delivered operating profit of £269 million *(2015: £214 million)*, an increase of 16% in local currency terms. Net written premiums increased 14% in local currency to £2,453 million *(2015: £1,992 million)* and benefitted from a six-month contribution from the acquired RBCI business. The underwriting result increased to £168 million *(2015: £120 million)* with higher premium volumes associated with the acquisition of RBCI more than offsetting a modest increase in the combined operating ratio to 94.6% *(2015: 93.8%)*.

In Asia, operating profit fell 8% in constant currency terms to £228 million *(2015: £238 million)* reflecting the discontinuation of the DBS bancassurance relationship, lower profits from Friends Provident International and investment into nascent markets such as Indonesia and Vietnam. The Singapore and Hong Kong businesses have repositioned and are pursuing innovative and disruptive distribution strategies.

Capital management

At the end of 2016, our Solvency II coverage ratio[2,3] was 189% *(2015: 180%)*, above the top end of our 150-180% working range. The Solvency II surplus[2] increased to £11.3 billion *(2015: £9.7 billion)* as exceptionally strong operating capital generation of £3.5 billion (of which £1.7 billion underlying) was only partially offset by negative variances from investment market fluctuations and dividend payments to shareholders.

Included within 2016 operating capital generation were a number of initiatives such as Friends Life capital synergies and approved model changes that improved our position under the new Solvency II regime. In total, these accounted for approximately £1.8 billion of capital generation. While there remain opportunities for further Solvency II optimisation and capital synergies, the contribution from such actions is likely to be lower in the future than was the case in 2016.

In view of our strong Solvency II ratio, there is now capacity to deploy surplus capital. In addition to underpinning a progressive dividend, we have four priorities for capital deployment:

1. Organic growth, including capital required to support new distribution partnerships;
2. Bolt-on acquisitions that strengthen our core markets;
3. Returning capital to shareholders, via a share re-purchase program or special dividend; and
4. Paying down hybrid debt obligations.

These priorities are not mutually exclusive and we expect to pursue all of these options. Specifically, we plan to take steps to return additional capital to shareholders and reduce hybrid debt during 2017. Liquidity at the centre is £1.8 billion at the end of February 2017 *(February 2016: £1.3 billion)*. We generally intend to maintain centre liquidity balances in excess of £1 billion.

1. 2016 and 2015 exclude the impact from an outward quota share reinsurance agreement written in 2015 and completed in 2016 in Aviva Insurance Limited (AIL). See note A10 for further details.
2. The estimated Solvency II position includes an estimated adverse impact of a notional reset of the transitional measure on technical provisions ("TMTP") to reflect interest rates at 31 December 2016. Removing this notional reset of TMTP would increase the estimated Solvency II surplus by £0.4 billion. Amortisation of TMTP since 1 January 2016 is also reflected. Also included are the proforma impacts of the disposal of Aviva's 50% shareholding in Antarius to Sogecap expected to complete on 1 April 2017 (£0.2 billion increase to surplus) and a future change to UK tax rules restricting the tax relief that can be claimed in respect of tax losses (£0.4 billion decrease to surplus).
3 The estimated solvency II ratio represents the shareholder view. This excludes the contribution to Group Solvency Capital Requirement (SCR) and Group Own Funds of fully ring fenced with-profits funds £2.9 billion (*2015: £2.7 billion*) and staff pension schemes in surplus £1.1 billion (*2015: £0.7 billion*) – these exclusions have no impact on Solvency II surplus
4 2016 comparatives have been rebased for the reduction in the internal loan

While capital return options are now on our current agenda, we continue to invest in our businesses, with organic priorities being digital, fund management and general insurance. In 2016, we acquired RBCI, increasing the scale of our Canadian business and strengthening our distribution. We also established partnerships with Homeserve and TSB to expand our UK General Insurance business. We will continue to consider bolt-on acquisitions and distribution partnerships that grow operating profit and strengthen our position in core markets.

Outlook

Our three financial targets are to deliver mid-single digit percentage growth in operating EPS over the medium term, for our business units to remit £7 billion of cash to group centre in 2016 to 2018 inclusive and to increase our dividend payout ratio to 50% by the end of 2017, following which the dividend trajectory is expected to align with growth in operating EPS. We remain confident that we can deliver on these objectives.

Thomas D. Stoddard
Chief Financial Officer

Notes to editors

All comparators are for the full year 2015 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 2016. The average rates employed in this announcement are 1 euro = £0.82 *(12 months to 31 December 2015: 1 euro = £0.72)* and CAD$1 = £0.56 *(12 months to 31 December 2015: CAD$1 = £0.51).*

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 distributed by Aviva plc (the "Company" or "Aviva") through the Regulatory News Service (RNS). 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 and international political, regulatory and economic conditions; market developments and government actions (including those arising from 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 'Other information – Shareholder Information – Risks relating to our business' in Aviva's most recent Annual Report. 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.

Aviva plc is a company registered in England No. 2468686.
Registered office
St Helen's
1 Undershaft
London
EC3P 3DQ

Contacts

Investor contacts	Media contacts	Timings
Chris Esson +44 (0)20 7662 8115	Nigel Prideaux +44 (0)20 7662 0215	Presentation slides: 07:00 hrs GMT www.aviva.com
Diane Michelberger +44 (0)20 7662 0911	Andrew Reid +44 (0)20 7662 3131	Real time media conference call: 07:45 hrs GMT
		Analyst presentation: 09:00 hrs GMT
	Sarah Swailes +44 (0)20 7662 6700	Live webcast: 09:00 hrs GMT http://www.avivawebcast.com/prelim2016/

Contents

Operating profit

	2016 £m	Restated[1] 2015 £m	Sterling % change
Life business	**2,642**	2,442	8%
General insurance and health	**833**	765	9%
Fund management	**138**	106	30%
Other[2]	**(603)**	(625)	4%
Total[3,4]	**3,010**	2,688	12%
Operating earnings per share[3,4,5]	**51.1p**	49.7p	3%

Cash remittances and Operating capital generation: Solvency II basis

	2016		2015	
	Cash Remittances £m	**Operating Capital Generation £bn**	Cash Remittances £m	Operating Capital Generation[6] £bn
United Kingdom & Ireland Life	**1,096**	**2.5**	667	
United Kingdom & Ireland General Insurance and Health	**91**	**0.3**	358	
Europe	**449**	**1.0**	431	
Canada	**130**	**0.3**	6	
Asia, Aviva Investors & Other	**39**	**(0.6)**	45	
Total	**1,805**	**3.5**	1,507	

Expenses

	2016 £m	Restated[1] 2015 £m	Sterling % change
Operating expenses	**3,408**	3,030	12%
Integration & restructuring costs	**212**	379	(44)%
Expense base	**3,620**	3,409	6%
Operating expense ratio[1]	**50.5%**	49.8%	0.7pp

Value of new business: MCEV basis

	2016 £m	2015 £m	Sterling % Change[7]	Constant currency % Change[7]
United Kingdom & Ireland	**695**	625	11%	11%
France	**224**	198	13%	—
Poland[8]	**65**	65	(1)%	(9)%
Italy	**124**	79	58%	39%
Spain	**42**	31	33%	18%
Turkey	**25**	27	(7)%	(9)%
Asia	**148**	151	(2)%	(11)%
Aviva Investors	**29**	16	77%	77%
Total	**1,352**	1,192	13%	8%

General insurance combined operating ratio

	2016 excluding Ogden[9]	2016	2015	Change
United Kingdom & Ireland	**94.9%**	**106.3%**	95.0%	11.3pp
Europe	**95.8%**	**95.8%**	95.4%	0.4pp
Canada	**94.6%**	**94.6%**	93.8%	0.8pp
Combined operating ratio	**95.2%**	**101.1%**	94.6%	6.5pp

IFRS profit after tax

	2016 £m	Restated[1] 2015 £m	Sterling % change
IFRS profit after tax[3]	**859**	1,097	(22)%
Basic earnings per share[3]	**15.3p**	23.1p	(34)%

Dividend

	2016	2015	Sterling % change
Final dividend per share	**15.88p**	14.05p	13%
Total dividend per share	**23.30p**	20.80p	12%

Capital position

	2016	2015	Sterling % change
Estimated Solvency II cover ratio[10,11]	**189%**	180%	9.0pp
Estimated Solvency II surplus[11]	**£11.3bn**	£9.7bn	16%
Net asset value per share (restated)[1]	**414p**	390p	6%

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
2 Other includes other operations, corporate centre costs and group debt and other interest costs.
3 Operating profit is a non-GAAP measure used by management and excludes the impact of the exceptional Ogden charge. Refer to 'Financial supplement' for the reconciliation of Group operating profit to profit after tax – IFRS basis and refer to note B7 – Earnings per share for a reconciliation of operating earnings per share to basic earnings per share.
4 2016 and 2015 exclude the impact from an outward quota share reinsurance agreement written in 2015 and completed in 2016 in Aviva Insurance Limited (AIL). See note A10 for further details.
5 Operating EPS is shown net of tax, non-controlling interests, preference dividends, and coupon payments in respect of direct capital instrument (DCI) and tier 1 notes (net of tax).
6 Operating capital generation was calculated on a Solvency II basis for the first time in 2016. No comparatives are available for 2015.
7 Currency movements are calculated using unrounded numbers so minor rounding differences may exist.
8 Poland includes Lithuania.
9 Excludes the impact of the change in the Ogden discount rate.
10 The estimated solvency II ratio represents the shareholder view. This excludes the contribution to Group Solvency Capital Requirement (SCR) and Group Own Funds of fully ring fenced with-profits funds, £2.9 billion (*2015: £2.7 billion*) and staff pension schemes in surplus, £1.1 billion (*2015: £0.7 billion*) – these exclusions have no impact on Solvency II surplus.
11 The estimated Solvency II position includes an estimated adverse impact of a notional reset of the transitional measure on technical provisions ('TMTP') to reflect interest rates at 31 December 2016. Removing this notional reset of TMTP would increase the estimated Solvency II surplus by £0.4 billion. Amortisation of TMTP since 1 January 2016 is also reflected. Also included are the pro forma impacts of the disposal of Aviva's 50% shareholding in Antarius to Sogecap, expected to complete 1 April 2017 (£0.2 billion increase to surplus) and a future change to UK tax rules restricting the tax relief that can be claimed in respect of tax losses (£0.4 billion decrease to surplus).

2016 overview

The Group has delivered an increase in operating profit, cash remittances to the Group, strengthening of its Solvency II capital position and growth in value of new business (VNB). Operating profit excludes the impact of the change in the Ogden discount rate of £475 million *(2015: £nil)*, which has been recognised as an exceptional non-operating item.

Aside from the benefits of foreign exchange movements, these results include the contribution of an additional quarter of Friends Life along with the realisation of integration benefits, which secured run rate synergies in excess of our £225 million target, a year ahead of schedule. The results also include the acquisition of RBC General Insurance Company (RBC) in Canada.

1 – Operating Profit

Group operating profit

For the year ended 31 December 2016

	2016 £m	Restated[1] 2015 £m
Operating profit before tax attributable to shareholders' profits		
Life business		
United Kingdom & Ireland	**1,555**	1,455
France	**429**	395
Poland	**132**	129
Italy	**170**	139
Spain	**107**	92
Turkey	**6**	11
Europe	**844**	766
Asia	**241**	244
Other	**2**	(23)
Total life business (note 7.i)	**2,642**	2,442
General insurance and health		
United Kingdom & Ireland[2]	**471**	430
Europe	**120**	114
Canada	**269**	214
Asia	**(13)**	(6)
Other	**(14)**	13
Total general insurance and health[2] (note 7.ii)	**833**	765
Fund management		
Aviva Investors	**139**	105
Asia	**(1)**	1
Total fund management	**138**	106
Other		
Other operations (note A1)	**(94)**	(84)
Market operating profit[2]	**3,519**	3,229
Corporate centre (note A2)	**(184)**	(180)
Group debt costs and other interest (note A3)	**(325)**	(361)
Operating profit before tax attributable to shareholders' profits[2]	**3,010**	2,688
Tax attributable to shareholders' profit	**(706)**	(603)
Non-controlling interests	**(147)**	(152)
Preference dividends and other[3]	**(85)**	(74)
Operating profit attributable to ordinary shareholders[2]	**2,072**	1,859
Operating earnings per share[2,4]	**51.1p**	49.7p

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
2 2016 excludes the impact of the change in the Ogden discount rate of £475 million, which has been recognised as an exceptional non-operating item. 2016 and 2015 exclude the impact from an outward quota share reinsurance agreement written in 2015 and completed in 2016 in Aviva Insurance Limited (AIL). See note A10 for further details.
3 Other includes coupon payments in respect of the direct capital instrument (DCI) and tier 1 notes (net of tax).
4 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 earnings per share uses a weighted average of 4,051 million (*2015: 3,741 million*) ordinary shares in issue, after deducting treasury shares.

1 – Operating Profit continued

Operating profit was £3,010 million *(2015: £2,688 million)*. This includes an additional quarter's contribution from Friends Life, six months of results from RBC and a favourable impact from foreign exchange movements of £141 million.

The life business operating profit increased to £2,642 million *(2015: £2,442 million)* mainly driven by UK & Ireland and Europe. The performance of UK & Ireland Life reflected the additional quarter's contribution from Friends Life, realisation of integration synergies and growth primarily in protection and long term savings, partially offset by investments in digital. Europe's contribution to the life operating profit benefitted from movements in foreign exchange rates; on a constant currency basis Europe's life operating performance was slightly down, with growth and margin improvements particularly in Italy more than offset by adverse market movements and the impact of a new asset levy in Poland. The discontinuation of the bancassurance agreement with DBS Bank Ltd (DBS) in Asia resulted in a lower contribution to the overall life operating profit.

The general insurance and health business operating result increased to £833 million *(2015: £765 million*), mainly due to better weather and improved underlying performance in the UK, coupled with the acquisition of RBC and higher favourable prior year development in Canada. The result also benefitted from the continued focus of the business on cost control. This was partially offset by the adverse weather experience in France, fires experienced in Alberta, Canada and increased costs associated with the Flood Re levy in the UK.

Higher fund management operating profit of £138 million *(2015: £106 million)* mainly reflects the further transfer in of Friends Life assets, a change in pricing by Aviva Investors to manage funds on behalf of other Aviva entities and an increase in revenue from Aviva Investors external business, together with continued cost control and operational efficiency initiatives despite continued investment in the business.

Operating earnings per share is up 1.4p to 51.1p *(2015: 49.7p)* due to the increase in operating profit in the year partly offset by the dilutive impact of an additional quarter of ordinary shares in issue from the Friends Life acquisition.

2.i – Cash remitted to Group

The flow of sustainable cash remittances from the Group's businesses is a key financial priority. We use a wholly-owned, UK domiciled reinsurer subsidiary for internal capital and cash management. Some of the remittances otherwise attributable to the operating businesses arise from this internal reinsurance vehicle. The table below reflects actual remittances received by the Group.

The cash remittances for 2016 were £1,805 million (*2015: £1,507 million*) and includes cash paid by our operating businesses to the Group, comprising dividends and interest on internal loans.

	2016 £m	2015 £m
United Kingdom & Ireland Life[1]	**1,096**	667
United Kingdom & Ireland General Insurance and Health[1]	**91**	358
Europe	**449**	431
Canada	**130**	6
Asia, Aviva Investors & Other[2]	**39**	45
Total[3]	**1,805**	1,507

1 2016 cash remittances include amounts of £100 million received from UK & Ireland Life and £83 million from UK & Ireland General Insurance in February 2017 in respect of 2016 activity. 2016 cash remittances also include £159 million received from France in January 2017 in respect of 2016 activity. 2015 cash remitted included £351 million received from UK & Ireland General Insurance in February 2016 in respect of 2015 activity.
2 Other includes Group Reinsurance.
3 Cash remittances are eliminated on consolidation and are hence not directly reconcilable to the Group's IFRS statement of cash flows.

Cash remittances to the Group increased primarily driven by the UK & Ireland Life business and Canada, partially offset by a decrease in remittances from UK & Ireland general insurance and health. The 2016 remittance includes £250 million, which is the first instalment of the overall planned £1 billion Friends Life integration additional remittance. Cash remittances from Europe increased due to increased profitability in Italy and increased remittances from Poland due to a legal entity restructure in 2015 which had seen remittances withheld; however, remittances from France decreased due to investment in the business. In 2015, dividends were withheld in Canada to part-fund the acquisition of RBC. Subsequent to the completion of the acquisition in 2016, Canada has paid £130 million to the Group. Remittances from UK & Ireland general insurance and health decreased in 2016 as cash was used to fund an increase in the internal reinsurance arrangement.

2.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.

	2016 £m	2015 £m
Dividends received	**1,635**	1,378
Internal interest received	**170**	129
Cash remitted to Group	**1,805**	1,507
External interest paid	**(540)**	(554)
Internal interest paid	**(85)**	(138)
Central spend	**(227)**	(252)
Other operating cash flows[1]	**(24)**	136
Excess centre cash flow[2, 3]	**929**	699

1 Other operating cash flows include central investment income and group tax relief payments and other financial cash flows previously reported under central spend.
2 Before non-operating items and capital injections.
3 This table represents cash movements only and therefore will not reconcile to accounting based disclosures throughout the Preliminary announcement.

The increase of £230 million in excess centre cash flow is primarily driven by higher cash remittances to the Group as discussed above, coupled with lower internal interest paid and other operating cash outflows. Internal interest paid decreased primarily due to the reduction in the internal loan between UK & Ireland general insurance and the Group centre. Other operating cash outflows were £24 million *(2015: £136 million cash inflows)* mainly due to adverse margin movements on derivatives and the cost of renewing hedges.

Holding company liquidity consists of cash and liquid assets. Holding company liquidity at 28 February 2017 was £1.8 billion *(28 February 2016: £1.3 billion)*.

2.iii – Operating capital generation: Solvency II basis

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.

Solvency II operating capital generation was £3.5 billion during 2016, incorporating £4.0 billion from our operating business units, net of £0.5 billion of debt and corporate centre costs. Solvency II operating capital generation excludes the impact of the change in the Ogden discount rate of c.£0.2 billion, which has been recognised as an exceptional non-operating item.

	Life business SII Operating Capital Generation				Non-Life SII Operating Capital Generation	
2016 £bn	**Impact of New Business[1]**	**Earnings from Existing Business**	**Other[2]**	**Life SII Operating Capital Generation**	**GI, Health, FM & Other SII Operating Capital Generation**	**Total SII Operating Capital Generation**
United Kingdom & Ireland Life	(0.1)	1.4	1.2	**2.5**	**—**	**2.5**
United Kingdom & Ireland General Insurance and Health					**0.3**	**0.3**
Europe	(0.1)	0.6	0.4	**0.9**	**0.1**	**1.0**
Canada					**0.3**	**0.3**
Asia, Group centre costs and Other[2]	—	—	0.2	**0.2**	**(0.8)**	**(0.6)**
Total Group Solvency II operating capital generation[3]	**(0.2)**	**2.0**	**1.8**	**3.6**	**(0.1)**	**3.5**

1 Impact of new business (Life) as set out in note 4b Solvency II Surplus impact of new business
2 Other includes changes in Group diversification benefit.
3 As reported in the movement in Group Solvency II surplus disclosure in note 8iv.

Operating capital generation (OCG) was previously calculated on a MCEV basis for long-term covered business and an adjusted IFRS basis for other business.

Following the introduction of the Solvency II regime on 1 January 2016, OCG is now reported on a Solvency II basis for all business. As such, for 2016 the OCG has been calculated on a Solvency II basis and no prior year comparative is available for 2015.

OCG is the Solvency II surplus movement in the period due to operating items including new business contribution, expected investment returns on existing business, operating variances, operating assumption changes and management actions. It excludes economic variances, economic assumption changes and integration and restructuring costs which are included in non-operating capital generation. The expected investment returns are consistent with the returns used in IFRS (as set out in notes A4 and A5 in the financial supplement), except in UK Life where a risk-free curve plus an allowance for expected real-world returns (less an adjustment for credit risk, where required) is applied. Total Group OCG is a component of the movement in Group Solvency II surplus over the period as set out in note 8.iv and is not reconcilable to IFRS.

For life business, the impact of new business is the change in Solvency II surplus resulting from new business written in the period. In the current period, the contribution from new business creates a strain; however, this business is expected to generate an operating surplus through earnings from existing business in future periods.

Life business earnings from existing business is the Solvency II surplus movement in the period due to operating items excluding the impacts of New Business and Other OCG.

In 2016, Other OCG for life business includes a number of initiatives such as Friends Life capital synergies and approved model changes that improved our position under the Solvency II regime.

Our principal source of Group centre liquidity is cash remittances in the form of dividends and debt interest receipts from our businesses. OCG measures the amount of Solvency II capital the Group generates from operating activities. Capital generated enhances Solvency II surplus which can be used to fund business unit remittances and, in turn, the group dividend as well as for investment in initiatives that provide potential future growth.

2.iv – Solvency II future surplus emergence

Emergence of future profits and release of Solvency II capital requirements – life business	2016 £bn
Year 1	**1.4**
Year 2	**1.3**
Year 3	**1.2**
Year 4	**1.1**
Year 5	**1.0**
Year 6	**0.9**
Year 7	**0.8**
Year 8	**0.8**
Year 9	**0.7**
Year 10	**0.7**
Year 11-15	**2.7**
Year 16-20	**3.3**
Year 20+	**8.8**
Total net of non-controlling interests	**24.7**

This disclosure was previously based on equivalent embedded value cash flows under the Solvency I regime. Following the introduction of the Solvency II regime on 1 January 2016, the projection has been adjusted to reflect Solvency II future surplus emergence.

The table above shows the expected future emergence of Solvency II surplus from the existing long-term in-force life business. For business subject to short contract boundaries under Solvency II, allowance has been made for the impact of renewal premiums as and when they are expected to occur. The cash flows have been split for the first ten years followed by five year tranches depending on the date when the surplus is expected to emerge.

The projected surplus, which is primarily expected to arise from the release of risk margin (net of transitional measures) and solvency capital requirement as the business runs off over time, is expected to emerge through OCG in future years. The cash flows are real-world cash flows, i.e. they are based on best estimate non-economic assumptions used in the Solvency II valuation and real-world investment returns rather than risk-free. The expected investment returns are consistent with the returns used in IFRS (as set out in note A4 in the financial supplement), except in the UK where a risk-free curve plus an allowance for expected real-world returns (less an adjustment for credit risk where required) is applied.

Solvency II future surplus emergence is a projection of the movement in Group Solvency II surplus from existing long-term in-force life business as set out in note 8.iv and is not reconcilable to IFRS. The projection is a static analysis as at a point in time and hence it does not include the potential impact of active management of the business (for example, active management of market, demographic and expense risk through investment, hedging, risk transfer and operational risk and expense management), which may affect the actual amount of OCG earned from existing business in future periods. This is the first time the disclosure has been calculated on a Solvency II basis and, as such, no prior year comparatives are available for 31 December 2015.

3 – Expenses

	2016 £m	2015 £m
United Kingdom and Ireland Life	**867**	815
United Kingdom and Ireland General Insurance & Health	**665**	697
Europe	**641**	526
Canada	**396**	298
Asia	**177**	141
Aviva Investors	**367**	345
Other Group activities	**295**	208
Operating cost base	**3,408**	3,030
Integration & restructuring costs[1]	**212**	379
Expense base	**3,620**	3,409
Operating expense ratio[2, 3]	**50.5%**	49.8%

1 As reported within other expenses of £3,853 million *(2015: £2,784 million)* in the consolidated income statement.
2 Group operating expenses expressed as a percentage of operating profit before operating expenses and group debt costs.
3 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.

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

	2016 £m	2015 £m
Claims handling costs[1]	**290**	303
Non-commission acquisition costs[2]	**846**	818
Other expenses[3]	**2,272**	1,909
Operating cost base	**3,408**	3,030

1 Operating expenses as reported within net claims and benefits paid of £23,782 million *(2015: £21,985 million)* in the consolidated income statement.
2 Operating expenses as reported within fee and commission expense of £3,885 million *(2015: £3,324 million)* in the consolidated income statement.
3 Operating expenses as reported within other expenses of £3,853 million *(2015: £2,784 million)* in the consolidated income statement.

Operating expenses were £3,408 million *(2015: £3,030 million)*.

Excluding the adverse impact from foreign exchange movements of £132 million and an additional quarter of expenses from Friends Life, the increase in operating expenses was primarily driven by continued investment in growth across the business and digital initiatives, six months of expenses from RBC and new regulatory levies in the UK and Poland. This was partially offset by the delivery of integration savings in UK Life and continued focus on cost control, in particular in UK general insurance.

In 2016, integration & restructuring costs decreased by £167 million (44%) as a result of lower integration spend relating to the Friends Life acquisition and lower Solvency II project costs, partially offset by costs related to the acquisition of RBC.

4 – Value of new business (VNB) by market

a) Value of new business by market (MCEV basis)[1]

Gross of tax and non-controlling interests	2016 £m	2015 £m
United Kingdom[2]	**671**	609
Ireland	**24**	16
United Kingdom & Ireland	**695**	625
France	**224**	198
Poland	**65**	65
Italy	**124**	79
Spain	**42**	31
Turkey	**25**	27
Europe	**480**	400
Asia	**148**	151
Aviva Investors	**29**	16
Total value of new business	**1,352**	1,192

The Group's VNB[3] increased to £1,352 million (*2015: £1,192 million*), up 13%. This was primarily driven by growth of new business in the UK, Europe and Aviva Investors and a favourable impact from foreign exchange movements of £65 million.

The UK benefitted from an additional quarter's contribution of Friends Life, as well as an increase in VNB primarily on long term savings and protection. The main contributor to the Group's increase in VNB in Europe was Italy, which recorded growth across all products, as well as favourable foreign exchange movements. VNB in Asia benefitted from positive foreign exchange movements but was impacted by the discontinuance of the Group's bancassurance agreement with DBS. The increase in VNB in Aviva Investors was driven by higher sales in the AIMS fund range.

b) Reconciliation of Group MCEV VNB to adjusted Solvency II VNB and Solvency II Own Funds impact of new business

Following the introduction of Solvency II, the new prudential regulatory framework that came into force on 1 January 2016, the Group has calculated VNB on an adjusted Solvency II basis in addition to MCEV VNB. From 2017 onwards, the adjusted Solvency II VNB will replace MCEV VNB as a key performance indicator.

Adjusted Solvency II VNB reflects Solvency II assumptions and allowance for risk and is defined as the increase in Solvency II Own Funds resulting from business written in the period, adjusted to:

- Include business in MCEV VNB which is not included in the Solvency II Best Estimate liability (BEL) valuation (e.g. UK and Asia Healthcare business, Retail fund management business and the UK Equity release business);
- Remove the impact of contract boundaries; and
- Include look through profits in service companies (where not included in Solvency II).

A reconciliation between MCEV VNB, adjusted Solvency II VNB, Solvency II Own Funds impact of new business and Solvency II surplus impact of new business is provided below. This is the first time this information has been calculated and no prior period comparatives are available for 2015.

2016	UK & Ireland £m	Europe £m	Asia & Other £m	Group £m
MCEV VNB (gross of tax and non-controlling interests)	**695**	**480**	**177**	**1,352**
Remove MCEV CNHR/frictional costs[4]	74	59	29	162
Include Solvency II risk margin	(309)	(120)	(45)	(474)
Total risk adjustments	(235)	(61)	(16)	(312)
Difference in economic assumptions	(19)	(2)	(27)	(48)
Adjusted Solvency II VNB (gross of tax and non-controlling interests)	**441**	**417**	**134**	**992**
Allowance for Solvency II contract boundary rules	51	(55)	(9)	(13)
Differences due to change in business in scope between MCEV and Solvency II	(131)	(41)	(51)	(223)
Tax & Other[5]	(78)	(146)	(13)	(237)
Solvency II Own Funds impact of new business (net of tax and non-controlling interests)	**283**	**175**	**61**	**519**

1 The principal methodologies and assumptions underlying the calculation of VNB (on a MCEV basis) are set out in section E1 and E14 respectively.
2 UK Life VNB includes £3 million relating to the internal transfer of annuities from a with-profits fund to a non-profit fund during the second half of 2016.
3 The trend analysis of VNB and present value of new business premiums (PVNBP) is included in the financial supplement, section E: VNB & sales analysis.
4 CNHR is the Cost of Non-Hedgeable Risks.
5 Other includes the impact of look through profits in service companies (where not included in Solvency II) and the reduction in value when moving to a net of non-controlling interests basis.

The life new business written during the year has increased the Solvency II Capital Requirement by £0.7 billion, split £0.4 billion for UK & Ireland, £0.3 billion for Europe and £nil for Asia & Other business. This has resulted in a reduction in Solvency II Surplus from life new business of £0.2 billion, split £0.1 billion for UK & Ireland, £0.1 billion for Europe and £nil for Asia & Other business. Solvency II Surplus impact of new business is set out in section 2.iii Life business Solvency II Operating Capital Generation impact of new business.

5 – General insurance combined operating ratio (COR)[1]

	Net written premiums 2016 £m	Net written premiums 2015 £m	Claims ratio[4] 2016 %	Claims ratio[4] 2015 %	Commission and expense ratio[5] 2016 %	Commission and expense ratio[5] 2015 %	Combined operating ratio[6] 2016 %	Combined operating ratio[6] 2015 %
United Kingdom[2,3]	**3,930**	3,685	**73.8**	64.7	**33.9**	30.4	**107.7**	95.1
Ireland	**378**	282	**63.3**	67.9	**27.9**	26.7	**91.2**	94.6
United Kingdom & Ireland	**4,308**	3,967	**73.0**	64.9	**33.3**	30.1	**106.3**	95.0
Europe	**1,438**	1,200	**66.7**	66.2	**29.1**	29.2	**95.8**	95.4
Canada	**2,453**	1,992	**63.5**	63.3	**31.1**	30.5	**94.6**	93.8
Asia[7]	**12**	12	**72.0**	62.6	**40.9**	39.0	**112.9**	101.6
Total[3,7]	**8,211**	7,171	**69.2**	64.5	**31.9**	30.1	**101.1**	94.6

1 Please refer to '7ii – General insurance and health' for further analysis of the components of COR
2 United Kingdom excluding Aviva Re and agencies in run-off.
3 Excludes the impact from an outward quota share reinsurance agreement written in 2015 and completed in 2016 in Aviva Insurance Limited (AIL). See note A10 for further details.
4 Claims ratio: incurred claims expressed as a percentage of net earned premiums.
5 Commission and expense ratio: written commissions and expenses expressed as a percentage of net written premiums.
6 Combined operating ratio: aggregate of claims ratio and commission and expense ratio.
7 Includes Aviva Re net written premiums.

Group COR for the period was 101.1% *(2015: 94.6%)*, of which the claims ratio was 69.2% *(2015: 64.5%)* and the commission and expense ratio was 31.9% (*2015: 30.1%*).

In 2016, excluding the impact of the change in the Ogden discount rate which had an impact of 5.9pp, the claims ratio decreased by 1.2pp, thanks to better weather experience compared to the long-term average (0.8pp) and claim costs savings initiatives across all major general insurance markets.

The increase in the Group's commission and expense ratio was mainly attributable to the UK, due to commission strain from the new HomeServe partnership agreement (0.8pp) and the Flood Re levy (0.3pp). Canada's commission and expense ratio increased due to investment in technology and internalising certain claims expenses.

We continue to apply our reserving policy consistently and to focus on understanding the 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 2016, excluding the impact of the change in the Ogden discount rate, we had continued prior year releases in our general insurance and health business of £247 million *(2015: £236 million)* which had a beneficial impact of 2.9pp *(2015: 3.2pp)*.

Normalised accident year combined operating ratio (COR)

	UK & Ireland[1] 2016 %	UK & Ireland[1] 2015 %	Europe 2016 %	Europe 2015 %	Canada 2016 %	Canada 2015 %	Total 2016 %	Total 2015 %
Normalised accident year claims discount ratio[2]	**66.0**	67.1	**68.6**	69.0	**68.2**	68.4	**67.1**	67.8
Impact of change in Ogden discount rate	**11.4**	—	**—**	—	**—**	—	**5.9**	—
Prior year reserve release[3]	**(2.1)**	(2.4)	**(2.5)**	(2.7)	**(5.4)**	(4.4)	**(2.9)**	(3.2)
Weather over/(under) long term average[4]	**(2.3)**	0.2	**0.6**	(0.1)	**0.7**	(0.7)	**(0.9)**	(0.1)
Claims ratio	**73.0**	64.9	**66.7**	66.2	**63.5**	63.3	**69.2**	64.5
Commission and expense ratio[5]	**33.3**	30.1	**29.1**	29.2	**31.1**	30.5	**31.9**	30.1
Normalised accident year combined operating ratio[6]	**99.3**	97.2	**97.7**	98.2	**99.3**	98.9	**99.0**	97.9
Combined operating ratio	**106.3**	95.0	**95.8**	95.4	**94.6**	93.8	**101.1**	94.6

1 Excludes the one-off impact from an outward quota share reinsurance agreement written in 2015 in Aviva Insurance Limited (AIL). See note A10 for further details.
2 Normalised accident year claims ratio represents the claims ratio adjusted to exclude the impact of the change in the Ogden discount rate, prior year claims development and weather variations vs. expectations, gross of the impact of profit sharing arrangements.
3 Prior year reserve 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.
6 Normalised accident year combined operating ratio represents the combined operating ratio adjusted to exclude the impact of the change in the Ogden discount rate, prior year claims development and weather variations vs. expectations, gross of the impact of profit sharing arrangements.

Group normalised accident year COR for the period deteriorated by 1.1pp to 99.0% *(2015: 97.9%)* driven by the impact of the commission strain from HomeServe and the new Flood Re Levy. The remaining increase in the commission and expense ratio was offset by a lower normalised accident year claims ratio. Group normalised accident year claims ratio for the period improved by 0.7pp to 67.1% *(2015: 67.8%)* driven primarily by portfolio rebalancing in the UK, pricing actions and improved underwriting discipline in Europe and claims cost saving initiatives in both Canada and the UK.

6.i – United Kingdom & Ireland Life

	2016 £m	2015 £m	Sterling % change
Life operating profit (restated)[1]	**1,555**	1,455	7%
Cash remitted to Group[2]	**1,096**	667	64%
Expenses			
Operating expenses	**867**	815	6%
Integration and restructuring costs	**119**	215	(45)%
	986	1,030	(4)%
Value of new business: MCEV basis	**695**	625	11%

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
2 Cash remittances include amounts of £100 million received from UK & Ireland Life in February 2017 in respect of 2016 activity.

2016 overview

Despite heightened political uncertainty during the year, our strong franchises across long term savings, protection and retirement have increased new business production, with value of new business up 11% to £695 million *(2015: £625 million)*. Together with cost savings arising from the realisation of integration synergies and an additional quarter of profit contribution from Friends Life, this underpinned growth in operating profit. The Friends Life integration synergy target has been exceeded and delivered one year ahead of the original plan while the first £250 million of the targeted £1 billion of special remittances was paid.

Operating and financial performance

Operating profit

UK & Ireland Life operating profit for 2016 increased to £1,555 million *(2015: £1,455 million)*. In the UK, operating profit increased to £1,523 million *(2015: £1,431 million)*. Together, our four major business segments delivered growth in operating profit, more than offsetting the reduction in operating profit from Other. Operating profit benefitted from an additional quarter contribution from Friends Life, integration synergies, and growth in long term savings assets and individual annuity and protection sales. This was partly offset by lower bulk purchase annuity (BPA) volumes and continued investment in digital. Ireland operating profit increased to £32 million *(2015: £24 million)*, as we continue to grow market share.

Life Operating Profit[1]			2016				2015
	New Business[2]	Existing Business	Total £m	New Business[2]	Existing Business	Total £m	Sterling % change
Long term savings[3]	**(77)**	**219**	**142**	(79)	181	102	39%
Annuities & equity release	**305**	**351**	**656**	292	227	519	26%
Protection	**118**	**124**	**242**	70	89	159	52%
Legacy[4]	**—**	**332**	**332**	—	341	341	(3)%
Other[5]	**—**	**151**	**151**	—	310	310	(51)%
UK Life	**346**	**1,177**	**1,523**	283	1,148	1,431	6%
Ireland Life			**32**			24	33%
Total			**1,555**			1,455	7%

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
2 New business represents the income earned on new business written during the period reflecting premiums less initial reserves and initial expenses (including commission) less deferred costs along with any changes to existing contracts, which were not anticipated at the outset of the contract that generates additional shareholder risk.
3 Includes pensions and the advisor and consumer Platforms.
4 Products no longer actively marketed, including with-profits and Bonds.
5 Other represents changes in assumptions and modelling, other non-recurring product specific items, and non product specific items.

Long Term Savings

Long term savings generated £142 million of operating profit in 2016 *(2015: £102 million)* comprising £219 million from existing business net of £77 million of expenses pertaining to new business. The increase compared to 2015 reflected an additional quarter of Friends Life, integration synergies and an increase in managed assets. Net fund flows were £2.9 billion driven by performance from our platform (£3.9 billion) and workplace pensions (£2.0 billion) partially offset by net outflows from individual pensions. Total assets under administration in long term savings increased 19% to £105 billion *(2015: £88 billion)* due to net flows and positive investment market movements.

Annuities and Equity Release

Annuities and Equity Release generated £656 million of operating profit in 2016 *(2015: £519 million)* comprising £351 million from the existing business and £305 million from new business. The growth in new business was driven by individual annuities, where sales increased 19% to £1,197 million, excluding the impact of an additional quarter of Friends Life. This was offset by BPAs, where sales declined to £620 million *(2015: £2,034 million)* and equity release, where sales declined to £637 million *(2015: £699 million)*. We remain a major player at the smaller end of the BPA market, where volumes suffered as a result of low bond yields and Brexit uncertainty. We responded by maintaining our pricing discipline, only writing schemes that met our target return on capital. Operating profit from the existing business included an £80 million benefit from increased spread margins (which is expected to recur) following a refinement in expected cost of credit defaults. We have also begun to optimise our asset mix, increasing our investment in illiquid assets which has resulted in a £50 million benefit in 2016.

6.i – United Kingdom and Ireland Life continued

Protection

Protection generated £242 million of operating profit in 2016 *(2015: £159 million)* including £124 million from the existing business *(2015: £89 million)* and £118 million from new business *(2015: £70 million)*. Operating profit benefitted from an additional quarter of Friends Life, solid growth in individual protection sales and integration synergies from migrating both books onto a new digital platform.

Legacy

Legacy contributed £332 million of operating profit *(2015: £341 million)* benefitting from an additional quarter of Friends Life, offset by the expected run off of the business and an increase in liabilities of £77 million reflecting a move to bring consistency of approach in Friends Life entities.

Other

Other of £151 million in 2016 includes longevity assumption change benefits of £153 million for the move from CMI13 to CMI15 and a £130 million benefit from the expected impact of the enhanced annuity market on the in-force book, partly offset by economic capital optimisation activity, including hedging, of £51 million, along with various other reserve and modelling movements. 2015 mainly related to a £259 million benefit from expense reserve releases following actions taken to reduce the current and future cost.

Cash

Cash remittances to Group increased 64% in 2016 to £1,096 million. The 2016 payment includes £250 million, the first instalment of the targeted £1 billion Friends Life integration additional remittance.

Expenses

Operating expenses increased 6% to £867 million *(2015: £815 million)*. UK Life operating expenses increased to £827 million *(2015: £788 million)* due to the inclusion of an additional quarter of Friends Life costs in 2016. Excluding this impact, operating expenses declined by £93 million, of which realisation of Friends Life synergies contributed £83 million *(2015: £73 million)*. Ireland operating expenses increased to £40 million *(2015: £27 million)*, an increase of £10 million on a constant currency basis as the business continues to focus on growth. Integration and restructuring expenses reduced by 45% to £119 million due to lower integration spend on the Friends Life acquisition and lower Solvency II costs.

Value of new business: MCEV Basis (VNB)

	2016 £m	2015 £m	Sterling % change
UK Life[1]			
Long term savings	**138**	97	42%
Annuities and equity release	**314**	330	(5)%
Protection	**189**	156	21%
Health & Other	**30**	26	15%
	671	609	10%
Ireland Life	**24**	16	50%
Total	**695**	625	11%

1 UK Life VNB includes £3 million relating to the internal transfer of annuities from a with-profits fund to a non-profit fund during the second half of 2016.

UK & Ireland Life VNB increased to £695 million *(2015: £625 million)*. UK Life VNB increased to £671 million *(2015: £609 million)*. Long term savings VNB increased to £138 million *(2015: £97 million)*, driven by an increase in contributions from the advisor platform, new workplace pension schemes and the benefit of integration synergies. The reduction in annuities and equity release VNB to £314 million *(2015: £330 million)* is due to lower bulk annuity volumes partially offset by increased individual annuity volumes following pension freedoms. Protection VNB increased to £189 million *(2015: £156 million)*, benefitting from an additional quarter of Friends Life, synergy savings as we migrated to our new digital platform, and the launch of new products with an increased contribution from the direct channel. Ireland VNB increased 50% to £24 million *(2015: £16 million)*, with increases in volumes and margins across most product lines.

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

	2016 £m	2015 £m	Sterling % change
Operating profit[1]	**471**	430	10%
Cash remitted to Group[2]	**91**	358	(75)%
Expenses			
Operating expenses	**665**	697	(5)%
Integration and restructuring costs	**15**	26	(42)%
	680	723	(6)%
Combined operating ratio[1,3]	**106.3%**	95.0%	11.3pp
Combined operating ratio excluding impact of change in Ogden discount rate[1,3]	**94.9%**	95.0%	(0.1)pp
General insurance net written premiums[1]	**4,308**	3,967	9%

1 2016 excludes the impact of the change in the Ogden discount rate of £475 million, which has been recognised as an exceptional non-operating item. 2016 and 2015 exclude the impact from an outward quota share reinsurance agreement written in 2015 and completed in 2016 in Aviva Insurance Limited (AIL). See note A10 for further details.
2 Cash remittances include amounts of £83 million received from UK & Ireland General Insurance in February 2017 in respect of 2016 activity and £351 million received in February 2016 in respect of 2015 activity.
3 General insurance business only.

2016 overview

The 2016 UK general insurance underwriting result, which excludes the impact of the change in the Ogden discount rate, was the best for ten years, as we developed our core pricing, underwriting and claims management capabilities. The 2016 results also include more benign weather after the floods of December 2015.

Improvement in our performance was also reflected in premium growth, as we incorporated new partnerships with HomeServe and TSB, as well as expansion of our Digital offering, while further benefitting from our continued focus on cost control despite the impact of the new Flood Re levy. Ireland's growth in profitability due to strong rate increases and improved underlying performance enables us to continue to invest in growing the business.

The impact of the change in the Ogden discount rate is the main driver of the deterioration in combined operating ratio. We have separately disclosed the impact of this to combined operating ratio.

Operating and financial performance

Operating profit[1]

United Kingdom and Ireland	2016 £m	2015 £m	Sterling % change
General insurance			
Underwriting result	**259**	163	59%
Longer-term investment return	**176**	236	(25)%
Other	**(2)**	(1)	(100)%
	433	398	9%
Health			
Underwriting result	**35**	27	30%
Longer-term investment return	**3**	5	(40)%
	38	32	19%
General insurance & health operating profit	**471**	430	10%

1 2016 excludes the impact of the change in the Ogden discount rate of £475 million, which has been recognised as an exceptional non-operating item. 2016 and 2015 exclude the impact from an outward quota share reinsurance agreement written in 2015 and completed in 2016 in Aviva Insurance Limited (AIL). See note A10 for further details.

UK & Ireland general insurance and health operating profit increased by 10% to £471 million. The general insurance underwriting result increased 59% to £259 million *(2015: £163 million)* with lower weather claims in 2016 compared to the December 2015 floods and an improvement in underlying performance, from our continued focus on portfolio rebalancing and cost initiatives.

UK & Ireland general insurance longer-term investment return declined by £60 million to £176 million *(2015: £236 million)*, of which £46 million is due to the impact of the reduction in the internal loan (Group net neutral) and £10 million due to a reduction in assets through the completion of an outwards reinsurance contract in 2015 for £0.7 billion of latent exposures. Excluding the internal loan impact, the UK & Ireland general insurance operating profit was up 23% to £471 million.

Cash

Total cash remitted to Group was £91 million *(2015: £358 million)*, as cash was used to fund an increase in the internal reinsurance arrangement.

Expenses

UK & Ireland general insurance and health expenses were lower at £680 million (*2015: £723 million*), reflecting the continued focus on cost control in the UK and a reduction in integration and restructuring costs, partly offset by the new 2016 Flood Re Levy costs (£23 million) and continued investment to grow the Ireland general insurance business.

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

United Kingdom and Ireland General insurance[1]	Net written premiums 2016 £m	2015 £m	Sterling % change	Combined operating ratio 2016 %	2015 %	Change
Personal Motor	**1,076**	1,062	1%			
Personal Home and Specialty	**1,332**	1,106	20%			
UK Personal Lines	**2,408**	2,168	11%	**94.6%**	94.5%	0.1pp
Commercial Motor	**538**	542	(1)%			
Commercial Home and Specialty	**984**	975	1%			
UK commercial Lines	**1,522**	1,517	—	**96.2%**	95.8%	0.4pp
UK general insurance excluding impact of change in Ogden discount rate	**3,930**	3,685	7%	**95.3%**	95.1%	0.2pp
Impact of change in Ogden discount rate	**—**	—	—	**12.4%**	—	12.4pp
UK general insurance	**3,930**	3,685	7%	**107.7%**	95.1%	12.6pp
Ireland general insurance	**378**	282	34%	**91.2%**	94.6%	(3.4)pp
Total	**4,308**	3,967	9%	**106.3%**	95.0%	11.3pp

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

General insurance net written premiums

UK & Ireland general insurance net written premiums increased 9%. In the UK, premiums were up 7%, our highest growth in 11 years, with Personal Lines premiums up including the benefit from the HomeServe deal and Commercial Lines premiums stable.

UK Personal Motor was up slightly, with volumes stable as retention remained broadly flat. New business rating is marginally ahead of market, and we have benefitted from increases in the Digital channel while we remediated our Broker book. This rebalancing is reflected with lower average premiums across motor as we improve our risk mix.

UK Personal Home and Specialty grew 20%, driven by the impact of the new HomeServe deal on Specialty lines, while Home declined slightly due to lower levels of new business activity.

UK Commercial was flat, reflecting rating action in the Motor book, and selective growth and exits across the book in continued soft market conditions.

Ireland saw a 34% growth (19% in constant currency), driven by increases in both Personal Motor and Commercial, reflecting continued rating and account improvement actions.

General insurance combined operating ratio (COR)

UK & Ireland COR was 106.3% (*2015: 95.0%*). Once adjusted for the impact of the change in the Ogden discount rate, which added 11.4pp, COR was also affected by UK Flood Re Levy (0.4pp) and commission strain from the new HomeServe partnership (1.2pp), which will have fully earned through by HY17. Excluding these impacts, UK & Ireland general insurance COR was 1.7pp better, reflecting lower absolute weather costs and improvements in underlying underwriting performance from portfolio rebalancing, claims initiatives and efficiency savings.

UK Personal Lines COR increased to 104.6%. Excluding the impact of Ogden, UK Personal Lines COR was stable at 94.6%. Growth in Digital and targeted remediation and higher prior year releases in Broker business were offset by the impact of HomeServe and Flood Re.

UK Commercial Lines COR was 112.3%. Excluding the impact of Ogden, the UK Commercial Lines COR is marginally higher than prior year at 96.2%, due to lower prior year releases, and the impact of a continued soft rate environment, offset by favourable weather experience (2015 December floods and storms).

Ireland COR of 91.2% was 3.4pp better, reflecting a lower claims ratio and improvement in the expense ratio, due to rate increases and improvement in underlying claims following management actions.

6.iii – Europe[1]

	2016 £m	2015 £m	Sterling % change	Constant currency %
Operating profit				
Life	**844**	766	10%	(2)%
General insurance & health	**120**	114	5%	(6)%
	964	880	10%	(3)%
Cash remitted to Group[2]	**449**	431	4%	—
Expenses				
Operating expenses	**641**	526	22%	8%
Integration and restructuring costs	**9**	22	(59)%	(64)%
	650	548	19%	5%
Value of new business: MCEV basis	**480**	400	20%	7%
Combined operating ratio[3]	**95.8%**	95.4%	0.4pp	0.4pp
Net written premiums (General insurance and health)	**1,673**	1,410	19%	5%

1 Our European business includes life and general insurance business written in France, Poland and Italy, life business in Spain and Turkey and health business in France.
2 Cash remittances include amounts of £159 million received from Europe in January 2017 in respect of 2016 activity.
3 General insurance business only.

2016 overview

Our European businesses have shown resilient performance during 2016 due to actions taken during the year resulting in an increase in operating profit of 24% in the second half of 2016 when compared with the first. Italy has produced significant profit and volume growth which have offset headwinds impacting primarily our French and Polish businesses. We have seen increased volatility in financial markets, persistently low interest rates and regulatory changes which have negatively impacted a number of our metrics.

Despite this, we reported year on year growth, with VNB and NWP increasing by 20% and 19% respectively, and broadly stable levels of operating profit and cash remitted to Group, reflecting the strength and diversity of our European franchise. The business has benefitted from foreign exchange movements following the strengthening of the euro and Polish zloty by 15% and 7% respectively against sterling.

All percentage movements below are quoted in constant currency unless otherwise stated.

Operating and financial performance

Operating profit

	Life				General insurance & health			
	2016 £m	2015 £m	Sterling % change	Constant currency %	2016 £m	2015 £m	Sterling % change	Constant currency %
France	**429**	395	9%	(4)%	**70**	71	(1)%	(14)%
Poland	**132**	129	2%	(6)%	**8**	10	(20)%	(27)%
Italy	**170**	139	22%	8%	**42**	33	27%	14%
Spain	**107**	92	16%	3%	**—**	—	—	—
Turkey	**6**	11	(45)%	(45)%	**—**	—	—	—
Total	**844**	766	10%	(2)%	**120**	114	5%	(6)%

Life operating profit was £844 million *(2015: £766 million)* and decreased marginally on a constant currency basis. Italy operating profit increased to £170 million *(2015: £139 million)*, up 8% reflecting portfolio growth and margin improvements across all products. France operating profit was £429 million *(2015: £395 million*) with growth in protection and with-profits offset by lower unit-linked asset management charges due to adverse market movements. Expenses in France increased during the period as we invested and reorganised the business. Poland operating profit of £132 million *(2015: £129 million)* reduced by 6% as a result of a new asset levy effective from 1 February 2016 and adverse equity market movements impacting asset management charges offsetting portfolio growth. Spain operating profit increased 3% to £107 million *(2015: £92 million*), mainly due to the positive performance of protection margin resulting from significant improvements in the claims ratio. Operating profit in Turkey decreased to £6 million *(2015: £11 million*) due to market turbulence.

General insurance and health operating profit decreased by 6% to £120 million. This was mainly driven by France operating profit of £70 million *(2015: £71 million*), a 14% decrease primarily due to weather events in the first half of the year. Operating profit in Italy improved to £42 million, up 14% *(2015: £33 million*) with underwriting improvements offsetting lower investment results. In Poland, operating profit decreased to £8 million *(2015: £10 million)* mostly due to commercial large losses early in the year and increased motor claim frequencies.

Cash

Remittances to Group during the period amounted to £449 million *(2015: £431 million*). France remitted £163 million in the second half of the year. Poland's remittances of £176 million *(2015: £81 million*) increased as a result of a legal entity restructuring deferring the timing of remittances from 2015 into 2016.

6.iii – Europe continued

Expenses

Operating expenses were £641 million *(2015: £526 million)*, up 8%. In France, expenses increased due to investment required for growing and reorganising the business. In Poland, expenses increased due to the impact of the asset levy and additional expense from the acquisition of the Expander distribution network in July 2015. Italy's expenses increased due to investment supporting business growth. Integration and restructuring costs decreased to £9 million *(2015: £22 million)*.

Value of new business: MCEV basis (VNB)

	2016 £m	2015 £m	Sterling % change[1]	Constant currency % change[1]
France	**224**	198	13%	—
Poland	**65**	65	(1)%	(9)%
Italy	**124**	79	58%	39%
Spain	**42**	31	33%	18%
Turkey	**25**	27	(7)%	(9)%
Total	**480**	400	20%	7%

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

VNB increased by 7% largely driven by a strong performance in Italy. VNB in Italy was up by 39% as a result of growth in all product lines, including over 30% growth in sales of unit-linked versus a market that contracted by over 30%. VNB in France was flat as higher protection and with-profits sales were offset by lower unit-linked volumes as a result of reduced customer's appetite for equity linked products. In Poland, VNB decreased by 9% mainly as a result of a new asset levy impacting banks and insurance companies and lower unit-linked volumes following regulatory changes impacting distribution, partly offset by increased sales of protection business. Spain VNB increased by 18%, reflecting mix improvements within protection business and sales of unit-linked products in the fourth quarter, partly offset by the adverse impact of lower interest rates. Turkey's VNB decreased by 9% as a result of market volatility and uncertainty on the pension reforms resulting in lower investment levels.

	Net written premiums[1]				**Combined operating ratio[1]**		
	2016 £m	2015 £m	Sterling % change	Constant currency %	**2016 £m**	2015 £m	Change
France	**957**	804	19%	5%	**96.9%**	95.7%	1.2pp
Poland	**86**	66	30%	19%	**96.1%**	94.7%	1.4pp
Italy	**395**	330	20%	6%	**92.7%**	94.3%	(1.6)pp
Total	**1,438**	1,200	20%	6%	**95.8%**	95.4%	0.4pp

1 General insurance business only

Net written premiums

General insurance net written premiums of £1,438 million have increased by 6% with growth in all our markets. In France, general insurance net written premiums were £957 million *(2015: £804 million)*, an increase of 5% reflecting rating actions and volume growth in SME and commercial. Italy's net written premiums grew by 6% to £395 million *(2015: £330 million)*, despite a shrinking market. In Poland, our net written premiums increased by 19% to £86 million *(2015: £66 million)* driven by rating actions in our motor book.

Combined operating ratio

The European combined operating ratio has marginally increased to 95.8% *(2015: 95.4%)*. Our claims ratio has increased by 0.5pp to 66.7% *(2015: 66.2%)* as a result of weather events in France. Our pricing actions across the markets, notably in Poland, and underwriting discipline when selecting risks have helped us mitigate adverse market conditions in both Italy and Poland. Our commission and expense ratio has improved by 0.1pp to 29.1% *(2015: 29.2%)* primarily as a result of the benefits from our cost saving initiatives.

6.iv – Canada

	2016 £m	2015 £m	Sterling % change	Constant currency %
General Insurance operating profit	**269**	214	26%	16%
Cash remitted to Group	**130**	6	—	—
Expenses				
Operating expenses	**396**	298	33%	23%
Integration and restructuring costs	**18**	7	157%	157%
	414	305	36%	25%
Combined operating ratio	**94.6%**	93.8%	0.8pp	0.8pp
Net written premiums	**2,453**	1,992	23%	14%

2016 overview

In 2016, we completed the acquisition of the RBC General Insurance Company (RBC), assisted our customers affected by the Alberta wildfires, the largest Canadian insured event in history, and opened our Digital Garage in Toronto to spearhead innovation. Operating profit of £269 million *(2015: £214 million)* is the highest on record for this business.

Difficult economic conditions, particularly in Western Canada, have led to reduced growth in premium of 2% excluding the impact of the RBC acquisition. Following the RBC transaction, our market share has increased to c.10.6% and our products are now available to a broader range of customers.

Operating and financial performance

Operating profit

	2016 £m	2015 £m	Sterling % change	Constant currency %
Underwriting result	**168**	120	40%	29%
Longer-term investment return	**105**	98	7%	(1)%
Other[1]	**(4)**	(4)	—	—
Total	**269**	214	26%	16%

1 Includes unwind of discount and pension scheme net finance costs

Operating profit was £269 million *(2015: £214 million),* and increased 16% on a constant currency basis mainly due to the acquisition of RBC, partially offset by increased catastrophe experience. Prior year development contributed £130 million *(2015: £87 million)* to profit, driven by lower ultimate losses in Ontario auto following government actions to bring down the cost of insurance for consumers, while net catastrophe losses were £49 million higher in the year.

Cash

Net cash remittances during the period were £130 million *(2015: £6 million)*. Cash generated in 2015 was largely retained to part fund the RBC acquisition.

Expenses

Operating expenses increased to £396 million *(2015: £298 million)* and integration and restructuring costs increased to £18 million *(2015: £7 million)* mainly driven by the RBC acquisition and the impact of foreign exchange movements.

Net written premiums

	Net written premiums				Combined operating ratio		
	2016 £m	2015 £m	Sterling % change	Constant currency %	2016 £m	2015 £m	Change
Personal Lines	**1,680**	1,282	31%	21%	**95.7%**	94.6%	1.1pp
Commercial Lines	**773**	710	9%	1%	**92.4%**	92.5%	(0.1)pp
Total	**2,453**	1,992	23%	14%	**94.6%**	93.8%	0.8pp

Net written premiums were £2,453 million *(2015: £1,992 million)*, up 14% excluding the impact of foreign exchange rate movements, mostly due to the RBC acquisition. Net written premiums increased 2% in constant currency, excluding RBC.

Combined operating ratio

The combined operating ratio was 94.6% *(2015: 93.8%)*, driven by a higher claims ratio mainly due to increased catastrophe experience. The commission and expense ratio increased by 0.6pp in part due to investment in technology and internalising certain claims expenses. This latter factor benefitted the claims ratio.

6.v – Asia

	2016 £m	2015 £m	Sterling % change	Constant currency %
Operating profit				
Life	**241**	244	(1)%	(5)%
General insurance & health	**(13)**	(6)	(117)%	(106)%
	228	238	(4)%	(8)%
Cash remitted to Group	**—**	21	(100)%	(100)%
Expenses				
Operating expenses	**177**	141	26%	16%
Integration and restructuring costs	**17**	7	143%	140%
	194	148	31%	21%
Value of new business: MCEV basis	**148**	151	(2)%	(11)%
Combined operating ratio[1]	**112.9%**	101.6%	11.3pp	11.3pp
Net written premiums[1]	**11**	12	(8)%	(15)%

1 General insurance business only.

2016 overview

The discontinuation of the bancassurance agreement with DBS Bank Ltd (DBS) and our focus on investment in distribution, digital and analytics capabilities to support future growth in Asia has led to a challenging year in 2016. This has been partially offset by the strengthening of Asia's existing distribution platforms, particularly Aviva Financial Advisers in Singapore which was launched in August 2016 and also the strengthening of the agency and broker channels in China.

All percentage movements below are quoted in constant currency unless otherwise stated.

Operating and financial performance

Operating profit

	2016 £m	2015 £m	Sterling % change	Constant currency %
Life operating profit				
Singapore	**112**	94	19%	5%
FPI[1]	**140**	151	(7)%	(8)%
Other Asia	**(11)**	(1)	—	—
	241	244	(1)%	(5)%
General insurance & health operating profit	**(13)**	(6)	(117)%	(106)%
Total operating profit	**228**	238	(4)%	(8)%

1 Friends Provident International Limited (FPI) was acquired in April 2015 and contributed 9 months of performance in 2015.

Operating profit from life and general insurance and health businesses was £228 million *(2015: £238 million*), a decrease of 8%. Life operating profit decreased 5% to £241 million *(2015: £244 million*) impacted by the discontinuance of the bancassurance agreement with DBS (£15 million), continuous investment in distribution and infrastructure in the region and the one-off benefit of an internal reinsurance transaction in FPI in the prior year (Group net neutral). This was partly offset by a recovery of indirect taxes paid in Singapore. The contribution from FPI post amortisation of acquired value of in-force business was a loss of £2 million *(2015: profit of £15 million)*.

The general insurance and health business reported a £13 million loss *(2015: £6 million loss*), as a result of higher claims experience from the Singapore Health business.

Cash

No dividends were remitted to Group during the financial year *(2015: £21 million*) as we continue to reallocate capital to support initiatives in the region.

Expenses

Expenses were up 21% to £194 million *(2015: £148 million)* reflecting the additional quarter of operating expenses and integration costs for FPI; and investments to support business growth across Asia.

Value of new business: MCEV basis (VNB)

	2016 £m	2015 £m	Sterling % change[1]	Constant currency % change[1]
Singapore	**104**	103	1%	(10)%
FPI	**5**	5	5%	5%
Other Asia	**39**	43	(10)%	(15)%
Total	**148**	151	(2)%	(11)%

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

VNB declined 11% to £148 million *(2015: £151 million)* impacted by the discontinuance of the bancassurance agreement with DBS, partly offset by growth in the sales from Singapore's core financial advisory channel. VNB movement in other Asia markets fell due to the adverse impact of lower sales and higher expense overrun.

Combined operating ratio

Net written premiums for general insurance business were down 15% due to the continued softening of motor insurance market premium rates. As general insurance operating expenses remained broadly flat, this resulted in a higher combined operating ratio of 112.9% *(2015: 101.6%)*.

6.vi – Aviva Investors

	2016 £m	2015 £m	Sterling % change
Revenue: Fee income	**506**	450	12%
Expenses			
Operating expenses	**367**	345	6%
Integration and restructuring costs	**19**	11	73%
	386	356	8%
Operating profit			
Fund management	**139**	105	32%
Other operations	**19**	—	—
	158	105	50%
Cash remitted to Group	**39**	24	63%
Value of new business: MCEV basis	**29**	16	81%

2016 overview

Fund management operating profit has increased by 32% to £139 million in 2016 despite turbulent markets. Operating profit margin has increased by 4pp to 27% *(2015: 23%)* as a result of the progress made in externalising the business and developing higher value outcome oriented propositions for our clients, continuing cost control and improved operational efficiency.

Operating and financial performance

Revenue

Revenue has increased by 12% to £506 million due to positive external flows into higher value added products and a change in pricing by Aviva Investors to manage funds on behalf of other Aviva entities. Aviva Investors Multi-Strategy (AIMS) assets under management have continued to grow to £9.0 billion *(2015: £3.0 billion)*. Working closely with UK Life, origination of infrastructure assets has increased by 16% to £3.3 billion. External clients contributed to generating 32% of total revenue.

Expenses

Operating expenses in Aviva Investors were £367 million *(2015: £345 million)* reflecting investment to support the growth and further development of the business. Integration and restructuring costs were £19 million *(2015: £11 million)* largely relating to the Friends Life integration.

Operating profit

Fund management operating profit increased by £34 million in 2016 to £139 million *(2015: £105 million)*. The growth in operating profit is driven by a £56 million increase in revenue due to positive external net flows and the transfer to Aviva Investors of a further £14 billion of Friends Life assets during 2016, taking the total Friends Life assets on boarded to £59 billion, and the change in pricing charges by Aviva Investors to manage funds on behalf of other Aviva entities. Cost increases have been controlled as we invest to grow the business.

Other operations comprise £19 million operating profit relating to insurance recoveries. Of this, £16 million was from the Group's internal reinsurer which therefore has a neutral effect on overall Group operating profit.

Cash

Dividends and interest paid from the business to Group increased by 63% to £39 million *(2015: £24 million).*

Value of new business: MCEV basis

Value of new business in Aviva Investors increased by 81% to £29 million *(2015: £16 million)* driven by higher sales in the AIMS fund range.

Net flows and assets under management – Aviva Investors[1]

	Internal Legacy[2] £m	Internal Core £m	External £m	Total £m
Aviva Investors				
Assets under management at 1 January 2016	81,239	164,935	43,736	289,910
Total Inflows	3,501	19,750	9,393	32,644
Total Outflows	(9,048)	(16,050)	(6,519)	(31,617)
Net Flows	(5,547)	3,700	2,874	1,027
Net Flows into Liquidity Funds	4	8,331	(337)	7,998
Friends Life asset transfers	11,434	2,606	—	14,040
Market and foreign exchange movements[3]	10,160	11,095	10,288	31,543
Assets under management at 31 December 2016	**97,290**	**190,667**	**56,561**	**344,518**

1 Assets under management represents all assets managed by Aviva Investors. These comprise Aviva (internal) assets which are included within the Group's statement of financial position and those belonging to external clients outside the Aviva Group which are therefore not included in the Group's statement of financial position. These assets under management exclude those funds that are managed by third parties.
2 Assets managed by Aviva Investors on behalf of internal Aviva Clients relating to products that are no longer actively marketed.
3 Within the market and foreign exchange movements number is a £4.1 billion reclassification from internal core assets under management to external assets under management.

Aviva Investors assets under management increased by £55 billion to £345 billion *(2015: £290 billion)* over the year with net external inflows of £2.9 billion *(2015: £(0.3) billion)* and £14.0 billion of further Friends Life assets transferred to Aviva Investors in 2016. Internal Core net inflows were £3.7 billion while net outflows on the rest of the internal book were £5.5 billion. Net flows into liquidity funds were £8 billion. The remaining increase of £32 billion comprised favourable market movements of £19 billion and favourable foreign exchange rate movements of £13 billion.

7.i – Life business profit drivers

Life business operating profit before shareholder tax increased by 8% to £2,642 million *(2015: £2,442 million)*, up 4% on a constant currency basis, mainly due to the benefit of an additional quarter's contribution from Friends Life.

Overall, total income increased by 15% to £4,522 million *(2015: £3,944 million)* and total expenses increased by 12% to £2,096 million *(2015: £1,866 million)*. This increase in net income of £348 million was partly offset by a lower benefit from DAC and other items to give a total increase in life operating profit of £200 million for the year including a positive foreign exchange impact of £108 million largely driven by the strengthening of the euro against sterling.

	United Kingdom & Ireland		Europe		Asia		Total	
	2016 £m	Restated[1] 2015 £m	2016 £m	2015 £m	2016 £m	2015 £m	2016 £m	Restated[1] 2015 £m
New business income[2]	**801**	708	**267**	228	**184**	152	**1,252**	1,088
Underwriting margin[3]	**326**	279	**223**	208	**76**	82	**625**	569
Investment return[4]	**1,352**	1,208	**1,134**	989	**159**	90	**2,645**	2,287
Total Income	**2,479**	2,195	**1,624**	1,425	**419**	324	**4,522**	3,944
Acquisition expenses[5]	**(396)**	(405)	**(274)**	(243)	**(158)**	(127)	**(828)**	(775)
Administration expenses[6]	**(652)**	(584)	**(520)**	(434)	**(96)**	(73)	**(1,268)**	(1,091)
Total Expenses	**(1,048)**	(989)	**(794)**	(677)	**(254)**	(200)	**(2,096)**	(1,866)
DAC and other	**124**	249	**14**	18	**76**	120	**214**	387
	1,555	1,455	**844**	766	**241**	244	**2,640**	2,465
Other business[7]							**2**	(23)
Total life business operating profit							**2,642**	2,442

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
2 Represents the income earned on new business written during the period reflecting premiums less initial reserves.
3 Underwriting margin represents the release of reserves held to cover claims, surrenders and expenses less the cost of actual claims and surrenders in the period.
4 Represents the expected income on existing business (other than the underwriting margin). Life investment return comprises unit-linked margin, shareholders' return on participating business, spread margin and the expected return on shareholder assets.
5 Initial expenses and commission incurred in writing new business less deferred costs.
6 Expenses and renewal commissions incurred in managing existing business.
7 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	
	2016 £m	2015 £m	2016 £m	2015 £m	2016 £m	2015 £m	2016 £m	2015 £m
New business income (£m)	**801**	708	**267**	228	**184**	152	**1,252**	1,088
APE (£m)[1]	**2,456**	2,075	**1,236**	947	**270**	356	**3,962**	3,378
As margin on APE (%)	**33%**	34%	**22%**	24%	**68%**	43%	**32%**	32%
Underwriting margin (£m)	**326**	279	**223**	208	**76**	82	**625**	569
Analysed by:								
Expenses	**70**	65	**62**	44	**47**	39	**179**	148
Mortality and longevity	**249**	201	**150**	142	**27**	38	**426**	381
Persistency	**7**	13	**11**	22	**2**	5	**20**	40

1 Used as a measure of life sales. It is calculated as the sum of new regular premiums plus 10% of new single premiums written in the period. APE excludes UK Retail Fund Management and Health business in UK & Ireland and Asia.

(a) New business income

New business income increased to £1,252 million *(2015: £1,088 million)*, mainly driven by the additional quarter of Friends Life and Italy.

The net contribution from new business is the new business income less associated acquisition expenses (see (g) below). This increased to a profit of £424 million *(2015: profit of £313 million)*.

In the UK & Ireland, net contribution from new business increased to £405 million *(2015: £303 million)* mainly driven by an additional quarter of Friends Life in 2016, improved asset mix in annuities and improved individual protection performance partly offset by lower BPA volumes.

In Europe, the net contribution improved to a loss of £7 million *(2015: loss of £15 million)* due to growth and margin improvements in Italy, offset by reduced contributions due to market turbulence in Turkey. Volumes based on APE increased by 17% in constant currency, reflecting growth across all product lines in Italy and increased unit-linked volumes in Spain. This resulted in a slight decrease in new business margin on APE in Europe to 22% *(2015: 24%)*.

In Asia, net contribution decreased 19% in constant currency to a profit of £26 million *(2015: profit of £25 million)* as a result of the discontinuance of the bancassurance distribution agreement with DBS Bank Ltd, and higher acquisition expenses reflecting a change in product mix.

(b) Underwriting margin

The underwriting margin increased to £625 million *(2015: £569 million)*. This was driven by the UK & Ireland, as the margin increased to £326 million *(2015: £279 million)* mainly due to an additional quarter of Friends Life in 2016 and improved mortality margins. In Europe, the underwriting margin was £223 million *(2015: £208 million)* benefitting from favourable foreign currency movements, however on a constant currency basis it decreased 4% mainly due to lower mortality margins in France and lower persistency margin in Italy.

In Asia, underwriting margin decreased 12% in constant currency to £76 million *(2015: £82 million)* mainly due to lower mortality margins in FPI offset by favourable expense margins on non-participating annuities in China.

7.i – Life business profit drivers continued

Income: Investment return

	United Kingdom & Ireland		Europe		Asia		Total	
	2016 £m	Restated[1] 2015 £m	2016 £m	2015 £m	2016 £m	2015 £m	2016 £m	Restated[1] 2015 £m
Unit-linked margin[2] (£m)	**826**	763	**518**	435	**112**	70	**1,456**	1,268
As annual management charge on average reserves (bps)	**75**	83	**155**	140	**132**	108	**96**	98
Average reserves (£bn)	**110.1**	92.3	**33.4**	31.0	**8.5**	6.5	**152.0**	129.8
Participating business[3] (£m)	**195**	152	**524**	470	**15**	(3)	**734**	619
As bonus on average reserves (bps)	**38**	31	**80**	84	**43**	n/a	**61**	57
Average reserves (£bn)	**51.1**	49.5	**65.5**	55.9	**3.5**	2.7	**120.1**	108.1
Spread margin[4] (£m)	**269**	198	**11**	7	**9**	10	**289**	215
As spread margin on average reserves (bps)	**42**	36	**34**	23	**75**	111	**43**	37
Average reserves (£bn)	**63.3**	54.6	**3.2**	3.1	**1.2**	0.9	**67.7**	58.6
Expected return on shareholder assets[5] (£m)	**62**	95	**81**	77	**23**	13	**166**	185
Total (£m)	**1,352**	1,208	**1,134**	989	**159**	90	**2,645**	2,287

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
2 Unit-linked margin represents the annual management charges on unit-linked business based on expected investment return.
3 The shareholders' share of the return on with-profit and other participating business.
4 Spread margin represents the return made on annuity and other non-linked business, based on the expected investment return less amounts credited to policyholders.
5 The expected investment return based on opening economic assumptions applied to expected surplus assets over the reporting period that are not backing policyholder liabilities.
6 An average of the insurance or investment contract liabilities over the reporting period, including managed pension business which is not consolidated within the statement of financial position.

(c) Unit-linked margin

The unit-linked average reserves have increased to £152 billion *(2015: £130 billion)*, with the movement largely driven by higher weighted average Group reserves following the Friends Life acquisition on 10 April 2015. The unit-linked margin increased to £1,456 million *(2015: £1,268 million)* mainly driven by the additional quarter from Friends Life and increased margins in FPI and Italy. The margin as a proportion of average unit-linked reserves decreased to 96 bps *(2015: 98 bps)*.

The unit-linked margin in UK & Ireland has increased mainly due to the benefit of an additional quarter from Friends Life, partly offset by the expected run-off in the back book. Unit-linked margin in Europe increased 10% on a constant currency basis, reflecting a change in business mix to higher margin products in Italy. The increase in unit-linked margin in Asia is mainly due to an additional quarter and higher management charges from existing business in FPI.

(d) Participating business

The participating average reserves have increased to £120 billion *(2015: £108 billion)*, largely driven by favourable foreign exchange movements in Europe. Income from participating business increased to £734 million *(2015: £619 million)*. In the UK & Ireland, the income has increased due to the additional quarter from Friends Life. In Europe, income has increased to £524 million *(2015: £470 million)* reflecting favourable foreign currency movements of £62 million. 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

The average reserves have increased to £68 billion *(2015: £59 billion)*, largely driven by the higher weighted average reserves as a result of the Friends Life acquisition. Spread business income, which mainly relates to UK in-force annuity and equity release business, improved to £269 million *(2015: £198 million)*. This increase is due to a refinement in the expected cost of credit defaults in operating profit. The spread margin increased to 42 bps *(2015: 36 bps)*, on average reserves of £63 billion *(2015: £55 billion)*. In Europe, spread income improved to £11 million *(2015: £7 million)*, mainly due to improved margins in Spain. In Asia, spread business income reduced to £9 million *(2015: £10 million)* due to reduced investment margins in Singapore, partly offset by higher investment margins on non-participating business in China.

(f) Expected return on shareholder assets

Expected returns, representing investment income on surplus funds, decreased to £166 million *(2015: £185 million)*. The decrease is mainly driven by the impact of the economic capital optimisation (hedging) activity in Friends Life, reducing the expected return on shareholder assets in UK Life and adverse foreign exchange movements on shareholder assets in France.

7.i – Life business profit drivers continued

Expenses

	United Kingdom & Ireland		Europe		Asia		Total	
	2016 £m	Restated[1] 2015 £m	**2016 £m**	2015 £m	**2016 £m**	2015 £m	**2016 £m**	Restated[1] 2015 £m
Acquisition expenses (£m)	**(396)**	(405)	**(274)**	(243)	**(158)**	(127)	**(828)**	(775)
APE (£m)[2]	**2,456**	2,075	**1,236**	947	**270**	356	**3,962**	3,378
As acquisition expense ratio on APE (%)	**16%**	20%	**22%**	26%	**59%**	36%	**21%**	23%
Administration expenses (£m)	**(652)**	(584)	**(520)**	(434)	**(96)**	(73)	**(1,268)**	(1,091)
As existing business expense ratio on average reserves (bps)	**29**	30	**51**	48	**73**	72	**37**	37
Average reserves (£bn)	**224.5**	196.4	**102.1**	90.0	**13.2**	10.1	**339.8**	296.5

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
2 APE excludes UK Retail Fund Management and Health business in UK & Ireland and Asia.

(g) Acquisition expenses
Acquisition expenses increased to £828 million *(2015: £775 million)* reflecting unfavourable exchange rate movements of £29 million in Europe in addition to increased expenses as volumes grew in Spain and Italy. Acquisition expenses in the UK reflect integration synergies, partly offset by the additional quarter of Friends Life.

The increase in Asia is due to a change of business mix towards non-participating products in China and Singapore. The overall group-wide ratio of acquisition expenses to APE improved to 21% *(2015: 23%)*.

(h) Administration expenses
Administration expenses increased to £1,268 million *(2015: £1,091 million)*. The expense ratio was 37 bps *(2015: 37 bps)* on average reserves of £340 billion *(2015: £297 billion)*. The increase in UK & Ireland is driven by the additional quarter of Friends Life expenses, investment in digital, partly offset by integration synergies. Administration expenses in Europe have increased to £520 million *(2015: £434 million)*, with adverse exchange rate movements of £53 million, higher renewal-related expenses and investment required for growing and reorganising the business in France and a new asset levy in Poland effective from 1 February 2016. On a constant currency basis, Asia administration expenses increased primarily due to the additional quarter of FPI costs along with continued investment in distribution and infrastructure across the region.

The overall increase in life business acquisition and administration expenses was £230 million, with an additional quarter of Friends Life expenses, adverse foreign exchange rate movements of £94 million, increased administration expenses in France, investment in growth as the Italian and Spanish businesses grew and a change of business mix in China and Singapore towards more non-participating business.

(i) DAC and other
DAC and other items amounted to an overall positive contribution of £214 million *(2015: £387 million),* which was mainly driven by UK Life reflecting a lower level of non-recurring items with the longevity assumption change benefit of c.£290 million, partly offset by various other net reserve and modelling movements. In Asia DAC and other items reduced to £76 million *(2015: £120 million)* due to a provision for maintenance expense overruns in Hong Kong, the non-recurrence of the one off benefit in the prior year of an internal reinsurance transaction in FPI, partly offset by a recovery of indirect taxes paid in Singapore.

7.ii – General insurance and health

2016	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	2,476	1,743	**4,219**	392	**4,611**	1,711	831	**2,542**	**1,499**	**12**	**8,664**
Net written premiums[1]	2,408	1,522	**3,930**	378	**4,308**	1,680	773	**2,453**	**1,438**	**12**	**8,211**
Net earned premiums[1]	2,295	1,526	**3,821**	351	**4,172**	1,645	775	**2,420**	**1,396**	**12**	**8,000**
Net claims incurred[1]	(1,602)	(1,220)	**(2,822)**	(222)	**(3,044)**	(1,104)	(433)	**(1,537)**	**(931)**	**(24)**	**(5,536)**
Of which claims handling costs			***(137)***	*(9)*	***(146)***			***(93)***	***(45)***	**—**	***(284)***
Written commission	(672)	(314)	**(986)**	(56)	**(1,042)**	(313)	(161)	**(474)**	**(284)**	**—**	**(1,800)**
Written expenses[3]	(166)	(178)	**(344)**	(49)	**(393)**	(167)	(122)	**(289)**	**(134)**	**(6)**	**(822)**
Movement in DAC and other	88	—	**88**	3	**91**	47	1	**48**	**17**	**—**	**156**
Impact of change in Ogden discount rate excluded from underwriting result	230	245	**475**	—	**475**	—	—	**—**	**—**	**—**	**475**
Underwriting result[1]	173	59	**232**	27	**259**	108	60	**168**	**64**	**(18)**	**473**
Longer-term investment return[4]			**162**	14	**176**			**105**	**55**	**3**	**339**
Other[5]			**(2)**	—	**(2)**			**(4)**	**—**	**—**	**(6)**
Operating profit[1]			**392**	41	**433**			**269**	**119**	**(15)**	**806**
Health insurance											
Underwriting result					**35**			**—**	**—**	**(12)**	**23**
Longer-term investment return					**3**			**—**	**1**	**—**	**4**
Operating profit					**38**			**—**	**1**	**(12)**	**27**
Total operating profit[1]					**471**			**269**	**120**	**(27)**	**833**
General insurance combined operating ratio[1]											
Claims ratio[1]	69.8%	80.0%	**73.8%**	63.3%	**73.0%**	67.1%	55.8%	**63.5%**	**66.7%**		**69.2%**
Commission ratio	27.9%	20.6%	**25.1%**	14.9%	**24.2%**	18.6%	20.8%	**19.3%**	**19.7%**		**21.9%**
Expense ratio	6.9%	11.7%	**8.8%**	13.0%	**9.1%**	10.0%	15.8%	**11.8%**	**9.4%**		**10.0%**
Combined operating ratio[6]	104.6%	112.3%	**107.7%**	91.2%	**106.3%**	95.7%	92.4%	**94.6%**	**95.8%**		**101.1%**
Combined operating ratio, excluding the impact of change in Ogden discount rate[6]	94.6%	96.2%	**95.3%**	91.2%	**94.9%**	95.7%	92.4%	**94.6%**	**95.8%**		**95.2%**
Assets supporting general insurance and health business											
Debt securities			**3,718**	360	**4,078**			**4,349**	**2,175**	**197**	**10,799**
Equity securities			**7**	—	**7**			**235**	**25**	**—**	**267**
Investment property			**208**	—	**208**			**—**	**133**	**—**	**341**
Cash and cash equivalents			**757**	47	**804**			**115**	**220**	**23**	**1,162**
Other[7]			**1,464**	4	**1,468**			**256**	**305**	**3**	**2,032**
Assets at 31 December 2016			**6,154**	411	**6,565**			**4,955**	**2,858**	**223**	**14,601**
Debt securities			**3,993**	470	**4,463**			**2,999**	**1,937**	**209**	**9,608**
Equity securities			**8**	—	**8**			**188**	**21**	**—**	**217**
Investment property			**198**	0	**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**
Average assets			**6,776**	532	**7,308**			**4,192**	**2,640**	**229**	**14,369**
LTIR as % of average assets			**2.4%**	2.6%	**2.4%**			**2.5%**	**2.1%**	**1.3%**	**2.4%**

1 Excludes the impact from an outward quota share reinsurance agreement written in 2015 and completed in 2016 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 £69 million relating to the internal loan. This is lower than 2015 primarily as a result of the reduction in the balance of this loan during 2016.
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

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 premiums[1]	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)
Of which claims handling costs			*(170)*	*(7)*	*(177)*			*(74)*	*(45)*	—	*(296)*
Written commission	(479)	(307)	(786)	(36)	(822)	(248)	(147)	(395)	(245)	—	(1,462)
Written expenses[3]	(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 result[1]	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 profit[1]			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 profit[1]					430			214	114	7	765
General insurance combined operating ratio[1]											
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[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 one-off 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 relating to the internal loan.
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.iii – Fund flows

Net flows is one of the measures of growth used by management and is a component of the movement in Life and platform business managed assets (excluding UK with-profits) during the period. It is the difference between the inflows (being IFRS net written premiums plus deposits received under investment contracts) and outflows (being IFRS net paid claims plus redemptions and surrenders under investment contracts). It excludes market and other movements.

	Restated[1] Managed assets at 1 January 2016[4] £m	Premiums and deposits, net of reinsurance £m	Claims and redemptions, net of reinsurance £m	Net flows[2,3] £m	Market and other movements £m	Managed assets at 31 December 2016[4] £m
Life and platform business						
UK – non-profit:						
– platform	8,376	4,778	(859)	3,919	668	**12,963**
– pensions and other long term savings	79,261	6,591	(7,580)	(989)	13,317	**91,589**
– long term savings	87,637	11,369	(8,439)	2,930	13,985	**104,552**
– annuities and equity release	52,463	1,101	(2,222)	(1,121)	5,974	**57,316**
– other	25,801	1,315	(3,110)	(1,795)	1,845	**25,851**
Ireland	5,152	628	(570)	58	779	**5,989**
United Kingdom & Ireland (excluding UK with-profits)	171,053	14,413	(14,341)	72	22,583	**193,708**
Europe	94,632	10,218	(7,632)	2,586	16,624	**113,842**
Asia	11,484	1,469	(1,152)	317	1,655	**13,456**
Other	1,752	39	(207)	(168)	15	**1,599**
	278,921	26,139	(23,332)	2,807	40,877	**322,605**
UK – with-profits and other	62,067					**61,796**
Total life and platform business	340,988					**384,401**

1 Restated to include externally reinsured non-participating investment contracts.
2 Life business net flows in the table above are net of reinsurance.
3 For the period to 31 December 2016, net flows of £2.8 billion includes net flows of £1.7 billion that are included in the IFRS income statement within net written premiums and net paid claims.
4 Life and platform business managed assets at the balance sheet date includes financial investments, loans, investment property, externally reinsured non-participating investment contracts and cash and cash equivalents included on the IFRS statement of financial position, plus assets administered by the Group that are not included on the IFRS statement of financial position. At 31 December 2016, life and platform business managed assets of £384 billion *(2015: £341 billion[1])* includes £373 billion *(2015: £333 billion)* that is on the IFRS statement of financial position.

United Kingdom & Ireland (excluding UK with-profits)

UK long term savings managed assets[5] have increased to c.£105 billion *(2015: c.£88 billion)* during the period. Within this, net inflows were £2.9 billion mainly reflecting continued growth from our platform business of £3.9 billion with managed assets increasing 55% in the period to £13 billion *(2015: £8.4 billion)*. Additionally workplace pensions net inflows of £2.0 billion were partially offset by outflows from individual pensions.

UK annuities and equity release and other non-profit outflows were £2.9 billion driven by net outflows in annuities (including the impact of lower bulk purchase annuity new business volumes) and traditional savings products. Market and other movements include favourable market movements driven by a decrease in interest rates and growth in equities.

Europe

Net inflows were £2.6 billion. This was mainly driven by increased volumes across all products in Italy and protection sales in France. Market and other movements in Europe primarily reflect favourable foreign exchange movements mainly driven by the strengthening of the euro against sterling.

Asia and other

Net inflows in Asia were £0.3 billion arising mainly in Singapore. Other business net outflows of £0.2 billion primarily relate to Aviva Investors' Pooled Pensions business.

5 Includes platform and pensions business and externally reinsured non-participating investment contracts.

8.i – Summary of assets

The Group asset portfolio is invested to generate competitive investment returns for both policyholders and shareholders while remaining within the Group's appetite for market, credit and liquidity 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 and we continue to broaden 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 2016 across the Group, split according to the type of liability the assets are covering, is shown in the table below. Further information on these assets is given in the Analysis of Assets Section.

	Shareholder business assets			Participating fund assets				
Carrying value in the statement of financial position	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	Total assets analysed £m	Less assets of operation classified as held for sale £m	Carrying value in the statement of financial position £m
Debt securities								
Government bonds	**7,523**	**15,360**	**12,756**	**18,165**	**29,353**	**83,157**	**(2,325)**	**80,832**
Corporate bonds	**4,586**	**23,547**	**11,616**	**15,844**	**31,268**	**86,861**	**(4,576)**	**82,285**
Other	**363**	**2,336**	**2,676**	**1,348**	**6,533**	**13,256**	**(837)**	**12,419**
	12,472	**41,243**	**27,048**	**35,357**	**67,154**	**183,274**	**(7,738)**	**175,536**
Loans								
Mortgage loans	**—**	**18,133**	**—**	**120**	**1**	**18,254**	**—**	**18,254**
Other loans	**177**	**3,052**	**1,027**	**1,522**	**827**	**6,605**	**(75)**	**6,530**
	177	**21,185**	**1,027**	**1,642**	**828**	**24,859**	**(75)**	**24,784**
Equity securities	**273**	**397**	**52,571**	**12,558**	**3,213**	**69,012**	**(664)**	**68,348**
Investment property	**351**	**176**	**6,625**	**2,423**	**1,241**	**10,816**	**(48)**	**10,768**
Other investments	**879**	**2,627**	**45,630**	**4,692**	**4,427**	**58,255**	**(2,304)**	**55,951**
Total as at 31 December 2016	**14,152**	**65,628**	**132,901**	**56,672**	**76,863**	**346,216**	**(10,829)**	**335,387**
Total as at 31 December 2015	11,550	58,586	117,941	57,508	62,366	307,951	—	307,951

1 Of the £14.2 billion of assets 14% 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 currency risks are maintained at a low level within risk appetite.

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 and cash flow. Currency and interest rate exposures are closely matched to the liabilities in line with risk appetite. 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. The other non-profit business assets are a smaller proportion of this portfolio and are generally shorter in duration and have a high proportion invested in fixed income.

£10.9 billion of Shareholder loan assets are backing annuity liabilities and comprise of commercial mortgage loans (£6.4 billion), Healthcare, Infrastructure and PFI mortgage loans (£3.3 billion) and Primary Healthcare, Infrastructure and PFI other loans (£1.2 billion). The Group carries a valuation allowance within the liabilities against the risk of default of commercial mortgages, including Healthcare and PFI mortgages, of £0.5 billion which equates to 50 bps at 31 December 2016 *(2015: 59 bps)*.

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.

8.i – Summary of assets continued

UK style with-profits (WP)

UK style with-profit 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 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 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. A certain portion 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 2016, IFRS net asset value per share was 414 pence (*2015 restated[3]: 390 pence*). The increase was driven by operating profit, favourable foreign exchange movements and remeasurements of pension schemes, partly offset by the impact of the change in the Ogden discount rate as an exceptional charge within Other, payment of the dividend to shareholders, adverse economic variances and amortisation of acquired value of in-force business.

Total investment variances and economic assumption changes were £381 million adverse. This included £760 million adverse variances in the non-life business partly offset by positive variances of £379 million in the life businesses. The adverse non-life variances reflect both unfavourable short-term fluctuations and adverse economic assumption changes. Foreign exchange losses on Group centre holdings including external borrowings are the main component within £518 million of adverse short-term fluctuations. These partly offset the favourable foreign exchange movement within other comprehensive income arising from translation of the net investment in foreign subsidiaries, associates and joint ventures, as sterling weakened against a number of currencies including the euro and Canadian dollar. Adverse economic assumption changes of £242 million reflect the impact of a decrease in the real interest rates used to discount claim reserves for periodic payment orders and latent claims.

In the life businesses, investment variances and economic assumption changes were £379 million positive *(2015: £14 million positive)*. Positive variances in the UK reflect lower interest rates and narrowing credit spreads, which increase asset values more than liabilities. In the first half of 2016 the Group revised its expectation of future property prices and rental income in light of the UK referendum vote for the UK to leave the European Union. The adverse impact of this adjustment on the Group's equity release and commercial mortgage portfolios has been broadly offset in the second half of the year as expectations for future property price and rental growth have increased. The positive variance in the UK has been partially offset by negative variances in France and Italy. The negative variance in France reflects losses on equity hedges managed on an economic basis rather than an IFRS basis and falling interest rates, while the negative variance in Italy reflects widening credit spreads.

The favourable movement on the Group's staff pension schemes of £242 million post tax is principally due to the main UK staff pension scheme. The surplus has increased over the period mainly due to increased asset values primarily driven by a reduction in interest rates in the UK partly offset by an increase in the defined benefit obligation following a decrease in the UK discount rate.

IFRS	31 December 2016 £m	pence per share[2]	Restated[3] 31 December 2015 £m	Restated[3] pence per share[2]
Equity attributable to shareholders of Aviva plc at 1 January[1]	**15,802**	**390p**	10,038	340p
Operating profit	**3,010**	**73p**	2,688	67p
Investment return variances and economic assumption changes on life and non-life business	**(381)**	**(9)p**	(170)	(4)p
(Loss)/profit on the disposal and remeasurements of subsidiaries, joint ventures and associates	**(11)**	**—**	2	—
Goodwill impairment and amortisation of intangibles	**(175)**	**(4)p**	(177)	(4)p
Amortisation and impairment of acquired value of in-force business	**(540)**	**(13)p**	(498)	(12)p
Integration and restructuring costs	**(212)**	**(5)p**	(379)	(9)p
Other[4]	**(498)**	**(13)p**	(53)	(1)p
Tax on operating profit and on other activities	**(334)**	**(8)p**	(316)	(8)p
Non-controlling interests	**(156)**	**(4)p**	(161)	(4)p
Profit after tax attributable to shareholders of Aviva plc	**703**	**17p**	936	25p
AFS securities (fair value) & other reserve movements	**4**	**—**	10	—
Ordinary dividends	**(871)**	**(22)p**	(635)	(16)p
Direct capital instrument and tier 1 notes interest and preference share dividend	**(85)**	**(2)p**	(74)	(2)p
Foreign exchange rate movements	**945**	**23p**	(325)	(8)p
Remeasurements of pension schemes	**242**	**6p**	(142)	(4)p
Friends Life acquisition[5]	**—**	**—**	5,975	55p
Other net equity movements	**63**	**2p**	19	—
Equity attributable to shareholders of Aviva plc at 31 December[1]	**16,803**	**414p**	15,802	390p

1 Excluding preference shares of £200 million *(31 December 2015: £200 million)*.
2 Number of shares as at 31 December 2016: 4,062 million *(31 December 2015: 4,048 million)*.
3 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
4 Other items include an exceptional charge of £475 million *(2015: £nil)*, with a post tax impact of £380 million, relating to the impact of the change in the Ogden discount rate from 2.5% set in 2001 to minus 0.75% announced by the Lord Chancellor on 27 February 2017. Refer to note B9 (c)(iii) for further details. Other items also include a 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 £23 million loss comprises £107 million in premiums ceded less £78 million in reinsurance recoverables recognised and £6 million claims handling provisions released (*2015: £53 million charge comprises £712 million in premiums ceded, less £659 million reinsurance recoverables recognised).*
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.iii – Return on equity[1]

The return on equity calculation is based on operating return after tax attributable to ordinary shareholders expressed as a percentage of weighted average ordinary shareholders' equity.

During 2016, return on equity has decreased to 12.5% *(2015: 14.1%)*, primarily driven by the higher weighted average shareholders' equity reflecting the Group's acquisition of the Friends Life business on 10 April 2015.

	2016 **%**	Restated[2] 2015 %
United Kingdom & Ireland Life	**11.2%**	14.4%
United Kingdom & Ireland General Insurance and Health[3,4]	**15.6%**	10.2%
Europe	**13.1%**	12.7%
Canada[4]	**15.7%**	16.2%
Asia	**14.0%**	22.0%
Fund management	**24.4%**	30.1%
Corporate and Other Business[3]	**n/a**	n/a
Return on total capital employed	**9.7%**	10.8%
Subordinated debt	**4.5%**	4.4%
Senior debt	**0.1%**	3.5%
Return on total equity	**12.1%**	13.4%
Less: Non-controlling interest	**11.5%**	12.2%
Direct capital instrument and tier 1 notes	**6.1%**	6.6%
Preference capital	**8.5%**	8.5%
Return on equity shareholders' funds	**12.5%**	14.1%

1 Please refer to note C1 for further analysis of return on equity.
2 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
3 2015 comparatives have been restated to exclude c.£0.9 billion of goodwill which does not support the general insurance and health business for capital purposes and is included in 'Corporate and Other Business'. There is no impact on Group return on equity as a result of this restatement.
4 2015 comparatives have been restated for the impact of an internal loan between Canada and United Kingdom general insurance. There is no impact on Group return on equity as a result of this restatement.

8.iv – Solvency II

The estimated pro forma shareholder coverage ratio on a Solvency II basis is 189% at 31 December 2016. The Solvency II position disclosed is based on a 'shareholder view'. This excludes the contribution to Group Solvency Capital Requirement (SCR) and Group Own Funds of fully ring fenced with-profits funds (£2.9 billion at 31 December 2016) and staff pension schemes in surplus (£1.1 billion at 31 December 2016). These exclusions have no impact on Solvency II surplus. The most material fully ring fenced with-profit funds and staff pension schemes are self-supporting on a Solvency II capital basis with any surplus capital above SCR not recognised in the Group position. The shareholder view is therefore considered by management to be more representative of the shareholders' risk-exposure and the Group's ability to cover the SCR with eligible own funds.

The Solvency II risk margin is highly sensitive to movements in interest rates, which for business written prior to 1 January 2016 can be offset by a reset of the transitional measure on technical provisions ('TMTP'). Because of this, the Solvency II position disclosed assumes that the TMTP, approved for use by the PRA, has been notionally reset to reflect interest rates at 31 December 2016. This presentation is in line with the Group's preference to manage its capital position assuming a dynamic TMTP in respect of the impact of interest rate movements on the risk margin, as this avoids step changes to the Solvency II position that arise only when the formal TMTP reset points are triggered.

The 31 December 2016 Solvency II position disclosed includes two pro forma adjustments, to reflect known or highly likely events materially affecting the Group's solvency position post 31 December 2016. The adjustments consist of the disposal of Aviva's 50% shareholding in Antarius to Sogecap, as announced on 9 February 2017, and the future impact of changes to UK tax rules announced in the Chancellor of the Exchequer's Autumn statement of 23 November 2016. This includes a restriction to the tax relief that can be claimed in respect of tax losses carried forward to a maximum of 50% of future profits in any year. These adjustments have been made in order to show a more representative view of the Group's solvency position.

Summary of Solvency II position

	2016 £bn	2015 £bn
Own Funds[1,2]	**24.0**	21.8
Solvency Capital Requirement before diversification[1,2]	**(18.1)**	(16.3)
Diversification benefit	**5.4**	4.2
Diversified Solvency Capital Requirement[1,2]	**(12.7)**	(12.1)
Estimated Solvency II Surplus at 31 December[2]	**11.3**	9.7
Estimated Shareholder Cover Ratio[1,2]	**189%**	180%

1 The estimated Solvency II position represents the shareholder view. This excludes the contribution to Group Solvency Capital Requirement (SCR) and Group Own Funds of fully ring fenced with-profits funds £2.9 billion *(2015: £2.7 billion)* and staff pension schemes in surplus £1.1 billion *(2015: £0.7 billion)* – these exclusions have no impact on Solvency II surplus.
2 The estimated Solvency II position includes an estimated adverse impact of a notional reset of the transitional measure on technical provisions ('TMTP') to reflect interest rates at 31 December 2016. Removing this notional reset of TMTP would increase the estimated Solvency II surplus by £0.4 billion. Amortisation of TMTP since 1 January 2016 is also reflected. Also included are the pro forma impacts of the disposal of Aviva's 50% shareholding in Antarius to Sogecap, expected to complete 1 April 2017 (£0.2 billion increase to surplus) and a future change to UK tax rules restricting the tax relief that can be claimed in respect of tax losses (£0.4 billion decrease to surplus).

Movement in Group Solvency II Surplus

2016	Total £bn
Group Solvency II Surplus at 1 January 2016	**9.7**
Operating Capital Generation	3.5
Non-operating Capital Generation	(1.8)
Dividends	(1.0)
Foreign exchange variances	0.6
Hybrid debt issuance	0.4
Acquired/divested business	(0.1)
Estimated Solvency II Surplus at 31 December 2016	**11.3**

The estimated Solvency II surplus at 31 December 2016 is £11.3 billion, with a shareholder cover ratio of 189%. This is an increase of £1.6 billion compared to the 31 December 2015 surplus. The beneficial impacts of operating capital generation, foreign exchange variances and hybrid debt issuance have been partially offset by the impact of the Aviva plc dividend, acquisitions and the adverse non-operating capital generation, driven by adverse market movements, notably falls in interest rates over the year. The operating capital generation includes the beneficial impact of increasing the scope of the Group's internal model to include the non-profit funds of Friends Life Limited and Friends Life and Pensions Limited, effective 31 December 2016. The non-operating capital generation includes a notional reset of the transitional measure on technical provisions ('TMTP') to reflect interest rates at 31 December 2016. It also includes the impact of the change in the Ogden discount rate.

8.iv – Solvency II continued

Summary of diversified Solvency Capital Requirement

	2016 £bn	2015 £bn
Credit risk[1]	**3.3**	2.5
Equity risk[2]	**1.3**	1.1
Interest rate risk[3]	**0.4**	0.7
Other market risk[4]	**1.6**	1.3
Life insurance risk[5]	**3.3**	3.4
General insurance risk[6]	**0.6**	0.8
Operational risk	**1.1**	1.1
Other risk[7]	**1.1**	1.2
Total	**12.7**	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. A range of specific stresses are applied reflecting the difference in assumed risk relative to investment grade and duration.
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 value of net assets as a result of movements in interest rates.
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.

Changes to the diversified Solvency Capital Requirement have arisen from reductions in interest rates during 2016, which has led to increases in credit risk and longevity risk within the Group's annuity portfolios. In addition to this, the extension of the scope of the internal model to include the non-profit funds of Friends Life Limited and Friends Life and Pensions Limited, effective 31 December 2016, has also led to changes to the Group's risk profile. This arises from the difference in capital requirements between the Group's internal model and that of the standard formula.

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, 50 basis point decrease and 100 basis point increase 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 and 100 basis point increase 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;
- an immediate full letter downgrade on 20% of the annuity portfolio bonds (e.g. from AAA to AA, from AA to A);
- 10% increase and decrease and 25% decrease in market values of equity assets.

Non-Economic assumptions:

- 10% increase in maintenance 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.

8.iv – Solvency II continued

The sensitivity allows for any consequential impact on the assets and liability valuations. 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 Measures on Technical Provisions is assumed to be recalculated in all sensitivities where its impact would be material.

The table below shows the absolute change in cover ratio under each sensitivity, e.g. a 4% positive impact would result in a cover ratio of 193%.

Sensitivities		Impact on cover ratio %
Changes in Economic assumptions	25 bps increase in interest rate	**4%**
	100 bps increase in interest rate	**18%**
	25 bps decrease in interest rate	**(5%)**
	50 bps decrease in interest rate	**(11%)**
	50 bps increase in corporate bond spread[1]	**0%**
	100 bps increase in corporate bond spread	**(1%)**
	50 bps decrease in corporate bond spread	**(1%)**
	Credit downgrade on annuity portfolio	**(4%)**
	10% increase in market value of equity	**2%**
	10% decrease in market value of equity	**(1%)**
	25% decrease in market value of equity	**(4%)**
Changes in Non-Economic assumptions	10% increase in maintenance and investment expenses	**(7%)**
	10% increase in lapse rates	**(1%)**
	5% increase in mortality/morbidity rates - Life assurance	**(1%)**
	5% decrease in mortality rates - annuity business	**(11%)**
	5% increase in gross loss ratios	**(3%)**

1 A 50 bps increase in corporate bond spread 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 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.

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 shareholder view of Own Funds.

	2016 £bn	Restated[1] 2015 £bn
Total Group equity on an IFRS basis	**19.6**	18.3
Elimination of goodwill and other intangible assets[2]	**(10.0)**	(9.9)
Liability valuation differences (net of transitional deductions)[3]	**22.1**	20.4
Inclusion of risk margin (net of transitional deductions)	**(4.4)**	(4.0)
Net deferred tax[3,4]	**(1.6)**	(1.3)
Revaluation of subordinated liabilities	**(0.9)**	(0.7)
Estimated Solvency II Net Assets (gross of non-controlling interests)[3]	**24.8**	22.8
Difference between Solvency II Net Assets and Own Funds[5]	**(0.8)**	(1.0)
Estimated Solvency II Own Funds[6]	**24.0**	21.8

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
2 Includes £2.0 billion (*2015: £1.9 billion*) of goodwill and £8.0 billion (*2015: £8 billion*) of other intangible assets comprising acquired value of in-force business of £3.9 billion (*2015: £4.4 billion*), deferred acquisition costs (net of deferred income) of £2.5 billion *(2015: £2.3 billion)* and other intangibles of £1.6 billion *(2015: £1.3 billion)*.
3 Includes an estimated adverse impact of a notional reset of the transitional measure on technical provisions ('TMTP') to reflect interest rates at 31 December 2016. Removing this notional reset of TMTP would increase the estimated Solvency II Own Funds by £0.4 billion. Amortisation of TMTP since 1 January 2016 is also reflected. Also included are the pro forma impacts of the disposal of Aviva's 50% shareholding in Antarius to Sogecap expected to complete 1 April 2017 and a future change to UK tax rules restricting the tax relief that can be claimed in respect of tax losses, resulting in a combined decrease of £0.1 billion to Own Funds.
4 Net deferred tax includes the tax effect of all other reconciling items in the table above which are shown gross of tax.
5 Regulatory adjustments to bridge from Solvency II Net Assets to Own Funds include recognition of subordinated debt capital and non-controlling interests.
6 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 £2.9 billion *(2015: £2.7 billion)* and staff pension schemes in surplus £1.1 billion *(2015: £0.7 billion)* – these exclusions have no impact on Solvency II surplus.

Financial supplement

In this section

Reconciliation of Group operating profit to profit after tax
For the year ended 31 December 2016

	2016 £m	Restated[1] 2015 £m
Operating profit before tax attributable to shareholders' profits		
Life business		
United Kingdom & Ireland	**1,555**	1,455
Europe	**844**	766
Asia	**241**	244
Other	**2**	(23)
Total life business	**2,642**	2,442
General insurance and health		
United Kingdom & Ireland	**471**	430
Europe	**120**	114
Canada	**269**	214
Asia	**(13)**	(6)
Other	**(14)**	13
Total general insurance and health	**833**	765
Fund management		
Aviva Investors	**139**	105
Asia	**(1)**	1
Total fund management	**138**	106
Other		
Other operations (note A1)	**(94)**	(84)
Market operating profit	**3,519**	3,229
Corporate centre (note A2)	**(184)**	(180)
Group debt costs and other interest (note A3)	**(325)**	(361)
Operating profit before tax attributable to shareholders' profits	**3,010**	2,688
Integration and restructuring costs	**(212)**	(379)
Operating profit before tax attributable to shareholders' profits after integration and restructuring costs	**2,798**	2,309
Adjusted for the following:		
Investment return variances and economic assumption changes on long-term business (note A4)	**379**	14
Short-term fluctuation in return on investments backing non-long-term business (note A5)	**(518)**	(84)
Economic assumption changes on general insurance and health business (note A6)	**(242)**	(100)
Impairment of goodwill, joint ventures and associates and other amounts expensed (note A7)	**—**	(22)
Amortisation and impairment of intangibles	**(175)**	(155)
Amortisation and impairment of acquired value of in-force business (note A8)	**(540)**	(498)
(Loss)/profit on the disposal and re-measurement of subsidiaries, joint ventures and associates (note A9)	**(11)**	2
Other (note A10)	**(498)**	(53)
Non-operating items before tax	**(1,605)**	(896)
Profit before tax attributable to shareholders' profits	**1,193**	1,413
Tax on operating profit	**(706)**	(603)
Tax on other activities	**372**	287
	(334)	(316)
Profit for the year	**859**	1,097

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.

Other Group Operating Profit Items
A1 – Other operations

	2016 £m	2015 £m
United Kingdom & Ireland Life	**(7)**	(29)
United Kingdom & Ireland General Insurance	**3**	5
Europe	**(19)**	(22)
Asia	**(26)**	(16)
Other Group operations[1]	**(45)**	(22)
Total	**(94)**	(84)

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 scheme expenses, as well as non-insurance income. Total costs in relation to non-insurance activities were £94 million *(2015: £84 million)*.

'Other Group operations' includes increased investment in the development of the UK digital business, partly offset by an income of £19 million relating to insurance recoveries. Of this, £16 million was from the Group's internal reinsurer which therefore has a neutral effect on overall Group operating profit.

A2 – Corporate centre

	2016 £m	2015 £m
Project spend	**(30)**	(6)
Central spend and share award costs	**(154)**	(174)
Total	**(184)**	(180)

Corporate costs of £184 million increased by £4 million in 2016 (*2015: £180 million*) mainly due to an increase in Group led projects. This increase in project spend was offset by a decrease in central spend, which included Friends Life costs in 2015.

A3 – Group debt costs and other interest

	2016 £m	2015 £m
External debt		
Subordinated debt	**(387)**	(335)
Other	**(1)**	(15)
Total external debt	**(388)**	(350)
Internal lending arrangements	**(23)**	(92)
Extinguishment of debt	**—**	(13)
Net finance income on main UK pension scheme	**86**	94
Total	**(325)**	(361)

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 other items. Changes due to economic items, such as market value movements 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	2016 £m	2015 £m
Investment variances and economic assumptions	**379**	14

Investment variances and economic assumption changes were £379 million positive *(2015: £14 million positive)*. Positive variances in the UK reflect lower interest rates and narrowing credit spreads, which increase asset values more than liabilities. In the first half of 2016 the Group revised its expectation of future property prices and rental income in light of the UK referendum vote for the UK to leave the European Union. The adverse impact of this adjustment on the Group's equity release and commercial mortgage portfolios has been broadly offset in the second half of the year as expectations for future property price and rental growth have increased. In addition, in the UK the investment variance reflects the refined approach of assuming best estimate expected credit defaults on corporate bonds with a resulting increase in operating profit in the period. The positive variance in the UK has been partially offset by negative variances in France and Italy. The negative variance in France reflects losses on equity hedges managed on an economic basis rather than an IFRS basis and falling interest rates, while the negative variance in Italy reflects widening credit spreads.

In 2015, positive investment variances of £14 million were driven by France and Asia, partially offset by a negative variance in Italy. The positive variance in France reflected realised bond gains and equity outperformance, while the positive variance in Asia was driven by increased interest rates in Singapore, which reduced liabilities by more than asset values. The negative variance in Italy was driven by widening credit spreads. The investment variance was largely neutral in the UK, reflecting the positive variance from a reduction in equity release asset default provisions following favourable property market performance, offset by the negative impact of widening credit spreads.

(c) Assumptions

The expected rate of investment return is determined using consistent assumptions at the start of the period 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	
	2016 %	2015 %	2016 %	2015 %
United Kingdom	**5.5%**	5.4%	**4.0%**	3.9%
Eurozone	**4.5%**	4.3%	**3.0%**	2.8%

The expected return on equities and properties has been calculated by reference to the 10 year mid-price swap rate for an AA-rated bank in the relevant currency plus a risk premium. The use of risk premium reflects management's long-term expectations of asset return in excess of the swap yield from investing in different asset classes. The asset risk premiums are set out in the table below:

All territories	2016 %	2015 %
Equity risk premium	**3.5%**	3.5%
Property risk premium	**2.0%**	2.0%

The 10 year mid-price swap rates as at the start of the period are set out in the table below:

Territories	2016 %	2015 %
United Kingdom	**2.0%**	1.9%
Eurozone	**1.0%**	0.8%

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 risk (assessed on a best estimate basis); 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

General Insurance and health	2016 £m	2015 £m
Analysis of investment income:		
– Net investment income	**383**	240
– Foreign exchange gains/losses and other charges	**(35)**	(10)
	348	230
Analysed between:		
– Longer-term investment return, reported within operating profit	**343**	396
– Short-term fluctuations in investment return, reported outside operating profit	**5**	(166)
	348	230
Short-term fluctuations:		
– General insurance and health	**5**	(166)
– Other operations[1]	**(523)**	82
Total short-term fluctuations	**(518)**	(84)

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 fluctuations during 2016 compared with 2015 are mainly due to foreign exchange losses on Group centre holdings, including the centre hedging programme, and Group external borrowings.

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

	2016 £m	2015 £m
Debt securities	**10,799**	9,608
Equity securities	**267**	217
Properties	**341**	335
Cash and cash equivalents	**1,162**	969
Other[1]	**2,032**	3,008
Assets supporting general insurance and health business	**14,601**	14,137
Assets supporting other non-long term business[2]	**724**	538
Total assets supporting non-long term business	**15,325**	14,675

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	
	2016 %	2015 %	2016 %	2015 %
United Kingdom	**5.5%**	5.4%	**4.0%**	3.9%
Eurozone	**4.5%**	4.3%	**3.0%**	2.8%
Canada	**5.4%**	5.8%	**3.9%**	4.3%

The longer-term rates of return on equities and properties have been calculated by reference to the 10 year mid-price swap rate for an AA-rated bank in the relevant currency plus a risk premium. The underlying reference rates and risk premiums are shown in note A4(c).

A6 – General insurance and health business: Economic assumption changes

Economic assumption changes of £242 million adverse *(2015: £100 million adverse)* mainly arise as a result of a decrease in the real interest rates used to discount claim reserves for periodic payment orders and latent claims. Market interest rates used to discount periodic payment orders and latent claims have reduced and the estimated future inflation rate used to value periodic payment orders has been increased to be consistent with market expectations. This has, in part, been offset by a change in estimate for the interest rate used to discount periodic payment orders to allow for the illiquid nature of these liabilities.

A7 – Impairment of goodwill, joint ventures, associates and other amounts expensed
There was no impairment of goodwill, associates and joint ventures expensed in the period *(2015: £22 million charge)*.

A8 – Amortisation and impairment of acquired value of in-force business
Amortisation of acquired value of in-force business in the year is a charge of £540 million *(2015: £498 million charge)*. There were no impairments of acquired value of in-force business in the period *(2015: £nil)*.

A9 – Loss/profit on the disposal and remeasurement of subsidiaries, joint ventures and associates
The total Group loss on the disposal and remeasurement of subsidiaries, joint ventures and associates in the period is £11 million *(2015: £2 million profit)*. This primarily relates to the Group's sale of its entire stake in its Irish private medical insurance business and a closed book of offshore bonds business which both completed in the third quarter of 2016. Further details are provided in note B4.

A10 – Other
Other items are those items that, in the directors' view, are required to be separately disclosed by virtue of their nature or incidence to enable a full understanding of the Group's financial performance. An exceptional charge of £475 million *(2015: £nil)* relates to the impact of the change in the Ogden discount rate from 2.5% set in 2001 to minus 0.75% announced by the Lord Chancellor on 27 February 2017.

Other items also include a charge of £23 million *(2015: £53 million charge),* representing a recognition of the loss upon the completion of an outwards reinsurance contract, written in 2015 by the UK General Insurance business, which provides significant protection against claims volatility from mesothelioma, industrial deafness and other long tail risks.

IFRS financial statements

Consolidated income statement
For the year ended 31 December 2016

	Note	2016 £m	Restated[1] 2015 £m
Income			
Gross written premiums		**25,442**	21,925
Premiums ceded to reinsurers		**(2,364)**	(2,890)
Premiums written net of reinsurance		**23,078**	19,035
Net change in provision for unearned premiums		**(210)**	(111)
Net earned premiums		**22,868**	18,924
Fee and commission income		**1,962**	1,797
Net investment income		**30,257**	2,825
Share of profit after tax of joint ventures and associates		**216**	180
(Loss)/profit on the disposal and remeasurement of subsidiaries, joint ventures and associates		**(11)**	2
		55,292	23,728
Expenses			
Claims and benefits paid, net of recoveries from reinsurers		**(23,782)**	(21,985)
Change in insurance liabilities, net of reinsurance	B9a(ii)	**(6,893)**	6,681
Change in investment contract provisions		**(14,039)**	(1,487)
Change in unallocated divisible surplus	B13	**(381)**	984
Fee and commission expense		**(3,885)**	(3,324)
Other expenses		**(3,853)**	(2,784)
Finance costs		**(626)**	(618)
		(53,459)	(22,533)
Profit before tax		**1,833**	1,195
Tax attributable to policyholders' returns	B6	**(640)**	218
Profit before tax attributable to shareholders' profits		**1,193**	1,413
Tax expense	B6	**(974)**	(98)
Less: tax attributable to policyholders' returns	B6	**640**	(218)
Tax attributable to shareholders' profits	B6	**(334)**	(316)
Profit for the year		**859**	1,097
Attributable to:			
Equity holders of Aviva plc		**703**	936
Non-controlling interests		**156**	161
Profit for the year		**859**	1,097
Earnings per share	B7		
Basic (pence per share)		**15.3p**	23.1p
Diluted (pence per share)		**15.1p**	22.8p

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.

Consolidated statement of comprehensive income

For the year ended 31 December 2016

	Note	2016 £m	Restated[1] 2015 £m
Profit for the year		**859**	**1,097**
Other comprehensive income:			
Items that may be reclassified subsequently to income statement			
Investments classified as available for sale			
Fair value gains/(losses)		**12**	(9)
Fair value losses transferred to profit on disposals		**(2)**	—
Share of other comprehensive income of joint ventures and associates		**(6)**	(14)
Foreign exchange rate movements		**1,128**	(378)
Aggregate tax effect – shareholder tax on items that may be reclassified subsequently to income statement		**(34)**	13
Items that will not be reclassified to income statement			
Owner-occupied properties – fair value gains		**4**	27
Remeasurements of pension schemes	B15	**311**	(235)
Aggregate tax effect – shareholder tax on items that will not be reclassified subsequently to income statement		**(70)**	93
Total other comprehensive income, net of tax		**1,343**	(503)
Total comprehensive income for the year		**2,202**	594
Attributable to:			
Equity holders of Aviva plc		**1,901**	478
Non-controlling interests		**301**	116
		2,202	594

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.

IFRS

Consolidated statement of changes in equity

For the year ended 31 December 2016

	Ordinary share capital £m	Preference share capital £m	Share premium £m	Merger reserve £m	Treasury shares £m	Other Reserves £m	Retained earnings £m	DCI and tier 1 notes £m	Total equity excluding non-controlling interest £m	Non-controlling interests £m	Total equity £m
Balance at 1 January	**1,012**	**200**	**1,185**	**8,974**	**(29)**	**(114)**	**4,774**	**1,123**	**17,125**	**1,145**	**18,270**
Profit for the year	**—**	**—**	**—**	**—**	**—**	**—**	**703**	**—**	**703**	**156**	**859**
Other comprehensive income	**—**	**—**	**—**	**—**	**—**	**956**	**242**	**—**	**1,198**	**145**	**1,343**
Total comprehensive income for the year	**—**	**—**	**—**	**—**	**—**	**956**	**945**	**—**	**1,901**	**301**	**2,202**
Owner-occupied properties fair value gains transferred to retained earnings on disposals	**—**	**—**	**—**	**—**	**—**	**(46)**	**46**	**—**	**—**	**—**	**—**
Dividends and appropriations	**—**	**—**	**—**	**—**	**—**	**—**	**(973)**	**—**	**(973)**	**—**	**(973)**
Non-controlling interests share of dividends declared in the year	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**(135)**	**(135)**
Transfer to profit on disposal of subsidiaries, joint ventures and associates	**—**	**—**	**—**	**—**	**—**	**(7)**	**—**	**—**	**(7)**	**—**	**(7)**
Capital contributions from non-controlling interests	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**9**	**9**
Changes in non-controlling interests in subsidiaries	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**105**	**105**
Treasury shares held by subsidiary companies	**—**	**—**	**—**	**—**	**13**	**—**	**—**	**—**	**13**	**—**	**13**
Reserves credit for equity compensation plans	**—**	**—**	**—**	**—**	**—**	**38**	**—**	**—**	**38**	**—**	**38**
Shares issued under equity compensation plans	**3**	**—**	**12**	**—**	**1**	**(30)**	**26**	**—**	**12**	**—**	**12**
Aggregate tax effect – shareholder tax	**—**	**—**	**—**	**—**	**—**	**—**	**17**	**—**	**17**	**—**	**17**
Balance at 31 December	**1,015**	**200**	**1,197**	**8,974**	**(15)**	**797**	**4,835**	**1,123**	**18,126**	**1,425**	**19,551**

For the year ended 31 December 2015 – restated[1]

	Ordinary share capital £m	Preference share capital £m	Share premium £m	Merger reserve £m	Treasury shares £m	Other Reserves £m	Retained earnings[1] £m	DCI and tier 1 notes £m	Total equity excluding non-controlling interest £m	Non-controlling interests £m	Total equity £m
Balance at 1 January as reported	737	200	1,172	3,271	(8)	229	4,617	892	11,110	1,166	12,276
Prior period adjustment[1]	—	—	—	—	—	—	20	—	20	—	20
Balance at 1 January as restated	737	200	1,172	3,271	(8)	229	4,637	892	11,130	1,166	12,296
Profit for the year	—	—	—	—	—	—	936	—	936	161	1,097
Other comprehensive income	—	—	—	—	—	(316)	(142)	—	(458)	(45)	(503)
Total comprehensive income for the year	—	—	—	—	—	(316)	794	—	478	116	594
Issue of share capital – acquisition of Friends Life	272	—	—	5,703	—	—	—	—	5,975	—	5,975
Non-controlling interests in acquired subsidiaries[2]	—	—	—	—	—	—	—	—	—	504	504
Reclassification of non-controlling interests to financial liabilities[3]	—	—	—	—	—	—	—	—	—	(272)	(272)
Reclassification of non-controlling interests to tier 1 notes[4]	—	—	—	—	—	—	—	231	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)	4,774	1,123	17,125	1,145	18,270

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
2 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.
3 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.
4 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.

Consolidated statement of financial position

As at 31 December 2016

	Note	2016 £m	Restated[1] 2015 £m
Assets			
Goodwill		**2,045**	1,955
Acquired value of in-force business and intangible assets	B21	**5,468**	5,731
Interests in, and loans to, joint ventures		**1,604**	1,590
Interests in, and loans to, associates		**481**	329
Property and equipment		**487**	449
Investment property		**10,768**	11,301
Loans		**24,784**	22,433
Financial investments		**299,835**	274,217
Reinsurance assets	B11	**26,343**	20,918
Deferred tax assets		**180**	131
Current tax assets		**119**	114
Receivables		**7,794**	6,875
Deferred acquisition costs and other assets		**5,893**	5,018
Prepayments and accrued income		**2,882**	3,094
Cash and cash equivalents		**38,708**	33,676
Assets of operations classified as held for sale	B4	**13,028**	—
Total assets		**440,419**	387,831
Equity			
Capital			
Ordinary share capital		**1,015**	1,012
Preference share capital		**200**	200
		1,215	1,212
Capital reserves			
Share premium		**1,197**	1,185
Merger reserve		**8,974**	8,974
		10,171	10,159
Treasury shares		**(15)**	(29)
Other reserves		**797**	(114)
Retained earnings		**4,835**	4,774
Equity attributable to shareholders of Aviva plc		**17,003**	16,002
Direct capital instrument and tier 1 notes	B18	**1,123**	1,123
Equity excluding non-controlling interests		**18,126**	17,125
Non-controlling interests		**1,425**	1,145
Total equity		**19,551**	18,270
Liabilities			
Gross insurance liabilities	B9	**151,183**	140,556
Gross liabilities for investment contracts	B10	**197,095**	181,082
Unallocated divisible surplus	B13	**9,349**	8,811
Net asset value attributable to unitholders		**15,638**	11,415
Provisions		**1,510**	1,416
Deferred tax liabilities		**2,413**	2,084
Current tax liabilities		**421**	177
Borrowings	B14	**10,295**	8,770
Payables and other financial liabilities		**17,751**	12,448
Other liabilities		**2,719**	2,802
Liabilities of operations classified as held for sale	B4	**12,494**	—
Total liabilities		**420,868**	369,561
Total equity and liabilities		**440,419**	387,831

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.

IFRS

Consolidated statement of cash flows

For the year ended 31 December 2016

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	2016 £m	2015 £m
Cash flows from operating activities[1]			
Cash generated from operating activities		**5,394**	5,197
Tax paid		**(647)**	(442)
Total net cash from operating activities		**4,747**	4,755
Cash flows from investing activities			
Acquisitions of, and additions to, subsidiaries, joint ventures and associates, net of cash acquired		**(432)**	7,783
Disposals of subsidiaries, joint ventures and associates, net of cash transferred		**42**	(3)
New loans to joint ventures and associates		**(3)**	(21)
Net repayment of/(new) loans to joint ventures and associates		**97**	—
Net new loans to joint ventures and associates		**94**	(21)
Purchases of property and equipment		**(67)**	(58)
Proceeds on sale of property and equipment		**75**	51
Purchases of intangible assets		**(119)**	(111)
Total net cash (used in)/from investing activities		**(407)**	7,641
Cash flows from financing activities			
Proceeds from issue of ordinary shares		**15**	16
Treasury shares purchased for employee trusts		**—**	(1)
New borrowings drawn down, net of expenses		**3,526**	2,049
Repayment of borrowings[2]		**(2,340)**	(1,979)
Net drawdown of borrowings	B14	**1,186**	70
Interest paid on borrowings		**(595)**	(588)
Preference dividends paid	B8	**(17)**	(17)
Ordinary dividends paid	B8	**(871)**	(635)
Coupon payments on direct capital instrument and tier 1 notes	B8	**(85)**	(72)
Capital contributions from non-controlling interests of subsidiaries		**9**	5
Dividends paid to non-controlling interests of subsidiaries[3]		**(135)**	(142)
Changes in controlling interest in subsidiaries		**105**	(1)
Total net cash (used in)/from financing activities		**(388)**	(1,365)
Total net increase in cash and cash equivalents		**3,952**	11,031
Cash and cash equivalents at 1 January		**33,170**	22,564
Effect of exchange rate changes on cash and cash equivalents		**1,283**	(425)
Cash and cash equivalents at 31 December	B19	**38,405**	33,170

1 Cash flows from operating activities include interest received of £5,642 million *(2015: £5,251 million)* and dividends received of £2,536 million *(2015: £2,353 million)*.
2 In 2015 this included redemption of 2005 STICS of £268 million.
3 Dividends paid to non-controlling interests of subsidiaries included £7 million in 2015 relating to the 2003 STICS which were reclassified from non-controlling interests to direct capital instrument and tier 1 notes in October 2015. Following reclassification, interest is included in coupon payments on direct capital instrument and tier 1 notes. Dividends paid to non-controlling interests of subsidiaries during 2015 also included £17 million relating to the 2005 STICS which were redeemed in July 2015.

B1(i) Basis of preparation

(a) The results in this preliminary announcement have been taken from the Group's 2016 Annual report and accounts which will be available on the Company's website on 28 March 2017. 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 2016 Annual report and accounts. The comparative figures have been restated for the adjustments detailed in note B2. In addition, the Group has adopted new amendments to published standards as described in B1(ii), however these had no effect on reported profit or loss or equity, the statement of financial position or the statement of cash flows.

The preliminary announcement for the year ended 31 December 2016 does not constitute statutory accounts as defined in Section 434 of the Companies Act 2006. The results for full year 2016 and 2015 have been audited by PricewaterhouseCoopers LLP (PwC). PwC have reported on the 2016 and 2015 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 2015 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 operating profit, a non-GAAP financial performance 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. Other items are those items that, in the Directors' view, are required to be separately disclosed by virtue of their nature or incidence to enable a full understanding of the Group's financial performance.

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 2016.

(i) Amendments to IAS 16 and IAS 38 – Clarification of Acceptable Methods of Depreciation and Amortisation
These amendments provide additional guidance on how the depreciation or amortisation of property, plant and equipment and intangible assets should be calculated. The amendments to IAS 16 and IAS 38 prohibit the use of revenue-based depreciation for property, plant and equipment and significantly limit the use of revenue-based amortisation for intangible assets. The adoption of these amendments has no impact for the Group's consolidated financial statements.

(ii) Amendments to IAS 27, Equity Method in Separate Financial Statements
The amendments to IAS 27 allow investments in subsidiaries to be accounted for using the equity method within the Company's financial statements. The Company has not elected to use the equity method in its separate financial statements.

(iii) Narrow scope amendments to IFRS10, IFRS 12 and IAS 28 – Applying the Consolidation Exception
These narrow scope amendments clarify the application of the requirements for investment entities to measure subsidiaries at fair value instead of consolidating them. There are no implications for the Group's consolidated financial statements as the Group does not meet the definition of an investment entity.

(iv) Amendments to IAS 1 – Disclosure Initiative
These amendments form part of the IASB's Disclosure Initiative and are intended to assist entities in applying judgement in considering presentation and disclosure requirements. The amendments clarify guidance in IAS 1 Presentation of Financial Statements on materiality and aggregation, the presentation of subtotals, the order of the notes to financial statements and the disclosure of accounting policies. The adoption of these amendments has no impact on the Group's consolidated financial statements.

(v) Annual Improvements to IFRSs 2012-2014
These improvements consist of amendments to five IFRSs including IFRS 5 *Non-current Assets Held for Sale and Discontinued Operations*, IFRS 7 *Financial Instruments: Disclosures* and IAS 19 *Employee Benefits*. The amendments clarify existing guidance and there is no impact on the Group's consolidated financial statements.

B2 – Prior period adjustments

During 2016, UK Life reviewed its accounting and modelling for annual management charge rebates relating to unit-linked investment contracts. It was concluded that an associated liability should be released partly offset by a reduction in deferred acquisition costs in accordance with IFRS. This has been presented as a prior year adjustment and has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in closing equity at 31 December 2015 of £38 million. The impact on the consolidated income statement, statement of financial position and equity are shown in the tables below. There is no impact on the consolidated statement of cash flows.

	2015		
	As reported £m	Effect of prior period adjustments £m	Restated £m
Operating profit before tax attributable to shareholders' profits	2,665	23	2,688
Total expenses	(22,556)	23	(22,533)
Effect analysed as:			
Fee and commission expense	(3,347)	23	(3,324)
Profit before tax	1,172	23	1,195
Tax expense	(93)	(5)	(98)
Profit for the period	1,079	18	1,097
Profit attributable to equity holders of Aviva plc	918	18	936
Operating earnings per share			
Basic (pence per share)	49.2p	0.5p	49.7p
Diluted (pence per share)	48.7p	0.5p	49.2p
Earnings per share			
Basic (pence per share)	22.6p	0.5p	23.1p
Diluted (pence per share)	22.3p	0.5p	22.8p

	31 December 2015		
	As reported £m	Effect of prior period adjustments £m	Restated £m
Total assets	387,874	(43)	387,831
Effect analysed as:			
Deferred acquisition costs and other assets	5,061	(43)	5,018
Total liabilities	369,642	(81)	369,561
Effect analysed as:			
Gross liabilities for investment contracts	181,173	(91)	181,082
Deferred tax liabilities	2,074	10	2,084

	31 December 2015		
	As reported £m	Effect of prior period adjustments £m	Restated £m
Total equity			
Balance at 1 January	12,276	20	12,296
Total comprehensive income for the period	576	18	594
Other equity movements	5,380	—	5,380
Balance at 31 December	18,232	38	18,270

As a result of this adjustment, comparative information in note B5 Segmental information, note B6 Tax, note B7 Earnings per Share and note B10 Liability for investment contracts have 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:

	2016	2015
Eurozone		
Average rate (€1 equals)	**£0.82**	£0.72
Period end rate (€1 equals)	**£0.85**	£0.74
Canada		
Average rate ($CAD1 equals)	**£0.56**	£0.51
Period end rate ($CAD1 equals)	**£0.60**	£0.49
Poland		
Average rate (PLN1 equals)	**£0.19**	£0.17
Period end rate (PLN1 equals)	**£0.19**	£0.17

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 and subsequent events.

(a) Acquisitions

(i) RBC General Insurance

On 1 July 2016, Aviva plc announced its Canadian business, Aviva Canada had completed the acquisition of 100% of the outstanding shares of RBC General Insurance Company ('RBC'), the existing home and motor insurance business of RBC Insurance, and entered into a 15-year strategic agreement with RBC Insurance. Through this agreement, Aviva Canada will provide policy administration and claims services, and RBC Insurance customers will access Aviva Canada's full suite of property and casualty (P&C) products. The acquisition extends Aviva's presence in the Canadian general insurance market and brings diversification to existing distribution channels.

Under the agreement, Aviva paid RBC Insurance £345 million (CAD$598 million) on 1 July 2016, the date on which the general insurance company became a wholly owned subsidiary of the Group and was renamed Aviva General Insurance Company. A further c.£29 million (CAD$50 million) commission is payable over three years as part of a deferred consideration agreement.

The following table summarises the consideration for the acquisition, the fair value of the assets acquired, liabilities assumed and resulting allocation to goodwill:

	Fair Value £m
Assets	
Intangible assets	**210**
Financial investments	**749**
Reinsurance assets	**29**
Receivables	**189**
Other assets	**6**
Cash and cash equivalents	**26**
Total identifiable assets	**1,209**
Liabilities	
Insurance liabilities	**825**
Deferred tax liabilities	**49**
Payables and other financial liabilities	**3**
Other liabilities	**16**
Total identifiable liabilities	**893**
Net identifiable assets acquired	**316**
Goodwill arising on acquisition	**58**
Consideration	**374**

For cash flow purposes, the amounts included within the Group's consolidated statement of cash flows related to this acquisition are as follows:

	£m
Consideration	
Cash	**345**
Deferred cash consideration	**—**
Directly attributable costs	**7**
	352
Less: Cash and cash equivalents acquired	**26**
Net cash outflow	**326**

IFRS

B4 – Subsidiaries continued

Fair value and accounting policy adjustments

The adjustments arising on acquisition were in respect of the following:

- Recognition of identifiable intangible assets at fair value and related deferred tax liability; and
- Elimination of deferred acquisition costs.

Intangible assets

Within intangible assets of £210 million, £190 million relate to RBC Insurance's distribution network and RBC's customer relationships, the value of which is based on the multi-period excess earnings method. The useful lives of the access to the distribution network and value of the customer relationships have been assessed as 15 years and 10 years, respectively. These will be amortised over these periods, along with the corresponding release of the applicable deferred tax liability, in accordance with the Group's accounting policies.

Other intangible assets of £20 million were recognised upon acquisition representing the fair value of future profits from the general insurance book as at 1 July 2016. This will be amortised based on its useful life of approximately two years in accordance with the Group's accounting policies.

Goodwill

The residual goodwill on acquisition of £58 million, none of which is expected to be deductible for tax purposes, is attributable to the future synergies expecting to arise from combining the operations of the Aviva Canada insurance entities with that of RBC.

Profit and loss

In the period 1 July 2016 to 31 December 2016, the acquired general insurance company contributed net earned premiums of £239 million and a profit before tax attributable to shareholders of £4 million, including £17 million of integration and restructuring costs, to the consolidated results of the Group.

If the acquisition had been effective on 1 January 2016, on a pro-forma basis the Group's net earned premiums is estimated at £23.3 billion and profit before tax attributable to shareholders is estimated at £1,200 million. In determining this amount, 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 2016. 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 2016, nor are they necessarily indicative of the future results of the combined Group.

(ii) Other acquisitions

On 29 April 2016, Aviva plc completed the acquisition of an additional 23% share in Aviva Life Insurance Company India Limited ('Aviva India') from its partner Dabur invest Corp (a part of the Dabur Group) which brings the Group's holding to 49%. As the Group continues to have significant influence, Aviva India continues to be equity accounted as an associate.

(b) Disposal and remeasurement of subsidiaries, joint ventures and associates

The (loss)/profit on the disposal and remeasurement of subsidiaries, joint ventures and associates comprises:

	2016 £m	2015 £m
Ireland – health	**(8)**	—
Turkey – long-term business	**—**	1
Other small operations	**(3)**	1
Total (loss)/profit on disposal and remeasurement	**(11)**	2

The total Group loss on disposal and remeasurement of subsidiaries, joint ventures and associates is £11 million *(2015: £2 million profit)*. This primarily relates to the Group's sale in its entire stake in its Irish private medical insurance business and a closed book of offshore bonds business which both completed in the third quarter of 2016.

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

The assets and liabilities of operations classified as held for sale as at 31 December 2016 are as follows:

	2016 £m	2015 £m
Assets		
Goodwill, AVIF and other intangibles	**12**	—
Investment property	**48**	—
Loans	**75**	—
Financial investments	**10,706**	—
Reinsurance assets	**411**	—
Other assets	**1,521**	—
Cash and cash equivalents	**255**	—
Total assets	**13,028**	—
Liabilities		
Insurance liabilities	**(4,448)**	—
Liability for investment contracts	**(7,175)**	—
Unallocated divisible surplus	**(859)**	—
Other liabilities	**(12)**	—
Total liabilities	**(12,494)**	—
Net assets	**534**	—

B4 – Subsidiaries continued

Assets and liabilities of operations classified as held for sale as at 31 December 2016 relate to Antarius S.A. ('Antarius'), a consolidated subsidiary of Aviva. The subsidiary has been classified as held for sale from May 2016, the date when the transaction was expected to complete within 12 months. The business is measured at its carrying amount. See note B4 (d)(ii) for further details.

(d) Subsequent events

(i) Aviva Hong Kong

On 20 January 2017, it was announced that Aviva, Hillhouse Capital ('Hillhouse') and Tencent Holdings Limited ('Tencent') had agreed to develop an insurance company in Hong Kong, which will focus on digital insurance. As part of the agreement, Hillhouse and Tencent will acquire shares in Aviva Life Insurance Company Limited ('Aviva Hong Kong'). Following completion of the transaction, which is expected in the fourth quarter of 2017, Aviva and Hillhouse will each hold 40% and Tencent will hold 20% shareholdings in Aviva Hong Kong. The transaction is subject to customary closing conditions, including regulatory approval. Aviva Hong Kong remains a consolidated subsidiary of Aviva at the balance sheet date.

(ii) Antarius

On 9 February 2017, Aviva announced the sale of its entire 50% shareholding in Antarius to Sogecap, a subsidiary of Société Générale, for a consideration of approximately £425 million (€500 million), payable in cash upon completion. Antarius is currently owned jointly by Aviva and Crédit du Nord, a separate subsidiary of Société Générale. This agreement follows Crédit du Nord's decision in 2015 to exercise its option to purchase Aviva's shareholding in Antarius. All regulatory approvals for the transaction have been received with completion expected on 1 April 2017.

(e) Significant restrictions

In certain jurisdictions the ability of subsidiaries to transfer funds to the Group in the form of cash dividends or to repay loans and advances is subject to local corporate or insurance laws and regulations and solvency requirements. There are no protective rights of non-controlling interests which significantly restrict the Group's ability to access or use the assets and settle the liabilities of the Group.

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 and internal management reporting.

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 in 2015. 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, up to the date of disposal on 1 August 2016.

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. As set out in note B4, the operations of Antarius are classified as held for sale as at 31 December 2016.

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. 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' operations include our life operations in Turkey.

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. Canada includes the operations of RBC General Insurance Company following its acquisition on 1 July 2016.

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 and health operations in Indonesia.

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.

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 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.

IFRS

B5 – Segmental information continued

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.

(a) (i) Segmental income statement for the year ended 31 December 2016

	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	5,458	4,750	6,624	496	4,652	2,542	920	—	—	25,442
Premiums ceded to reinsurers	(1,509)	(498)	(86)	(9)	(39)	(89)	(134)	—	—	(2,364)
Internal reinsurance revenue	(7)	(2)	—	—	(3)	—	(11)	—	23	—
Premiums written net of reinsurance	3,942	4,250	6,538	487	4,610	2,453	775	—	23	23,078
Net change in provision for unearned premiums	(2)	(132)	(8)	(16)	(11)	(33)	(8)	—	—	(210)
Net earned premiums	3,940	4,118	6,530	471	4,599	2,420	767	—	23	22,868
Fee and commission income	868	140	258	60	98	17	198	326	(3)	1,962
	4,808	4,258	6,788	531	4,697	2,437	965	326	20	24,830
Net investment income	24,903	283	2,951	141	533	50	1,240	83	73	30,257
Inter-segment revenue	—	—	—	—	—	—	—	234	—	234
Share of profit of joint ventures and associates	172	—	16	7	3	1	17	—	—	216
(Loss)/profit on the disposal and remeasurement of subsidiaries, joint ventures and associates	(3)	(8)	—	—	—	—	—	—	—	(11)
Segmental income[1]	**29,880**	**4,533**	**9,755**	**679**	**5,233**	**2,488**	**2,222**	**643**	**93**	**55,526**
Claims and benefits paid, net of recoveries from reinsurers	(11,200)	(2,680)	(5,397)	(315)	(2,230)	(1,521)	(399)	—	(40)	(23,782)
Change in insurance liabilities, net of reinsurance	(3,381)	(550)	(1,221)	(79)	(1,303)	(16)	(349)	—	6	(6,893)
Change in investment contract provisions	(10,069)	—	(1,636)	—	(1,180)	—	(1,069)	(85)	—	(14,039)
Change in unallocated divisible surplus	(259)	—	(276)	2	132	—	20	—	—	(381)
Fee and commission expense	(862)	(1,277)	(632)	(77)	(275)	(628)	(108)	(35)	9	(3,885)
Other expenses	(1,427)	(263)	(266)	(64)	(106)	(150)	(289)	(393)	(895)	(3,853)
Inter-segment expenses	(212)	(8)	(1)	(5)	—	(5)	—	—	(3)	(234)
Finance costs	(195)	(2)	(1)	—	(3)	(4)	(3)	—	(418)	(626)
Segmental expenses	**(27,605)**	**(4,780)**	**(9,430)**	**(538)**	**(4,965)**	**(2,324)**	**(2,197)**	**(513)**	**(1,341)**	**(53,693)**
Profit/(loss) before tax	2,275	(247)	325	141	268	164	25	130	(1,248)	1,833
Tax attributable to policyholders' returns	(638)	—	—	—	—	—	(2)	—	—	(640)
Profit/(loss) before tax attributable to shareholders' profits	**1,637**	**(247)**	**325**	**141**	**268**	**164**	**23**	**130**	**(1,248)**	**1,193**
Adjusted for non-operating items:										
Reclassification of corporate costs and unallocated interest	—	(5)	46	—	—	17	—	5	(63)	—
Investment return variances and economic assumption changes on long-term business	(503)	—	86	1	27	—	10	—	—	(379)
Short-term fluctuation in return on investments backing non-long-term business	(135)	(79)	(2)	(1)	13	42	—	—	680	518
Economic assumption changes on general insurance and health business	—	229	13	—	—	—	—	—	—	242
Impairment of goodwill, joint ventures and associates and other amounts expensed	—	—	—	—	—	—	—	—	—	—
Amortisation and impairment of intangibles	71	24	2	3	7	29	9	6	24	175
Amortisation and impairment of AVIF	387	—	3	2	2	—	142	—	4	540
Loss/(profit) on the disposal and remeasurement of subsidiaries, joint ventures and associates	3	8	—	—	—	—	—	—	—	11
Integration and restructuring costs	119	15	8	—	1	18	17	19	15	212
Other[4]	—	498	—	—	—	—	—	—	—	498
Operating profit/(loss) before tax attributable to shareholders	**1,579**	**443**	**481**	**146**	**318**	**270**	**201**	**160**	**(588)**	**3,010**

1 Total reported income, excluding inter-segment revenue, includes £33,784 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 the Aviva Investors Pooled Pensions business.
3 Other Group activities include Group Reinsurance.
4 Other items include an exceptional charge of £475 million *(2015: £nil)* relating to the impact of the change in the Ogden discount rate from 2.5% set in 2001 to minus 0.75% announced by the Lord Chancellor on 27 February 2017. Refer to note B9 (c)(iii) for further details. Other items also include a 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 £23 million loss comprises £107 million in premiums ceded less £78 million in reinsurance recoverables recognised and £6 million claims handling provisions released.

B5 – Segmental information continued

(a) (ii) Segmental income statement for the year ended 31 December 2015 – restated[1]

	United Kingdom & Ireland		Europe							
	Life £m	GI £m	France £m	Poland £m	Italy, Spain and Other £m	Canada £m	Asia £m	Aviva Investors[3] £m	Other Group activities[4] £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
	4,851	3,446	5,923	504	2,795	2,005	903	281	13	20,721
Net investment income/(expense)	448	159	1,949	(1)	444	49	(325)	155	(53)	2,825
Inter-segment revenue	—	—	—	—	—	—	—	195	—	195
Share of profit of joint ventures and associates	149	—	7	5	8	—	11	—	—	180
Profit/(loss) on the disposal and remeasurement of subsidiaries, joint ventures and associates	2	—	—	—	(1)	—	1	—	—	2
Segmental income[2]	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	(562)	(1,195)	(623)	(57)	(252)	(571)	(114)	(26)	76	(3,324)
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	(4,942)	(3,465)	(7,459)	(369)	(3,055)	(1,912)	(506)	(550)	(470)	(22,728)
Profit/(loss) before tax	508	140	420	139	191	142	84	81	(510)	1,195
Tax attributable to policyholders' returns	232	—	—	—	—	—	(14)	—	—	218
Profit/(loss) before tax attributable to shareholders' profits	740	140	420	139	191	142	70	81	(510)	1,413
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
Other[5]	—	53	—	—	—	—	—	—	—	53
Operating profit/(loss) before tax attributable to shareholders	1,447	414	449	141	268	214	223	106	(574)	2,688

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
2 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.
3 Aviva Investors operating profit includes £1 million profit relating to Aviva Investors Pooled Pensions business.
4 Other Group activities include Group Reinsurance.
5 Other items represents a 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) (iii) Segmental statement of financial position as at 31 December 2016

	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	663	1,018	—	26	199	88	51	—	—	2,045
Acquired value of in-force business and intangible assets	3,152	160	86	12	619	292	1,062	9	76	5,468
Interests in, and loans to, joint ventures and associates	1,257	—	169	48	71	13	527	—	—	2,085
Property and equipment	78	27	240	4	5	24	12	5	92	487
Investment property	6,504	208	2,878	—	1	—	—	951	226	10,768
Loans	23,793	5	757	—	22	170	37	—	—	24,784
Financial investments	173,069	4,324	68,427	3,015	24,108	4,670	11,460	574	10,188	299,835
Deferred acquisition costs	1,224	507	280	45	82	360	113	3	—	2,614
Other assets	52,754	6,175	7,716	237	1,644	1,372	1,479	961	6,967	79,305
Assets of operations classified as held for sale	—	—	13,028	—	—	—	—	—	—	13,028
Total assets	262,494	12,424	93,581	3,387	26,751	6,989	14,741	2,503	17,549	440,419
Insurance liabilities										
Long-term business and outstanding claims provisions	104,194	6,098	15,932	2,698	10,241	3,248	3,750	—	12	146,173
Unearned premiums	227	2,136	463	68	281	1,527	64	—	—	4,766
Other insurance liabilities	—	72	51	—	—	118	—	—	3	244
Liability for investment contracts	125,198	—	49,929	2	12,000	—	8,395	1,571	—	197,095
Unallocated divisible surplus	2,858	—	5,151	60	1,074	—	206	—	—	9,349
Net asset value attributable to unitholders	76	—	2,349	—	509	—	—	—	12,704	15,638
External borrowings	1,793	—	1	—	46	—	—	—	8,455	10,295
Other liabilities, including inter-segment liabilities	15,701	(404)	4,694	139	758	1,107	645	396	1,778	24,814
Liabilities of operations classified as held for sale	—	—	12,494	—	—	—	—	—	—	12,494
Total liabilities	250,047	7,902	91,064	2,967	24,909	6,000	13,060	1,967	22,952	420,868
Total equity										19,551
Total equity and liabilities										440,419

IFRS

B5 – Segmental information continued

(a) (iv) Segmental statement of financial position as at 31 December 2015 – restated[1]

	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	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	1,351	418	227	32	77	255	57	4	—	2,421
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	242,643	11,829	78,594	2,924	21,548	4,544	12,754	2,582	10,413	387,831
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	114,052	—	47,834	2	9,770	—	7,681	1,743	—	181,082
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	12,271	(1,240)	4,066	99	715	596	565	370	1,485	18,927
Liabilities of operations classified as held for sale	—	—	—	—	—	—	—	—	—	—
Total liabilities	230,665	6,358	76,628	2,509	19,930	3,747	11,352	2,113	16,259	369,561
Total equity										18,270
Total equity and liabilities										387,831

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.

(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.

IFRS

B5 – Segmental information continued

(b) (i) Segmental income statement – products and services for the year ended 31 December 2016

	Long-term business £m	General insurance and health[2] £m	Fund management £m	Other £m	Total £m
Gross written premiums[1]	15,748	9,694	—	—	25,442
Premiums ceded to reinsurers	(1,697)	(667)	—	—	(2,364)
Premiums written net of reinsurance	14,051	9,027	—	—	23,078
Net change in provision for unearned premiums	—	(210)	—	—	(210)
Net earned premiums	14,051	8,817	—	—	22,868
Fee and commission income	1,234	26	300	402	1,962
	15,285	8,843	300	402	24,830
Net investment income/(expense)	29,695	383	(2)	181	30,257
Inter-segment revenue	—	—	239	—	239
Share of profit of joint ventures and associates	213	3	—	—	216
(Loss)/profit on the disposal and remeasurement of subsidiaries, joint ventures and associates	(3)	(8)	—	—	(11)
Segmental income	**45,190**	**9,221**	**537**	**583**	**55,531**
Claims and benefits paid, net of recoveries from reinsurers	(18,026)	(5,756)	—	—	(23,782)
Change in insurance liabilities, net of reinsurance	(6,249)	(644)	—	—	(6,893)
Change in investment contract provisions	(14,039)	—	—	—	(14,039)
Change in unallocated divisible surplus	(381)	—	—	—	(381)
Fee and commission expense	(1,369)	(2,299)	(33)	(184)	(3,885)
Other expenses	(1,887)	(521)	(396)	(1,049)	(3,853)
Inter-segment expenses	(222)	(12)	—	(5)	(239)
Finance costs	(183)	(5)	—	(438)	(626)
Segmental expenses	**(42,356)**	**(9,237)**	**(429)**	**(1,676)**	**(53,698)**
Profit/(loss) before tax	2,834	(16)	108	(1,093)	1,833
Tax attributable to policyholder returns	(640)	—	—	—	(640)
Profit/(loss) before tax attributable to shareholders' profits	2,194	(16)	108	(1,093)	1,193
Adjusted for:					
Non-operating items	448	849	30	490	1,817
Operating profit/(loss) before tax attributable to shareholders' profits	**2,642**	**833**	**138**	**(603)**	**3,010**

1 Gross written premiums include inward reinsurance premiums assumed from other companies amounting to £138 million, of which £54 million relates to property and liability insurance and £84 million relates to long-term business.
2 General insurance and health business segment includes gross written premiums of £1,030 million relating to health business. The remaining business relates to property and liability insurance.

B5 – Segmental information continued

(b) (ii) Segmental income statement – products and services for the year ended 31 December 2015 – restated[1]

	Long-term business £m	General insurance and health[3] £m	Fund management £m	Other £m	Total £m
Gross written premiums[2]	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 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	(1,098)	(2,118)	(23)	(85)	(3,324)
Other expenses	(1,663)	(368)	(367)	(386)	(2,784)
Inter-segment expenses	(190)	(11)	—	—	(201)
Finance costs	(202)	(5)	—	(411)	(618)
Segmental expenses	(14,260)	(7,202)	(390)	(882)	(22,734)
Profit/(loss) before tax	1,404	369	80	(658)	1,195
Tax attributable to policyholder returns	218	—	—	—	218
Profit/(loss) before tax attributable to shareholders' profits	1,622	369	80	(658)	1,413
Adjusted for:					
Non-operating items	820	396	26	33	1,275
Operating profit/(loss) before tax attributable to shareholders' profits	2,442	765	106	(625)	2,688

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
2 Gross written premiums include inward reinsurance premiums assumed from other companies amounting to £146 million, of which £66 million relates to property and liability insurance and £80 million relates to long-term business.
3 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.

B5 – Segmental information continued

(b) (iii) Segmental statement of financial position – products and services as at 31 December 2016

	Long-term business £m	General insurance and health £m	Fund management £m	Other £m	Total £m
Goodwill	889	1,086	3	67	2,045
Acquired value of in-force business and intangible assets	4,845	571	9	43	5,468
Interests in, and loans to, joint ventures and associates	2,030	42	—	13	2,085
Property and equipment	264	109	5	109	487
Investment property	10,202	341	—	225	10,768
Loans	24,607	177	—	—	24,784
Financial investments	277,889	11,699	51	10,196	299,835
Deferred acquisition costs	1,574	1,037	3	—	2,614
Other assets	61,780	8,995	835	7,695	79,305
Assets of operations classified as held for sale	13,028	—	—	—	13,028
Total assets	**397,108**	**24,057**	**906**	**18,348**	**440,419**
Gross insurance liabilities	134,695	16,488	—	—	151,183
Gross liabilities for investment contracts	197,095	—	—	—	197,095
Unallocated divisible surplus	9,349	—	—	—	9,349
Net asset value attributable to unitholders	2,934	—	—	12,704	15,638
External borrowings	1,718	—	—	8,577	10,295
Other liabilities, including inter-segment liabilities	19,930	1,215	371	3,298	24,814
Liabilities of operations classified as held for sale	12,494	—	—	—	12,494
Total liabilities	**378,215**	**17,703**	**371**	**24,579**	**420,868**
Total equity					**19,551**
Total equity and liabilities					**440,419**

(b) (iv) Segmental statement of financial position – products and services as at 31 December 2015 – restated[1]

	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	1,604	812	5	—	2,421
Other assets	52,844	7,315	769	6,477	67,405
Assets of operations classified as held for sale	—	—	—	—	—
Total assets	354,725	20,356	813	11,937	387,831
Gross insurance liabilities	127,050	13,506	—	—	140,556
Gross liabilities for investment contracts	181,082	—	—	—	181,082
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	15,397	(307)	346	3,491	18,927
Liabilities of operations classified as held for sale	—	—	—	—	—
Total liabilities	337,676	13,199	346	18,340	369,561
Total equity					18,270
Total equity and liabilities					387,831

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.

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:

	2016 £m	Restated[1] 2015 £m
Current tax		
For the period	**930**	500
Prior period adjustments	**1**	(68)
Total current tax	**931**	432
Deferred tax		
Origination and reversal of temporary differences	**72**	(222)
Changes in tax rates or tax laws	**(14)**	(82)
Write back of deferred tax assets	**(15)**	(30)
Total deferred tax	**43**	(334)
Total tax charged to income statement	**974**	98

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. As a result, the tax charge increased by £5 million to £98 million. See note B2 for further details.

(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 charge attributable to policyholder returns included in the charge above is £640 million *(2015: credit of £218 million).*

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

	2016 £m	Restated[1] 2015 £m
UK tax	**688**	(289)
Overseas tax	**286**	387
	974	98

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. As a result, the tax charge increased by £5million to £98 million. See note B2 for further details.

(iv) Unrecognised tax losses and temporary differences of previous years were used to reduce the current tax expense and deferred tax expense by £10 million and £8 million *(2015: £5 million and £30 million)*, respectively.

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

	2016 £m	Restated[1] 2015 £m
Long-term business technical provisions and other insurance items	**(147)**	517
Deferred acquisition costs	**(12)**	(41)
Unrealised gains/(losses) on investments	**144**	(847)
Pensions and other post-retirement obligations	**21**	(4)
Unused losses and tax credits	**39**	34
Subsidiaries, associates and joint ventures	**4**	4
Intangibles and additional value of in-force long-term business	**(99)**	(149)
Provisions and other temporary differences	**93**	152
Total deferred tax charged /(credited) to income statement	**43**	(334)

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.

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

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

	2016 £m	2015 £m
Current tax		
In respect of pensions and other post-retirement obligations	**(25)**	(44)
In respect of foreign exchange movements	**31**	(7)
	6	(51)
Deferred tax		
In respect of pensions and other post-retirement obligations	**94**	(49)
In respect of fair value gains on owner-occupied properties	**1**	—
In respect of unrealised gains on investments	**3**	(6)
	98	(55)
Total tax charged/(credited) to other comprehensive income	**104**	(106)

(ii) The tax charge attributable to policyholders' returns included above is £nil *(2015: £nil).*

B6 – Tax continued

(c) Tax credited to equity

Tax credited directly to equity in the year in respect of coupon payments on the direct capital instrument and tier 1 notes amounted to £17 million *(2015: £15 million).*

(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	2016 £m	Shareholder £m	Policyholder £m	Restated[1] 2015 £m
Total profit/(loss) before tax	**1,193**	**640**	**1,833**	1,413	(218)	1,195
Tax calculated at standard UK corporation tax rate of 20.00% *(2015: 20.25%)*	**239**	**128**	**367**	286	(44)	242
Reconciling items						
Different basis of tax – policyholders	**—**	**513**	**513**	—	(174)	(174)
Adjustment to tax charge in respect of prior periods	**(34)**	**—**	**(34)**	(46)	—	(46)
Non-assessable income and items not taxed at the full statutory rate	**39**	**—**	**39**	19	—	19
Non-taxable loss/(profit) on sale of subsidiaries and associates	**1**	**—**	**1**	1	—	1
Disallowable expenses	**49**	**—**	**49**	67	—	67
Different local basis of tax on overseas profits	**97**	**(1)**	**96**	126	—	126
Change in future local statutory tax rates	**(36)**	**—**	**(36)**	(82)	—	(82)
Movement in deferred tax not recognised	**(13)**	**—**	**(13)**	(52)	—	(52)
Tax effect of profit from joint ventures and associates	**(6)**	**—**	**(6)**	(6)	—	(6)
Other	**(2)**	**—**	**(2)**	3	—	3
Total tax charged/(credited) to income statement	**334**	**640**	**974**	316	(218)	98

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. As a result, the tax charge increased by £5 million to £98 million. See note B2 for further details.

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

	2016 £m	2015 £m
Tax attributable to policyholder returns	**640**	(218)
UK corporation tax at a rate of 20.00% *(2015: 20.25%)* in respect of the policyholder tax deduction	**(128)**	44
Different local basis of tax of overseas profits	**1**	—
Different basis of tax – policyholders per tax reconciliation	**513**	(174)

Finance (No 2) Act 2015 introduced legislation reducing the rate of corporation tax from 20% at 1 April 2016 to 19% from 1 April 2017 and to 18% from 1 April 2020. These reduced rates were used in the calculation of the UK's deferred tax assets and liabilities as at 31 December 2015. Finance Act 2016, which received Royal Assent on 15 September 2016, reduced the corporation tax rate to 17% from 1 April 2020.

In addition, the French government has reduced the rate of corporation tax from 34.43% to 28.92% with effect from 1 January 2020. The further reduction in the future corporation tax rates in the UK from 18% to 17%, and the reduction in France from 34.43% to 28.92% has been used in the calculation of deferred tax assets and liabilities in the UK and France for the year ended 31 December 2016. This results in a reduction in the Group's net deferred tax liabilities of £24 million, comprising a £14 million credit in the income statement and a £10 million credit in the statement of comprehensive income.

IFRS

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:

	2016			Restated[1] 2015		
	Operating profit £m	**Non-operating items £m**	**Total £m**	Operating profit £m	Non-operating items £m	Total £m
Profit before tax attributable to shareholders' profits	**3010**	**(1,817)**	**1,193**	2,688	(1,275)	1,413
Tax attributable to shareholders' profit	**(706)**	**372**	**(334)**	(603)	287	(316)
Profit for the year	**2,304**	**(1,445)**	**859**	2,085	(988)	1,097
Amount attributable to non-controlling interests	**(147)**	**(9)**	**(156)**	(152)	(9)	(161)
Cumulative preference dividends for the year	**(17)**	**—**	**(17)**	(17)	—	(17)
Coupon payments in respect of direct capital instrument (DCI) and tier 1 notes (net of tax)	**(68)**	**—**	**(68)**	(57)	—	(57)
Profit attributable to ordinary shareholders	**2,072**	**(1,454)**	**618**	1,859	(997)	862

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.

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

	2016			Restated[1] 2015		
	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
Operating profit attributable to ordinary shareholders	**3,010**	**2,072**	**51.1**	2,688	1,859	49.7
Non-operating items:						
Investment return variances and economic assumption changes on long-term business	**379**	**313**	**7.8**	14	(37)	(1.0)
Short-term fluctuation in return on investments backing non-long-term business	**(518)**	**(398)**	**(9.8)**	(84)	(62)	(1.7)
Economic assumption changes on general insurance and health business	**(242)**	**(193)**	**(4.8)**	(100)	(80)	(2.1)
Impairment of goodwill, joint ventures and associates and other amounts expensed	**—**	**—**	**—**	(22)	(22)	(0.6)
Amortisation and impairment of intangibles	**(175)**	**(137)**	**(3.4)**	(155)	(121)	(3.2)
Amortisation and impairment of acquired value of in-force business	**(540)**	**(455)**	**(11.2)**	(498)	(376)	(10.1)
(Loss)/profit on disposal and remeasurement of subsidiaries, joint ventures and associates	**(11)**	**(16)**	**(0.4)**	2	2	0.1
Integration and restructuring costs and other	**(212)**	**(170)**	**(4.2)**	(379)	(259)	(6.9)
Other[3]	**(498)**	**(398)**	**(9.8)**	(53)	(42)	(1.1)
Profit attributable to ordinary shareholders	**1,193**	**618**	**15.3**	1,413	862	23.1

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
2 DCI includes the direct capital instrument and tier 1 notes
3 Other items include an exceptional charge of £475 million *(2015: £nil)*, £380 million net of tax *(2015: £nil)*, relating to the impact of the change in the Ogden discount rate from 2.5% set in 2001 to minus 0.75% announced by the Lord Chancellor on 27 February 2017.

(iii) The calculation of basic earnings per share uses a weighted average of 4,051 million *(2015: 3,741 million)* ordinary shares in issue, after deducting treasury shares. The actual number of shares in issue at 31 December 2016 was 4,062 million *(2015: 4,048 million)* and 4,058 million *(2015: 4,042 million)* excluding treasury shares.

B7 – Earnings per share continued

(b) Diluted earnings per share

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

	2016 Total £m	2016 Weighted average number of shares million	2016 Per share p	Restated[1] 2015 Total £m	Restated[1] 2015 Weighted average number of shares million	Restated[1] 2015 Per share p
Profit attributable to ordinary shareholders	**618**	**4,051**	**15.3**	862	3,741	23.1
Dilutive effect of share awards and options	**—**	**38**	**(0.2)**	—	39	(0.3)
Diluted earnings per share	**618**	**4,089**	**15.1**	862	3,780	22.8

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.

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

	2016 Total £m	2016 Weighted average number of shares million	2016 Per share p	Restated[1] 2015 Total £m	Restated[1] 2015 Weighted average number of shares million	Restated[1] 2015 Per share p
Operating profit attributable to ordinary shareholders	**2,072**	**4,051**	**51.1**	1,859	3,741	49.7
Dilutive effect of share awards and options	**—**	**38**	**(0.4)**	—	39	(0.5)
Diluted operating profit per share	**2,072**	**4,089**	**50.7**	1,859	3,780	49.2

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.

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.

	2016 £m	2015 £m
Ordinary dividends declared and charged to equity in the year		
Final 2015 – 14.05 pence per share, paid on 17 May 2016	**570**	—
Final 2014 – 12.25 pence per share, paid on 15 May 2015	**—**	362
Interim 2016 – 7.42 pence per share, paid on 17 November 2016	**301**	—
Interim 2015 – 6.75 pence per share, paid on 17 November 2015	**—**	273
	871	635
Preference dividends declared and charged to equity in the year	**17**	17
Coupon payments on direct capital instrument and tier 1 notes	**85**	72
	973	724

Subsequent to 31 December 2016, the directors proposed a final dividend for 2016 of 15.88 pence per ordinary share *(2015: 14.05 pence*), amounting to £645 million *(2015: £570 million)* in total. Subject to approval by shareholders at the AGM, the dividend will be paid on 17 May 2017 and will be accounted for as an appropriation of retained earnings in the year ending 31 December 2017.

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 20.00% *(2015: 20.25%).*

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 comprised:

	2016			Restated[1] 2015		
	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	**56,760**	**—**	**56,760**	50,558	—	50,558
Unit-linked non-participating	**16,026**	**—**	**16,026**	14,768	—	14,768
Other non-participating	**64,432**	**—**	**64,432**	60,022	—	60,022
	137,218	**—**	**137,218**	125,348	—	125,348
Outstanding claims provisions	**1,925**	**8,749**	**10,674**	1,702	7,063	8,765
Provision for claims incurred but not reported	**—**	**2,960**	**2,960**	—	2,383	2,383
	1,925	**11,709**	**13,634**	1,702	9,446	11,148
Provision for unearned premiums	**—**	**4,766**	**4,766**	—	4,048	4,048
Provision arising from liability adequacy tests[2]	**—**	**13**	**13**	—	12	12
Total	**139,143**	**16,488**	**155,631**	127,050	13,506	140,556
Less: Amounts classified as held for sale	**(4,448)**	**—**	**(4,448)**	—	—	—
	134,695	**16,488**	**151,183**	127,050	13,506	140,556

1 Restated following a reclassification from participating to other non-participating long-term business provisions in the UK of £3,317 million.
2 Provision arising from liability adequacy tests relates to general insurance business only. Liability adequacy test provisions for life operations are included in other line items.

(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 general insurance reserves (which is included within finance costs in 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.

2016	**Gross £m**	**Reinsurance[1] £m**	**Net £m**
Long-term business			
Change in long-term business provisions (note B9b(iv))	**7,164**	**(993)**	**6,171**
Change in provision for outstanding claims	**91**	**(13)**	**78**
	7,255	**(1,006)**	**6,249**
General insurance and health			
Change in insurance liabilities (note B9c(iv) and B11c(ii))[2]	**867**	**(222)**	**645**
Less: Unwind of discount on GI reserves and other	**(11)**	**10**	**(1)**
	856	**(212)**	**644**
Total change in insurance liabilities	**8,111**	**(1,218)**	**6,893**

1 Reinsurance assets at 31 December 2016 for General insurance and health business include the impact of the £78 million reinsurance asset relating to an outwards reinsurance contract completed by the UK General Insurance business.
2 Includes £475 million in the UK General Insurance business relating to the impact of the change in the Ogden discount rate.

2015	Gross £m	Reinsurance[1] £m	Net £m
Long-term business			
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			
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 Reinsurance assets at 31 December 2015 for General insurance and health business include the impact of the £659 million reinsurance asset relating to an outwards reinsurance contract completed by the UK General Insurance business.

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-profit business written by WPSF and on stakeholder unitised with-profit business are derived from management fees and policy charges, and emerge in the non-profit funds.
  - The RIEESA of UKLAP, which is a non-profit 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 is used to provide capital support to NWPSF, and has been used in the past to write non-participating business.
  - The Friends Life Limited FP With-Profits Fund (FP WPF), which will formally be closed to new business during 2017 and 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 Life 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 Limited FLC New With-Profits Fund (FLC New WPF), the Friends Life Limited FLC Old With-Profits Fund (FLC Old WPF), the Friends Life Limited WL With-Profits Fund (WL WPF) and Friends Life Limited FLAS 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, and certain policies in the WL WPF which are reinsured into the fund where the shareholders do not receive one-ninth of the bonus.
  - The Friends Life and Pensions Limited SGF With-Profits Fund (SGF WPF), (which was deemed a with-profit fund on 1 January 2016), is closed to new business and where policyholders are entitled to 100% of the distributed profits.
- 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-profit life funds falling within the scope of FRS 27, which was grandfathered from UK regulatory requirements under IFRS 4 prior to the adoption of Solvency II, an amount may be recognised for the present value of future profits (PVFP) on non-participating business written in a with-profit fund where the determination of the realistic value of liabilities in that with-profit fund takes account, directly or indirectly, of this value. For our UK with-profit funds, (excluding Friends Life), no adjustment for this value is made to the participating insurance and investment contract liabilities or the unallocated divisible surplus. For Friends Life with-profits funds the non-participating liabilities are measured on a realistic basis with implicit recognition of the present value of future profits and hence no additional explicit adjustment is required for this value.

(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-profit business

For reporting periods up to and including 31 December 2015, the valuation of with-profit business was stated at the amount of the Solvency I Pillar 1, realistic value of liabilities adjusted to exclude the shareholders' share of projected future bonuses, in accordance with FRS 27 (grandfathered under IFRS 4). The key elements of the realistic liabilities are the with-profit 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 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 assessed on a best estimate basis with reference to Company and wider industry experience, adjusted to take into account future trends.

On 1 January 2016 the Solvency I Pillar 1 regulatory regime was replaced with Solvency II, under which realistic liabilities were replaced with Best Estimate Liabilities (BEL). Key differences between the realistic liabilities and the Solvency II BEL are that BEL excludes the shareholder's share of future bonuses, excludes certain planned and approved enhancements to benefits (part of Solvency II surplus funds) and uses a higher yield (EIOPA specified) for future investment returns and discounting. Adjusting the yield used in the calculation of the BEL by removing the volatility and credit risk adjustments, including planned enhancements that are part of Solvency II surplus funds and making other less significant adjustments, results in a valuation in accordance with FRS 27. Consequently, for periods subsequent to 31 December 2015, the with-profit business is valued based on an adjusted Solvency II BEL assessment, which represents a change in estimate of the liabilities.

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-profit business. The rates vary according to the outstanding term of the policy, with a typical rate as at 31 December 2016 of 1.25% *(2015: 2.04%)* 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	**2016**	2015
Equity returns	**23.9%**	22.6%
Property returns	**16.4%**	16.0%
Fixed interest yields	**51.3%**	30.6%

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 2017 have been set consistently with the year-end 2016 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-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 table used	**2016**	2015
Assurances, pure endowments and deferred annuities before vesting	**Nil or Axx00 adjusted**	Nil or Axx00 adjusted
Pensions business after vesting and pensions annuities in payment	**PCMA00/PCFA00 adjusted plus allowance for future mortality improvement**	PCMA00/PCFA00 adjusted plus allowance for future mortality improvement

B9 – Insurance liabilities continued

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

Non-profit business

The valuation of non-profit business is based on grandfathered regulatory requirements under IFRS 4 prior to the adoption of Solvency II, adjusted to remove certain regulatory reserves and margins in assumptions, notably for annuity business. Conventional non-profit contracts, including those written in the with-profit 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 with an allowance for prudence. For Friends Life with-profits funds the non-participating liabilities are measured on a realistic basis with implicit recognition of the present value of future profits.

For unit-linked and some unitised with-profit 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 using prudent assumptions and 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	**2016**	2015
Assurances		
Life conventional non-profit	**0.5% to 2.6%**	1.3% to 3.3%
Pensions conventional non-profit	**0.8% to 2.1%**	1.4% to 2.7%
Annuities		
Conventional immediate and deferred annuities	**0.6% to 2.8%**	0.9% to 3.6%
Non-unit reserves on Unit-linked business		
Life	**0.7% to 1.3%**	1.5% to 2.8%
Pensions	**0.7% to 1.6%**	1.5% to 3.5%
Income Protection		
Active lives	**1.0% to 2.6%**	1.5% to 3.3%
Claims in payment (level and index linked)	**(0.2)% to 1.6%**	0.0% to 2.3%

The above valuation discount rates are after reduction for credit risk. For conventional immediate annuity business the allowance for credit risk comprises long-term assumptions for defaults, which vary by asset category and rating. The credit risk allowance made for corporate bonds (including non Private Finance Initiative infrastructure assets) and mortgages (including healthcare and commercial and infrastructure mortgages, but excluding equity release), held by Aviva Annuity UK Limited equated to 46 bps and 50 bps respectively at 31 December 2016 *(2015: 58 bps and 59 bps respectively)* and for Friends Life Limited equated to 37 bps and 42 bps respectively at 31 December 2016 *(2015: 56 bps for the corporate bonds, no mortgages at 2015)*. For corporate bonds, the allowance represented approximately 31% of the average credit spread for the portfolio for both Aviva Annuity UK Limited and Friends Life Limited (*2015: 32% and 40% respectively)*. The total valuation allowance held by Aviva Annuity UK Limited in respect of corporate bonds and mortgages, including healthcare mortgages, was £1.3 billion (*2015: £1.5 billion*) over the remaining term of the portfolio while for Friends Life Limited it was £0.5 billion *(2015: £0.7 billion)*. Total liabilities for the annuity business were £50 billion at 31 December 2016 (*2015: £47 billion*).

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	**2016**	2015
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

IFRS

B9 – Insurance liabilities continued

For the largest portfolio of pensions annuity business in Aviva Annuity UK Limited, the underlying mortality assumptions for Males are 98.5% of PCMA00 *(2015: 101.5% of PCMA00)* with base year 2000; for Females the underlying mortality assumptions are 91.5% of PCFA00 *(2015: 96.5% of PCFA00)* with base year 2000. For the largest portfolio of pensions annuity business in Friends Life Limited, the underlying mortality assumptions for Males are 100.0% of PCMA00 *(2015: 102.5% of PCMA00)* with base year 2000; for Females the underlying mortality assumptions are 100.0% of PCFA00 *(2015: 97.5% of PCFA00)* with base year 2000. For all the main portfolios of annuities, improvements are based on CMI_2015 *(2015: CMI_2013)* with a long-term improvement rate of 1.75% *(2015: 1.75%)* for males and 1.5% *(2015: 1.5%)* for females, both with an addition of 0.5% *(2015: 0.5%)* to all future annual improvement adjustments. For pension annuity business in Aviva Annuity UK limited, year-specific adjustments are made to allow for potential selection effects due to the development of the Enhanced Annuity market and covering possible selection effects from pension freedom reforms.

(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
	2016 and 2015	2016 and 2015
Life assurances	0% to 4.5%	TD73-77, TD88-90,TH00-02 TF00-02, H_AVDBS, F_AVDBS H_SSDBS, F_SSDBS
Annuities	0% to 4.5%	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:

	2016 £m	2015 £m
Carrying amount at 1 January	**125,348**	98,110
Provisions in respect of new business	**5,224**	4,059
Expected change in existing business provisions	**(8,235)**	(8,180)
Variance between actual and expected experience	**4,752**	428
Impact of operating assumption changes	**(536)**	(735)
Impact of economic assumption changes	**5,930**	(2,242)
Other movements	**29**	30
Change in liability recognised as an expense (note B9a(ii))	**7,164**	(6,640)
Effect of portfolio transfers, acquisitions and disposals[1]	**—**	35,099
Foreign exchange rate movements	**4,761**	(1,221)
Other movements	**(55)**	—
Carrying amount at 31 December	**137,218**	125,348

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

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 £4.8 billion impact of variance between actual and expected experience in 2016 is mainly due to higher than expected equity returns in the UK increasing with-profit and unit-linked liabilities.

The impact of operating assumption changes of £(0.5) billion in 2016 reduces the carrying value of insurance liabilities and relates mainly to mortality releases in the UK business (with the impact on profit partially offset by a corresponding reduction in reinsurance assets).

The £5.9 billion impact of economic assumption changes in 2016 reflects a decrease in valuation interest rates in response to decreased interest rates and narrowing 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.

IFRS

B9 – Insurance liabilities continued

(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.

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 2016			As at 31 December 2015		
	Outstanding claim provisions £m	**IBNR provisions £m**	**Total claim provisions £m**	Outstanding claim provisions £m	IBNR provisions £m	Total claim provisions £m
Motor	**4,690**	**1,623**	**6,313**	3,509	1,055	4,564
Property	**1,711**	**57**	**1,768**	1,339	158	1,497
Liability	**1,907**	**1,257**	**3,164**	1,776	1,106	2,882
Creditor	**23**	**20**	**43**	23	18	41
Other	**418**	**3**	**421**	416	46	462
	8,749	**2,960**	**11,709**	7,063	2,383	9,446

(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:

	Rate		Mean term of liabilities	
Class	**2016**	2015	**2016**	2015
Reinsured London Market business	**2.0%**	2.0%	**9 years**	9 years
Latent claims	**0.00% to 2.31%**	0.00% to 2.30%	**6 to 15 years**	6 to 15 years
Structured settlements	**0.15% to 2.98%**	2.1%	**13 to 39 years**	38 years

The gross outstanding claims provision before discounting was £12,196 million *(2015: £9,911 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 and reinsured London Market business 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.

The discount rates applied to structured settlements have increased between 2015 and 2016 in order to allow for the illiquid nature of these liabilities. In 2016 the valuation of periodic payment orders (PPOs) or structured settlements also moved to a market consistent basis for inflation based on the price of index linked gilts rather than RPI. During 2016, the propensity for new bodily injury claims settled by PPO, which are reserved for on a discounted basis, has reduced.

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.

(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. Claims 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.

B9 – Insurance liabilities continued

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

(a) 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 £25 million *(2015: £30 million)* greater than the best estimate, or £45 million *(2015: £60 million)* lower than the best estimate. These scenarios do not, however, constitute an upper or lower bound on these liabilities.

(b) Interest rates used to discount latent claim liabilities and structured settlements

The discount rates used in determining our latent claim liabilities and structured settlements 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 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. The discount rates applied to structured settlements have been increased during 2016 in order to allow for the illiquid nature of these liabilities. At 31 December 2016, it is estimated that a 1% fall in the discount rates used would increase net claim reserves by approximately £220 million *(2015: £60 million)*, excluding the offsetting effect on asset values as assets are not hypothecated across classes of business. The impact has increased during 2016 due to an increase in reserves for bodily injury claims settled by periodic payment orders (PPOs) or structured settlements as a result of an increase in the estimated future inflation rate used to value these liabilities to be consistent with market expectations. 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 B17.

(c) 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.

Subsequent Event

Lump sum payments in settlement of bodily injury claims decided by the UK courts are calculated in accordance with the Ogden Tables and discount rate. The Ogden discount rate is set by the Lord Chancellor in accordance with the Damages Act 1996 and is applied when calculating the present value of future care costs and loss of earnings for claims settlement purposes.

On 27 February 2017 the Lord Chancellor announced a reduction in the discount rate used in the Ogden tables from 2.5% set in 2001 to minus 0.75%. The reduction in the Ogden discount rate will increase lump sum payments to UK bodily injury claimants. As a result claim reserves in the UK have been strengthened by £475 million to allow for the impact of the reduction in the current discount rate. The Lord Chancellor has also announced that the framework for setting the discount rate is under review and a public consultation will be launched before the end of April 2017. The timing of the conclusion of this review and its outcome and impact on future Ogden discount rates is unclear.

B9 – Insurance liabilities continued

(iv) Movements

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

	2016 £m	2015 £m
Carrying amount at 1 January	**9,446**	9,876
Impact of changes in assumptions	**324**	115
Claim losses and expenses incurred in the current year	**6,703**	5,889
Decrease in estimated claim losses and expenses incurred in prior periods	**(7)**	(463)
Incurred claims losses and expenses	**7,020**	5,541
Less:		
Payments made on claims incurred in the current year	**(3,505)**	(3,153)
Payments made on claims incurred in prior periods	**(2,893)**	(2,650)
Recoveries on claim payments	**234**	281
Claims payments made in the period, net of recoveries	**(6,164)**	(5,522)
Unwind of discounting	**11**	10
Changes in claims reserve recognised as an expense (note B9a(ii))	**867**	29
Effect of portfolio transfers, acquisitions and disposals	**430**	(64)
Foreign exchange rate movements	**966**	(395)
Carrying amount at 31 December	**11,709**	9,446

The effect of changes in the main assumptions is given in note B12 and the economic assumption changes are explained in note A6.

IFRS

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 2007 to 2016. 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 2007, by the end of 2016 £8,278 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 £8,530 million was re-estimated to be £8,380 million at 31 December 2016.

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 reserves in respect of its general insurance and health business that protect against adverse future claims experience and development. The Group establishes reserves in respect of the current accident year (2016), where the development of claims is less mature, that allow for the greater uncertainty attaching to the ultimate cost of current accident year 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 2016 were:

- £208 million strengthening from UK & Ireland due to the impact of the change in the Ogden discount rate in the UK partly offset by other favourable developments on personal motor and commercial liability claims.
- £154 million release from Canada mainly due to continued favourable experience on motor, following the legislative changes in Ontario.
- £90 million release from Europe mainly due to favourable development in France and Italy.

There was also a £78 million reduction in net claim reserves relating to an outwards reinsurance contract completed by the UK General Insurance business.

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 relating to an outwards reinsurance contract completed by the UK General Insurance business.

(ii) Gross figures

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

Accident year	All prior years £m	2007 £m	2008 £m	2009 £m	2010 £m	2011 £m	2012 £m	2013 £m	2014 £m	2015 £m	2016 £m	**Total £m**
Gross cumulative claim payments												
At end of accident year		(4,393)	(4,915)	(3,780)	(3,502)	(3,420)	(3,055)	(3,068)	(3,102)	(2,991)	(3,534)	
One year later		(6,676)	(7,350)	(5,464)	(5,466)	(4,765)	(4,373)	(4,476)	(4,295)	(4,285)		
Two years later		(7,191)	(7,828)	(6,102)	(5,875)	(5,150)	(4,812)	(4,916)	(4,681)			
Three years later		(7,513)	(8,304)	(6,393)	(6,163)	(5,457)	(5,118)	(5,221)				
Four years later		(7,836)	(8,607)	(6,672)	(6,405)	(5,712)	(5,376)					
Five years later		(8,050)	(8,781)	(6,836)	(6,564)	(5,864)						
Six years later		(8,144)	(8,906)	(6,958)	(6,649)							
Seven years later		(8,224)	(8,986)	(7,043)								
Eight years later		(8,257)	(9,012)									
Nine years later		(8,278)										
Estimate of gross ultimate claims												
At end of accident year		8,530	9,508	7,364	6,911	6,428	6,201	6,122	5,896	5,851	6,947	
One year later		8,468	9,322	7,297	7,006	6,330	6,028	6,039	5,833	5,930		
Two years later		8,430	9,277	7,281	6,950	6,315	6,002	6,029	5,865			
Three years later		8,438	9,272	7,215	6,914	6,292	5,952	6,067				
Four years later		8,409	9,235	7,204	6,912	6,262	6,002					
Five years later		8,446	9,252	7,239	6,906	6,265						
Six years later		8,381	9,213	7,217	6,926							
Seven years later		8,381	9,207	7,256								
Eight years later		8,378	9,202									
Nine years later		8,380										
Estimate of gross ultimate claims		8,380	9,202	7,256	6,926	6,265	6,002	6,067	5,865	5,930	6,947	
Cumulative payments		(8,278)	(9,012)	(7,043)	(6,649)	(5,864)	(5,376)	(5,221)	(4,681)	(4,285)	(3,534)	
	2,568	102	190	213	277	401	626	846	1,184	1,645	3,413	**11,465**
Effect of discounting	(400)	(12)	(16)	(27)	(28)	(2)	1	(3)	—	—	—	**(487)**
Present value	2,168	90	174	186	249	399	627	843	1,184	1,645	3,413	**10,978**
Cumulative effect of foreign exchange movements	—	13	(6)	(1)	(7)	(3)	5	22	64	176	—	**263**
Effect of acquisitions	73	17	19	31	40	39	33	46	61	68	41	**468**
Present value recognised in the statement of financial position	**2,241**	**120**	**187**	**216**	**282**	**435**	**665**	**911**	**1,309**	**1,889**	**3,454**	**11,709**

B9 – Insurance liabilities continued

(iii) Net of reinsurance

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

Accident year	All prior years £m	2007 £m	2008 £m	2009 £m	2010 £m	2011 £m	2012 £m	2013 £m	2014 £m	2015 £m	2016 £m	**Total £m**
Net cumulative claim payments												
At end of accident year		(4,317)	(4,808)	(3,650)	(3,386)	(3,300)	(2,925)	(2,905)	(2,972)	(2,867)	(3,309)	
One year later		(6,542)	(7,165)	(5,286)	(5,242)	(4,578)	(4,166)	(4,240)	(4,079)	(4,061)		
Two years later		(7,052)	(7,638)	(5,885)	(5,637)	(4,963)	(4,575)	(4,649)	(4,432)			
Three years later		(7,356)	(8,094)	(6,177)	(5,905)	(5,263)	(4,870)	(4,918)				
Four years later		(7,664)	(8,356)	(6,410)	(6,137)	(5,485)	(5,110)					
Five years later		(7,852)	(8,515)	(6,568)	(6,278)	(5,626)						
Six years later		(7,942)	(8,626)	(6,657)	(6,361)							
Seven years later		(8,004)	(8,682)	(6,708)								
Eight years later		(8,033)	(8,714)									
Nine years later		(8,055)										
Estimate of net ultimate claims												
At end of accident year		8,363	9,262	7,115	6,650	6,202	5,941	5,838	5,613	5,548	6,489	
One year later		8,302	9,104	7,067	6,751	6,103	5,765	5,745	5,575	5,635		
Two years later		8,244	9,028	7,036	6,685	6,095	5,728	5,752	5,591			
Three years later		8,249	9,007	6,978	6,644	6,077	5,683	5,733				
Four years later		8,210	8,962	6,940	6,634	6,034	5,717					
Five years later		8,221	8,949	6,977	6,614	6,005						
Six years later		8,149	8,926	6,908	6,624							
Seven years later		8,143	8,894	6,897								
Eight years later		8,133	8,898									
Nine years later		8,154										
Estimate of net ultimate claims		8,154	8,898	6,897	6,624	6,005	5,717	5,733	5,591	5,635	6,489	
Cumulative payments		(8,055)	(8,714)	(6,708)	(6,361)	(5,626)	(5,110)	(4,918)	(4,432)	(4,061)	(3,309)	
	928	99	184	189	263	379	607	815	1,159	1,574	3,180	**9,377**
Effect of discounting	(191)	(12)	(14)	(15)	(24)	3	1	3	—	—	—	**(249)**
Present value	737	87	170	174	239	382	608	818	1,159	1,574	3,180	**9,128**
Cumulative effect of foreign exchange movements	—	13	(6)	(2)	(7)	(3)	5	22	62	170	—	**254**
Effect of acquisitions	61	17	20	31	40	39	33	46	61	68	26	**442**
Present value recognised in the statement of financial position	**798**	**117**	**184**	**203**	**272**	**418**	**646**	**886**	**1,282**	**1,812**	**3,206**	**9,824**

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 2007. The undiscounted claim provisions, net of reinsurance, in respect of this business at 31 December 2016 were £134 million *(2015: £237 million)*. The movement in the year reflects a reduction of £78 million due to the reinsurance contract completed by the UK General Insurance business covering a proportion of these liabilities, favourable claims development of £34 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:

	2016 £m	2015 £m
Carrying amount at 1 January	**4,048**	4,107
Premiums written during the year	**9,694**	8,738
Less: Premiums earned during the year	**(9,503)**	(8,613)
Changes in UPR recognised as an (income)/expense	**191**	125
Gross portfolio transfers and acquisitions[1]	**124**	—
Foreign exchange rate movements	**403**	(184)
Carrying amount at 31 December	**4,766**	4,048

1 Relates to the acquisition of Royal Bank of Canada General Insurance Company.

IFRS

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:

	2016 £m	Restated[1] 2015 £m
Long-term business		
Participating contracts	**89,739**	78,048
Non-participating contracts at fair value	**114,531**	103,034
Total	**204,270**	181,082
Less: Amounts classified as held for sale	**(7,175)**	—
	197,095	181,082

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. See note B2 for further details.

(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. This is expected to be addressed in the forthcoming insurance contract standard (i.e. IFRS 17).

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, £113,307 million in 2016 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

	2016 £m	2015 £m
Carrying amount at 1 January	**78,048**	67,232
Provisions in respect of new business	**4,584**	3,710
Expected change in existing business provisions	**(4,893)**	(4,219)
Variance between actual and expected experience	**3,084**	1,590
Impact of operating assumption changes	**36**	43
Impact of economic assumption changes	**450**	97
Other movements	**(347)**	49
Change in liability recognised as an expense[1]	**2,914**	1,270
Effect of portfolio transfers, acquisitions and disposals[2]	**—**	12,245
Foreign exchange rate movements	**8,721**	(2,699)
Other movements	**56**	—
Carrying amount at 31 December	**89,739**	78,048

1 Total interest expense for participating investment contracts recognised in profit or loss is £3,111 million *(2015: £1,931 million)*.
2 The movement during 2016 relates to the acquisition of Friends Life.

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 in 2016 of £3.1 billion is primarily driven by favourable equity returns in the UK.

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 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 non-financial assets.

(ii) Non-participating investment contracts

	2016 £m	Restated[1] 2015 £m
Carrying amount at 1 January	**103,034**	49,922
Provisions in respect of new business	**3,222**	2,644
Expected change in existing business provisions	**(3,481)**	(2,726)
Variance between actual and expected experience	**11,105**	(2,906)
Impact of operating assumption changes	**17**	32
Impact of economic assumption changes	**2**	3
Other movements	**334**	38
Change in liability	**11,199**	(2,915)
Effect of portfolio transfers, acquisitions and disposals[2]	**(757)**	56,401
Foreign exchange rate movements	**1,065**	(374)
Other movements	**(10)**	—
Carrying amount at 31 December	**114,531**	103,034

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. See note B2 for further details.
2 The movement during 2015 primarily relates to the acquisition of Friends Life. The movement during 2016 relates to the disposal of a closed book of offshore bonds business.

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 in 2016 of £11.1 billion is primarily driven by the impact of positive 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.

IFRS

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:

	2016 £m	2015 £m
Long-term business		
Insurance contracts	**6,186**	5,018
Participating investment contracts	**2**	11
Non-participating investment contracts[1,2]	**18,366**	13,967
	24,554	18,996
Outstanding claims provisions	**65**	38
	24,619	19,034
General insurance and health		
Outstanding claims provisions[3]	**1,090**	988
Provisions for claims incurred but not reported[3]	**795**	607
	1,885	1,595
Provisions for unearned premiums	**250**	289
	2,135	1,884
	26,754	20,918
Less: Amounts classified as held for sale	**(411)**	—
Total	**26,343**	20,918

1 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.
2 Reinsurance assets in 2016 include the reclassification of £1,061 million of UK Life investments in certain life insurance funds from unit trusts and other investment vehicles (financial instruments) to reinsurance assets.
3 Reinsurance assets at 31 December 2016 for General insurance and health business include the impact of the £78 million reinsurance asset relating to an outwards reinsurance contract completed by the UK General Insurance business and the remaining recoveries expected in respect of the Alberta fires in Canada. Reinsurance assets at 31 December 2015 for General insurance and health business include the impact of the £659 million reinsurance asset relating to an outwards reinsurance contract completed by the UK General Insurance business.

Of the above total, £22,919 million *(2015: £16,341 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

	2016 £m	2015 £m
Carrying amount at 1 January	**18,996**	6,568
Assets in respect of new business	**941**	664
Expected change in existing business assets	**300**	197
Variance between actual and expected experience	**3,149**	(1,007)
Impact of operating assumption changes	**(182)**	(351)
Impact of economic assumption changes	**171**	(177)
Other movements[1]	**1,003**	636
Change in assets	**5,382**	(38)
Effect of portfolio transfers, acquisitions and disposals[2]	**8**	12,504
Foreign exchange rate movements	**168**	(38)
Carrying amount at 31 December	**24,554**	18,996

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. The movement during 2016 includes the reclassification of UK Life investments in certain life insurance funds from unit trusts and other investment vehicles (financial instruments) to reinsurance assets.
2 The movement during 2015 relates to Friends Life, as at the acquisition date. The movement during 2016 relates to the recognition of a reinsurance asset following disposal of a closed book of offshore bonds business.

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

	2016 £m	2015 £m
Carrying amount at 1 January	**1,595**	1,097
Impact of changes in assumptions	**80**	14
Reinsurers' share of claim losses and expenses		
Incurred in current year	**433**	301
Incurred in prior years[1]	**109**	527
Reinsurers' share of incurred claim losses and expenses	**542**	828
Less:		
Reinsurance recoveries received on claims		
Incurred in current year	**(195)**	(121)
Incurred in prior years	**(214)**	(225)
Reinsurance recoveries received in the year	**(409)**	(346)
Unwind of discounting	**9**	8
Change in reinsurance asset recognised as income (note B9a(ii))	**222**	504
Effect of portfolio transfers, acquisitions and disposals	**(25)**	(4)
Foreign exchange rate movements	**97**	(2)
Other movements	**(4)**	—
Carrying amount at 31 December	**1,885**	1,595

1 The change in reinsurance assets for 2016 includes the impact of the £78 million reinsurance asset relating to an outwards reinsurance contract completed by the UK General Insurance business. The change in reinsurance assets for 2015 includes the impact of the £659 million reinsurance asset relating to an outwards reinsurance contract completed by the UK General Insurance business

(iii) Reinsurers' share of the provision for UPR

	2016 £m	2015 £m
Carrying amount at 1 January	**289**	250
Premiums ceded to reinsurers in the year[1]	**668**	1360
Less: Reinsurers' share of premiums earned during the year[1]	**(687)**	(1,346)
Changes in reinsurance asset recognised as income	**(19)**	14
Reinsurers' share of portfolio transfers and acquisitions	**(38)**	33
Foreign exchange rate movements	**18**	(8)
Carrying amount at 31 December	**250**	289

1 For 2016 includes £107 million *(2015: £712 million)* of ceded premiums relating to an outwards reinsurance contract completed by the UK General Insurance business.

IFRS

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 2015 to 2016, 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 2016 £m	Effect on profit 2015 £m
Assumptions		
Long-term insurance business		
Interest rates	**(4,490)**	2,053
Expenses	**48**	248
Persistency rates	**(80)**	(2)
Mortality for assurance contracts	**(11)**	1
Mortality for annuity contracts	**294**	17
Tax and other assumptions	**97**	48
Investment contracts		
Expenses	**—**	(4)
General insurance and health business		
Change in discount rate assumptions	**(242)**	(100)
Change in expense ratio and other assumptions	**—**	1
Total	**(4,384)**	2262

The impact of interest rates on long-term business relates primarily to annuities in the UK (including any change in credit default and reinvestment risk provisions), where a decrease in the valuation interest rate, in response to decreasing risk-free rates and narrowing credit spreads, has increased 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.

In the UK, expense reserves have reduced and persistency reserves have increased following a review of recent experience. There has been a release of annuitant mortality reserves in the UK following a review of recent experience (including the exposure to anti-selection risk) and the adoption of the CMI_2015 mortality improvement assumptions, partially offset by a change in base mortality assumptions in response to revisions in the calculation of mortality exposure.

Tax and other assumptions include the profit arising from a change in estimate related to the recoverability testing of the deferred acquisition cost assets (DAC) in the UK. The allowance for risk for non-participating investment contracts and the level of prudence for insurance contracts has been re-assessed, resulting in amortisation or impairment of DAC in prior reporting periods being reversed (subject to the original amortisation profile).

The adverse change in discount rate assumptions on general insurance and health business of £242 million arises as a result of a decrease in the real interest rates used to discount claim reserves for periodic payment orders and latent claims. Market interest rates used to discount periodic payment orders and latent claims have reduced and the estimated future inflation rate used to value periodic payment orders has been increased to be consistent with market expectations. This has, in part, been offset by a change in estimate for the interest rate used to discount periodic payment orders to allow for the illiquid nature of these liabilities.

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.

	2016 £m	Restated[1] 2015 £m
Carrying amount at 1 January	**8,811**	9,467
Change in participating fund assets	**4,977**	(1,625)
Change in participating fund liabilities	**(4,596)**	641
Change in liability recognised as an expense	**381**	(984)
Effect of portfolio transfers, acquisition and disposals[2]	**—**	724
Foreign exchange rate movements	**1,016**	(396)
Carrying amount at 31 December	**10,208**	8,811
Less: Amounts classified as held for sale	**(859)**	—
	9,349	8,811

1 A review of the 2015 movement in unallocated divisible surplus identified inconsistencies in the presentational approach taken for each participating fund across the Group. As a result, the 2015 analysis has been restated to present the movement in participating fund assets and liabilities consistently on a gross basis for all funds. The 2015 'Change in participating fund assets' has decreased by £690 million, 'Change in participating fund liabilities' increased by £677 million and the 'Other movements' of £13 million have been allocated between the change in participating fund assets and liabilities lines. There is no impact on the carrying amount of unallocated divisible surplus at 1 January 2015 and 31 December 2015.

2 The movement during 2015 relates to the acquisition of Friends Life.

The amount of UDS has increased to £10.2 billion at 31 December 2016 *(2015: £8.8 billion)* including amounts classified as held for sale, and £9.3 billion excluding amounts classified as held for sale. The increase is predominantly due to the weakening of sterling against the euro.

Where the aggregate amount of participating assets is less than the participating liabilities within a fund then the shortfall may be held as negative UDS, subject to recoverability testing as part of the liability adequacy requirements of IFRS 4. There are no negative UDS balances at the participating fund-level within each life entity in the current and comparative periods with the exception of one fund in UK Life with a negative UDS of £16 million *(2015: a negative UDS of £22 million)*. This negative UDS balance was tested for recoverability and considered to be recoverable by comparing the excess of IFRS participating liabilities over the adjusted Solvency II best estimate liabilities for the relevant contracts. The Solvency II best estimate liabilities were adjusted where Solvency II does not represent a best estimate of shareholders' interests consistent with the impairment test for goodwill for long term business and for AVIF on insurance contracts.

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:

	2016 £m	2015 £m
Core structural borrowings, at amortised cost	**8,577**	6,912
Operational borrowings, at amortised cost	**608**	550
Operational borrowings, at fair value	**1,110**	1,308
	1,718	1,858
	10,295	8,770

(b) Movements during the year

Movements in borrowings during the year were:

	2016			2015		
	Core Structural £m	Operational £m	Total £m	Core Structural £m	Operational £m	Total £m
New borrowings drawn down, excluding commercial paper, net of expenses	**1,372**	**148**	**1,520**	1,045	22	1,067
Repayment of borrowings, excluding commercial paper	**(320)**	**(56)**	**(376)**	(833)	(161)	(994)
Movement in commercial paper[1]	**42**	**—**	**42**	(3)	—	(3)
Net cash inflow/(outflow)	**1,094**	**92**	**1,186**	209	(139)	70
Foreign exchange rate movements	**574**	**33**	**607**	(106)	(2)	(108)
Borrowings acquired/(loans repaid) for non-cash consideration	**—**	**—**	**—**	1,568	11	1,579
Fair value movements	**—**	**(220)**	**(220)**	—	37	37
Amortisation of discounts and other non-cash items	**(34)**	**(16)**	**(50)**	(27)	(17)	(44)
Movements in debt held by Group companies[2]	**31**	**(29)**	**2**	(42)	(100)	(142)
Movements in the year	**1,665**	**(140)**	**1,525**	1,602	(210)	1,392
Balance at 1 January	**6,912**	**1,858**	**8,770**	5,310	2,068	7,378
Balance at 31 December	**8,577**	**1,718**	**10,295**	6,912	1,858	8,770

1 Gross issuances of commercial paper were £2,006 million in 2016 *(2015: £982 million)*, offset by repayments of £1,964 million *(2015: £985 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.

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 2016 are shown below.

	2016				2015			
	UK £m	Ireland £m	Canada £m	Total £m	UK £m	Ireland £m	Canada £m	Total £m
Total fair value of scheme assets	**18,803**	**610**	**281**	**19,694**	15,445	484	232	16,161
Present value of defined benefit obligation	**(16,131)**	**(848)**	**(368)**	**(17,347)**	(13,344)	(673)	(307)	(14,324)
Net IAS 19 surpluses/(deficits) in the schemes	**2,672**	**(238)**	**(87)**	**2,347**	2,101	(189)	(75)	1,837
Surpluses included in other assets	**3,190**	**—**	**—**	**3,190**	2,523	—	—	2,523
Deficits included in provisions	**(518)**	**(238)**	**(87)**	**(843)**	(422)	(189)	(75)	(686)
Net IAS 19 surpluses/(deficits) in the schemes	**2,672**	**(238)**	**(87)**	**2,347**	2,101	(189)	(75)	1,837

Movements in the scheme deficits and surpluses

Movements in the pension schemes' surpluses and deficits comprise:

2016	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	**16,161**	**(14,324)**	**1,837**
Past service costs – amendments	**—**	**(1)**	**(1)**
Administrative expenses[1]	**—**	**(13)**	**(13)**
Total pension cost charged to net operating expenses	**—**	**(14)**	**(14)**
Net interest credited/(charged) to investment income /(finance costs)[2]	**590**	**(517)**	**73**
Total recognised in income	**590**	**(531)**	**59**
Remeasurements:			
Actual return on these assets	**4,044**	**—**	**4,044**
Less: Interest income on scheme assets	**(590)**	**—**	**(590)**
Return on scheme assets excluding amounts in interest income	**3,454**	**—**	**3,454**
Losses from change in financial assumptions	**—**	**(3,944)**	**(3,944)**
Gains from change in demographic assumptions	**—**	**363**	**363**
Experience gains	**—**	**438**	**438**
Total recognised in other comprehensive income	**3,454**	**(3,143)**	**311**
Employer contributions	**190**	**—**	**190**
Plan participant contributions	**6**	**(6)**	**—**
Benefits paid	**(825)**	**825**	**—**
Administrative expenses paid from scheme assets[1]	**(15)**	**13**	**(2)**
Foreign exchange rate movements	**133**	**(181)**	**(48)**
Net IAS 19 surplus in the schemes at 31 December	**19,694**	**(17,347)**	**2,347**

1 Administrative expenses are expensed as incurred.
2 Net interest income of £102 million has been credited to investment income and net interest expense of £29 million has been charged to finance costs.

The increase in the surplus during the period is primarily due to remeasurements recognised in other comprehensive income which reflect increased asset values mainly driven by a reduction in interest rates in the UK partly offset by an increase in the defined benefit obligation following a decrease in the UK discount rate.

B15 – Pension obligations continued

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.

IFRS

B16 – 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

	2016 £m				2015 £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	**4**	**(3)**	**—**	**—**	9	(7)	—	—
Joint ventures	**46**	**—**	**—**	**2**	27	—	—	192
Employee pension schemes	**16**	**—**	**—**	**5**	13	—	—	3
	66	**(3)**	**—**	**7**	49	(7)	—	195

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 earned interest on loans advanced to these entities, which were fully repaid in 2016. Our fund management companies also charge fees to these joint ventures for administration services and for arranging external finance.

Key management personnel of the Company may from time to time purchase insurance, savings, asset management or annuity products marketed by group companies on equivalent terms to those available to all employees of the Group. In 2016 and 2015, other transactions with key management personnel were not deemed to be significant either by size or in the context of their individual financial positions.

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 2016, the Friends Provident Pension Scheme ('FPPS'), acquired in 2015 as part of the acquisition of the Friends Life business, held an insurance policy of £633 million *(2015: £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.

B17 – Risk management

This note sets out the major risks our businesses and our 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. The business chief executive officers and chief risk officers, on a semi-annual basis during 2016, 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. For those risk types managed through the holding of capital, being our principal risk types except for liquidity risk, we measure and monitor our risk profile on the basis of the Solvency II solvency capital requirement (SCR).

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.

Economic capital risk appetites are also set for each risk type, calculated on the basis of the Solvency II solvency capital requirement (SCR). 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.

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.

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

B17 – Risk management continued

(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 2016	AAA	AA	A	BBB	Below BBB	Not rated	Carrying value including held for sale £m	Less: Amounts classified as held for sale £m	Carrying value £m
Debt securities	**11.4%**	**34.1%**	**19.0%**	**24.2%**	**5.9%**	**5.4%**	**183,274**	**(7,738)**	**175,536**
Reinsurance assets	**0.0%**	**92.0%**	**6.3%**	**0.1%**	**0.0%**	**1.6%**	**26,754**	**(411)**	**26,343**
Other investments	**0.0%**	**0.2%**	**0.5%**	**0.0%**	**0.0%**	**99.3%**	**58,255**	**(2,304)**	**55,951**
Loans	**0.0%**	**8.0%**	**0.0%**	**0.1%**	**0.0%**	**91.9%**	**24,859**	**(75)**	**24,784**
Total							**293,142**	**(10,528)**	**282,614**

As at 31 December 2015	AAA	AA	A	BBB	Below BBB	Not rated	Carrying value including held for sale £m	Less: Amounts classified as held for sale £m	Carrying value £m
Debt securities	12.4%	37.4%	19.8%	21.2%	4.0%	5.2%	162,964	—	162,964
Reinsurance assets	0.1%	88.2%	8.0%	0.0%	0.0%	3.7%	20,918	—	20,918
Other investments	0.0%	0.1%	0.8%	0.0%	0.0%	99.1%	47,695	—	47,695
Loans	0.0%	8.2%	1.3%	0.1%	0.0%	90.4%	22,433	—	22,433
Total							254,010	—	254,010

The majority of non-rated debt securities within shareholder assets are held by our businesses in the UK. Of these securities 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 £2.3 billion *(2015: £2.2 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 continues to hold a series of macro credit hedges to reduce the overall credit risk exposure. The Group's maximum exposure to credit risk of financial assets, without taking collateral or these hedges into account, is represented by the carrying value of the financial instruments in the statement of financial position. These comprise debt securities, reinsurance assets, derivative assets, loans and receivables. The carrying values of these assets are disclosed in section D. Financial assets and liabilities subject to offsetting, enforceable master netting arrangements and similar agreements.

To the extent that collateral held is greater than the amount receivable that it is securing, the table above shows only an amount equal to the latter. In the event of default, any over-collateralised security would be returned to the relevant counterparty.

(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 2016 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 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.

B17 – Risk management continued

(iii) Other investments

Other investments (including assets of operations classified as held for sale) 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;
- Healthcare, infrastructure and PFI loans secured against healthcare, education, social housing and emergency services related premises; 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.

The adverse impact on the valuation of the Group's UK mortgage portfolio in the first half of 2016 of revised expectations of future property prices and rental income in light of the UK referendum vote for the UK to leave the European Union has been broadly offset in the second half of the year as expectations for future property price and rental growth have increased.

(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 2.5% 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 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 2016, the reinsurance asset recoverable, including debtor balances, from BlackRock Life Ltd was £17,087 million *(2015: £12,660 million)*, reflecting increased valuations of BlackRock funds and net customer inflows. While the risk of default is considered remote due to the nature of the arrangement and the counterparty, the Group is in the process of restructuring the agreements with BlackRock Life Ltd to significantly reduce 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 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 generally mitigated through holding collateral for most trades. Residual exposures are captured within the Group's credit management framework.

B17 – Risk management continued

(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.

(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 or loss and held for sale.

		Financial assets that are past due but not impaired					
At 31 December 2016	**Neither past due nor impaired £m**	**0–3 months £m**	**3–6 months £m**	**6 months–1 year £m**	**Greater than 1 year £m**	**Financial assets that have been impaired £m**	**Carrying value £m**
Debt securities	**1,092**	**—**	**—**	**—**	**—**	**—**	**1,092**
Reinsurance assets	**8,388**	**—**	**—**	**—**	**—**	**—**	**8,388**
Other investments	**1**	**—**	**—**	**—**	**—**	**—**	**1**
Loans	**3,501**	**—**	**—**	**—**	**—**	**—**	**3,501**
Receivables and other financial assets	**7,717**	**61**	**7**	**8**	**1**	**—**	**7,794**

		Financial assets that are past due but not impaired					
At 31 December 2015	Neither past due nor impaired £m	0–3 months £m	3–6 months £m	6 months–1 year £m	Greater than 1 year £m	Financial assets that have been impaired £m	Carrying value £m
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

Excluded from the tables above are financial and reinsurance assets carried at fair value through profit or loss that are not subject to impairment testing, as follows: £182.2 billion of debt securities *(2015: £162.0 billion)*, £58.3 billion of other investments *(2015: £47.7 billion)*, £21.3 billion of loans *(2015: £19.1 billion)* and £18.4 billion of reinsurance assets *(2015: £14.0 billion)*.

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 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 direct equity price risk arising from changes in the market values of its equity securities portfolio. Our most material indirect equity price risk exposures are to policyholder unit-linked funds, which are exposed to a fall in the value of the fund thereby reducing the fees we earn on those funds, and participating contracts, which are exposed to a fall in the value of the funds thereby increasing our costs for policyholder guarantees. We also have some equity exposure in shareholder funds through equities held to match inflation-linked liabilities.

We continue to limit our direct equity exposure in line with our risk preferences. 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.

B17 – Risk management continued

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. An equity hedging strategy remains in place to help control the Group's overall direct and indirect exposure to equities. At 31 December 2016 the Group continues to hold a series of macro equity hedges to reduce the overall shareholder equity risk exposure.

Sensitivity to changes in equity prices is given in section '(j) risk and capital management' below.

(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 2016, 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. In particular, a key objective is to at least match the duration of our annuity liabilities with assets of the same duration, and in some cases where appropriate cash flow matching has been used. These assets include corporate bonds, residential mortgages and commercial mortgages. Should they default before maturity, it is assumed that the Group can reinvest in assets of a similar risk and return profile, which is subject to market conditions. Interest rate risk is also managed in some business units using a variety of derivative instruments, including futures, options, swaps, caps and floors.

Some of the Group's products, principally participating contracts, expose us to the risk that changes in interest rates will impact on profits through a change in the interest spread (the difference between the amounts that we are required to pay under the contracts and the investment income we are able to earn on the investments supporting our obligations under those contracts). The primary markets where Aviva is exposed to this risk are the UK, France and Italy.

The low interest rate environment in a number of markets around the world has resulted in our current reinvestment yields being lower than the overall current portfolio yield, primarily for our investments in fixed income securities and commercial mortgage loans. We anticipate that interest rates may remain below historical averages before the 2008 financial crisis for an extended period of time and that financial markets may continue to have periods of high volatility. Investing activity will continue to decrease the portfolio yield as long as market yields remain below the current portfolio level. We expect the decline in portfolio yield will result in lower net investment income in future periods.

Other product lines of the Group, such as protection, are not significantly sensitive to interest rate or market movements. For unit-linked business, the shareholder margins emerging are typically a mixture of annual management fees and risk/expense charges. Risk and expense margins will be largely unaffected by low interest rates. Annual management fees may increase in the short term as the move towards low interest rates increases the value of unit funds. However, in the medium term, unit funds will grow at a lower rate which will reduce fund charges. For the UK annuities business interest rate exposure is mitigated by closely matching the duration of liabilities with assets of the same duration.

The UK participating business includes contracts with features such as guaranteed surrender values, guaranteed annuity options, and minimum surrender and maturity values. These liabilities are managed through duration matching of assets and liabilities and the use of derivatives, including swaptions. As a result, the Group's exposure to sustained low interest rates on this portfolio is not material. The Group's key exposure to low interest rates arises through its other participating contracts, principally in Italy and France. Some of these contracts also include features such as guaranteed minimum bonuses, guaranteed investment returns and guaranteed surrender values. In a low interest rate environment there is a risk that the yield on assets might not be sufficient to cover these obligations. For certain of its participating contracts the Group is able to amend guaranteed crediting rates. Our ability to lower crediting rates may be limited by competition, bonus mechanisms and contractual arrangements.

B17 – Risk management continued

The following table summarises the weighted average minimum guaranteed crediting rates and weighted average book value yields on assets as at 31 December 2016 for our Italian and French participating contracts, where the Group's key exposure to sustained low interest rates arises.

	Weighted average minimum guaranteed crediting rate	Weighted average book value yield on assets	Participating contract liabilities £m
France	0.78%	3.39%	74,606
Italy	0.93%	3.61%	12,514
Other[1]	N/A	N/A	59,379
Total	N/A	N/A	146,499

1 'Other' includes UK participating business

Profit before tax on General Insurance and Health Insurance business is generally a mixture of insurance, expense and investment returns. The asset portfolio is invested primarily in fixed income securities and the reduction in interest rates in recent years has reduced the investment component of profit. The portfolio investment yield and average total invested assets in our general insurance and health business are set out in the table below.

	Portfolio investment yield[1]	Average assets £m
2014	2.76%	17,200
2015	2.58%	15,268
2016	2.47%	14,369

1 Before realised and unrealised gains and losses and investment expenses

The nature of the business means that prices in certain circumstances can be increased to maintain overall profitability. This is subject to the competitive environment in each market. To the extent that there are further falls in interest rates the investment yield would be expected to decrease further in future periods.

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-profit contract liabilities or hedging. As a result the foreign exchange and losses on investments are largely offset by changes in unit-linked and with-profit liabilities and fair value changes in derivatives attributable to changes in foreign exchange rates recognised in the income statement.

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 63% 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 sterling, euro 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. However, the Group does use foreign currency forward contracts to hedge planned dividends from its subsidiaries.

B17 – Risk management continued

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. Except where the Group has applied net investment hedge accounting, foreign exchange gains and losses on foreign currency borrowings are recognised in the income statement, whereas foreign exchange gains and losses arising on consolidation from the translation of assets and liabilities of foreign subsidiaries are recognised in other comprehensive income. At 31 December 2016, the Group's exposure to euro and Canadian dollars has decreased compared to prior year due to new debt issuance in these currencies, capital repatriation and the increased purchase of foreign currency forward contracts to hedge planned dividends from subsidiaries. Foreign currency capital deployed (included in Other below) in the Group's targeted high growth markets has increased in 2016 to fund future growth. At 31 December 2016 and 2015, 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 2016	**15,813**	**923**	**627**	**2,188**	**19,551**
Capital 31 December 2015 (restated)[1]	14,371	2,011	979	909	18,270

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.

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 2016	**(92)**	**92**	**(63)**	**20**
Net assets at 31 December 2015	(166)	128	(33)	67

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 2016	**(55)**	**67**	**(15)**	**(9)**
Impact on profit before tax 31 December 2015	8	23	25	(46)

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. Derivatives are primarily used for efficient investment management, risk hedging purposes, or to structure specific retail savings products. Activity is overseen by the Group Capital and Group Risk teams, which monitor exposure levels and approve large or complex transactions.

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.

B17 – Risk management continued

(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 2016 and 2015 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.

At 31 December 2016	Total £m	On demand or within 1 year £m	1-5 years £m	5-15 years £m	Over 15 years £m
Long-term business					
Insurance contracts – non-linked	**116,400**	**9,757**	**31,423**	**44,791**	**30,429**
Investment contracts – non-linked	**70,749**	**5,358**	**14,687**	**27,568**	**23,136**
Linked business	**156,264**	**24,165**	**47,465**	**58,284**	**26,350**
General insurance and health	**16,488**	**6,761**	**6,594**	**2,448**	**685**
Total contract liabilities	**359,901**	**46,041**	**100,169**	**133,091**	**80,600**

At 31 December 2015	Total £m	On demand or within 1 year £m	1-5 years £m	5-15 years £m	Over 15 years £m
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

(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.

At 31 December 2016	Total £m	On demand or within 1 year £m	1-5 years £m	Over 5 years £m	No fixed term (perpetual) £m
Debt securities	**175,536**	**25,817**	**47,971**	**101,580**	**168**
Equity securities	**68,348**	**—**	**—**	**—**	**68,348**
Other investments	**55,951**	**48,059**	**2,202**	**4,143**	**1,547**
Loans	**24,784**	**1,352**	**5,609**	**17,819**	**4**
Cash and cash equivalents	**38,708**	**38,708**	**—**	**—**	**—**
	363,327	**113,936**	**55,782**	**123,542**	**70,067**

At 31 December 2015	Total £m	On demand or within 1 year £m	1-5 years £m	Over 5 years £m	No fixed term (perpetual) £m
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

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.

B17 – Risk management continued

(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 Group's underwriting strategy and appetite is communicated via specific policy statements, related business standards and guidelines. Life insurance risk is managed primarily at business unit level with oversight at the Group level. The underlying risk profile of our life and health insurance risks, primarily persistency, longevity, mortality and expense risk, has remained stable during 2016, although the current continued relatively low levels of interest rates have increased our sensitivity to longevity shocks compared to historical norms. The continuing reduction in individual annuity new business volumes, since the end to compulsory annuitisation in April 2015, 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 monitors 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. While 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.
- 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 is exposed to the risk of changes in policyholder behavior due to the exercise of options, guarantees and other product features embedded in its long-term savings products. These product features offer policyholders 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 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.

B17 – Risk management continued

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', including information on the adverse impact on reserves following the announcement on 27 February 2017 of the change in the Ogden discount rate used to calculate lump sum payments in settlement of bodily injury claims.

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.

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, and has reinsured 100% of its latent exposures to its historic UK employers' liability and public liability business written prior to 31 December 2000.

(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. Funds invested in illiquid assets such as commercial property are particularly exposed to liquidity risk. The risk profile is regularly monitored.

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.

B17 – Risk management continued

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.

(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.

(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.

(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 ± 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 2016

2016 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	(50)	30	(10)	(130)	65	(30)	(5)	(15)
Insurance non-participating	(190)	20	(775)	(35)	10	(190)	(90)	(920)
Investment participating	(10)	5	(5)	—	—	(5)	—	—
Investment non-participating	10	(15)	—	50	(70)	(65)	—	—
Assets backing life shareholders' funds	(115)	190	10	(85)	85	—	—	—
Total	**(355)**	**230**	**(780)**	**(200)**	**90**	**(290)**	**(95)**	**(935)**

2016 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	(50)	30	(10)	(130)	65	(30)	(5)	(15)
Insurance non-participating	(190)	20	(775)	(35)	10	(190)	(90)	(920)
Investment participating	(10)	5	(5)	—	—	(5)	—	—
Investment non-participating	10	(15)	—	50	(70)	(65)	—	—
Assets backing life shareholders' funds	(155)	230	5	(85)	85	—	—	—
Total	**(395)**	**270**	**(785)**	**(200)**	**90**	**(290)**	**(95)**	**(935)**

IFRS

B17 – Risk management continued

Sensitivities as at 31 December 2015

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)

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)

Changes in sensitivities between 2016 and 2015 reflect underlying movements in market interest rates, portfolio growth, changes to asset mix and the relative durations of assets and liabilities, asset liability management actions, as well as a transfer in the UK of non-participating insurance business from a with-profit fund to a non-profit fund and changes to the level of DAC in the UK. The sensitivities to economic and demographic movements relate mainly to business in the UK.

General insurance and health business sensitivities as at 31 December 2016

2016 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	**(315)**	**320**	**(145)**	**85**	**(85)**	**(115)**	**(340)**
Net of reinsurance	**(385)**	**375**	**(145)**	**85**	**(85)**	**(115)**	**(320)**

2016 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	**(315)**	**320**	**(145)**	**85**	**(85)**	**(25)**	**(340)**
Net of reinsurance	**(385)**	**375**	**(145)**	**85**	**(85)**	**(25)**	**(320)**

Sensitivities as at 31 December 2015

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)

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)

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.

B17 – Risk management continued

Fund management and non-insurance business sensitivities as at 31 December 2016

2016 Impact on profit before tax (£m)	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%
Total	**—**	**—**	**10**	**(10)**	**15**

2016 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**	**(10)**	**15**

Sensitivities as at 31 December 2015

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

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

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.

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.

B18 – Direct capital instrument and tier 1 notes

Notional amount	2016 £m	2015 £m
5.9021% £500 million direct capital instrument – Issued November 2004	**500**	500
8.25% $650 million fixed rate tier 1 notes – Issued May 2012	**392**	392
6.875% £210 million STICS – Issued November 2003	**231**	231
Total	**1,123**	1,123

The direct capital instrument (the DCI) was issued on 25 November 2004. 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. 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 one Insurance Capital Securities ('STICS') were issued on 21 November 2003 by Friends Life Holdings plc. 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. These instruments have been treated as equity.

At the end of 2016 the fair value of the DCI, FxdRNs and the STICS was £1,286 million (*2015: £1,223 million*).

B19 – Cash and cash equivalents

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

	2016 £m	2015 £m
Cash and cash equivalents	**38,708**	33,676
Cash and cash equivalents of operations classified as held for sale	**255**	—
Bank overdrafts	**(558)**	(506)
Net cash and cash equivalents at 31 December	**38,405**	33,170

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 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) while 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, 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$1,181 million as at 31 December 2016 *(2015: CAD$1,212 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 2016, 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:

	2016 £m	2015 £m
Acquired value of in-force business on insurance contracts	**1,750**	2,002
Acquired value of in-force business on investment contracts	**2,097**	2,381
Intangible assets	**1,633**	1,348
	5,480	5,731
Less: Amounts classified as held for sale	**(12)**	—
Total	**5,468**	5,731

The acquired value of in-force business on insurance and investment contracts has reduced primarily due to an amortisation charge of £539 million *(2015: £496 million charge)*.

The increase in the intangible assets primarily relates to intangibles of £210 million acquired as part the acquisition of RBC General Insurance Company (see note B4), capitalised software in the UK and foreign exchange rate movements, partially offset by the amortisation charge for the year.

B22 – Subsequent events

For subsequent events relating to the acquisition and disposal of subsidiaries, refer to note B4. Subsequent events relating to insurance liabilities are reflected in note B9 (c)(iii).

In addition to the above:

- In December 2016, Aviva and Santander agreed changes to the shareholders' agreement in respect of their joint venture insurance operations in Poland, with an effective date of 1 January 2017. Following these changes, Aviva controls the companies and will consolidate them in 2017.
- On 9 November 2016 the UK Life Board approved the transfer of the whole of the long-term insurance business of Aviva Annuity UK Limited to its parent undertaking Aviva Life & Pensions UK Limited through an insurance business transfer scheme under Part VII of the Financial Services and Markets Act 2000 (the 'Part VII Transfer'). The Part VII transfer was ratified by the High Court on 6 December 2016 and became effective on 1 January 2017.

Capital & liquidity

C1 – Analysis of return on equity

2016	Operating return[1] Before tax £m	After tax £m	Weighted average shareholders' funds including non-controlling interests[2] £m	Return on equity[2] %
United Kingdom & Ireland Life	**1,555**	**1,262**	**11,218**	**11.2%**
United Kingdom & Ireland General Insurance and Health[3,4]	**471**	**380**	**2,431**	**15.6%**
Europe	**964**	**674**	**5,160**	**13.1%**
Canada[4]	**269**	**197**	**1,256**	**15.7%**
Asia	**228**	**216**	**1,548**	**14.0%**
Fund management	**138**	**104**	**426**	**24.4%**
Corporate and Other Business[3,5]	**(227)**	**(219)**	**4,850**	**N/A**
Return on total capital employed	**3,398**	**2,614**	**26,889**	**9.7%**
Subordinated debt	**(387)**	**(309)**	**(6,907)**	**4.5%**
Senior debt	**(1)**	**(1)**	**(869)**	**0.1%**
Return on total equity	**3,010**	**2,304**	**19,113**	**12.1%**
Less: Non-controlling interests		**(147)**	**(1,279)**	**11.5%**
Direct capital instrument and tier 1 notes		**(68)**	**(1,123)**	**6.1%**
Preference capital		**(17)**	**(200)**	**8.5%**
Return on equity shareholders' funds		**2,072**	**16,511**	**12.5%**

1 The operating return is based upon Group operating profit. Refer to note B1.
2 Return on equity is based on an annualised operating return after tax attributable to ordinary shareholders expressed as a percentage of weighted average ordinary shareholders' equity.
3 2015 comparatives have been restated to exclude c.£0.9 billion of goodwill which does not support the general insurance and health business for capital purposes and is included in 'Corporate and Other Business'. There is no impact on Group return on equity as a result of this restatement.
4 2015 comparatives have been restated for the impact of an internal loan between Canada and United Kingdom general insurance. There is no impact on Group return on equity as a result of this restatement.
5 The 'Corporate' and 'Other Business' loss before tax of £227 million comprises corporate costs of £184 million, interest on internal lending arrangements of £23 million, other business operating loss (net of investment return) of £106 million, partly offset by finance income on the main UK pension scheme of £86 million.

2015 - Restated[1]	Operating return[2] Before tax £m	After tax £m	Weighted average shareholders' funds including non-controlling interests[2] £m	Return on equity[2] %
United Kingdom & Ireland Life	1,455	1,277	9,586	14.4%
United Kingdom & Ireland General Insurance and Health[3,4,5]	412	332	3,249	10.2%
Europe	880	590	4,645	12.7%
Canada[5]	214	157	972	16.2%
Asia	238	224	1,249	22.0%
Fund management	106	97	326	30.1%
Corporate and Other Business[4,6]	(254)	(303)	3,417	n/a
Return on total capital employed	3,051	2,374	23,444	10.8%
Subordinated debt	(335)	(267)	(6,240)	4.4%
Senior debt	(28)	(22)	(623)	3.5%
Return on total equity	2,688	2,085	16,581	13.4%
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		1,859	14,181	14.1%

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
2 Return on equity is based on an annualised operating return after tax attributable to ordinary shareholders expressed as a percentage of weighted average ordinary shareholders' equity. The operating return is based upon Group operating profit. Refer to note B1. Following the acquisition of Friends Life, an annualisation factor of 1.33 was used to gross up the Friends Life operating return.
3 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.
4 2015 comparatives have been restated to exclude c.£0.9 billion of goodwill which does not support the general insurance and health business for capital purposes and is included in 'Corporate and Other Business'. There is no impact on Group return on equity as a result of this restatement.
5 2015 comparatives have been restated for the impact of an internal loan between Canada and United Kingdom general insurance. There is no impact on Group return on equity as a result.
6 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.

C2 – Group capital structure – IFRS basis

The table below shows how our capital is deployed by market and how that capital is funded.

	2016 Capital employed £m	Restated[1] 2015 Capital employed £m
Life business		
United Kingdom & Ireland	**11,764**	11,126
France	**2,756**	2,151
Poland	**296**	305
Italy	**947**	849
Spain	**594**	506
Other Europe	**71**	72
Europe	**4,664**	3,883
Asia	**1,643**	1,355
	18,071	16,364
General insurance & health		
United Kingdom & Ireland[2]	**1,761**	3,165
France	**462**	506
Italy	**282**	231
Other Europe	**70**	63
Europe	**814**	800
Canada	**1,471**	957
Asia	**16**	24
	4,062	4,946
Fund Management	**462**	411
Corporate & Other Business[2,3]	**5,533**	3,461
Total capital employed	**28,128**	25,182
Financed by		
Equity shareholders' funds	**16,803**	15,802
Non-controlling interests	**1,425**	1,145
Direct capital instrument & tier 1 notes	**1,123**	1,123
Preference shares	**200**	200
Subordinated debt[4]	**7,213**	6,427
Senior debt	**1,364**	485
Total capital employed[5]	**28,128**	25,182

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. This has led to an increase in operating profit and profit before tax of £23 million for 2015 and an increase in opening retained earnings for 2015 of £20 million with an increase in equity at 31 December 2015 of £38 million. See note B2 for further details.
2 Capital employed for United Kingdom & Ireland general insurance and health excludes c.£0.9 billion of goodwill which does not support the general insurance and health business for capital purposes and is included in 'Corporate & Other Business'. Comparatives have been restated accordingly and there is no impact on Group return on equity as a result of this restatement.
3 '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).
4 Subordinated debt excludes amounts held by Group companies of £9 million *(2015: £42 million)*.
5 Goodwill, AVIF and other intangibles are maintained within the capital base. Goodwill includes goodwill in subsidiaries of £2,045 million (*2015: £1,955 million*), goodwill in joint ventures of £20 million (*2015: £19 million*) and goodwill in associates of £47 million (*2015: £26 million*). AVIF and other intangibles comprise £5,468 million (*2015: £5,731 million*) of intangibles in subsidiaries, £72 million (*2015: £71 million*) of intangibles in joint ventures and £18 million (*2015: Nil*) of intangibles in associates, net of deferred tax liabilities of £(783) million (*2015: £(814) million*) and the non-controlling interest share of intangibles of £(226) million *(2015: £(195) million)*.

Total capital employed is financed by a combination of equity shareholders' funds, preference capital, subordinated debt and other borrowings. At the end of 2016 the Group had £28.1 billion *(2015: £25.2 billion)* of total capital employed in our trading operations measured on an IFRS basis.

In 2016 the Group issued two subordinated debt instruments and two sets of senior notes. Additionally one subordinated debt instrument was redeemed in full at its first call date. Further details are set out below:

- May 2016 – Aviva plc issued C$450 million of subordinated debt at 4.50% which matures in May 2021.
- September 2016 – Aviva plc issued £400 million of subordinated debt at 4.375%, with final maturity in September 2049 and first call in September 2029, and €350 million of senior debt at 0.100% which matures in December 2018.
- October 2016 – Aviva plc issued €500 million of senior debt at 0.625% with a maturity in October 2023.
- December 2016 – Aviva plc redeemed, at first call, the 8.25% $400 million subordinated debt originally issued in 2011.

At the end of 2016 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 £11,006 million *(2015: £9,094 million)*.

C3 – Equity sensitivity analysis – IFRS basis

The sensitivity of the Group's total equity on an IFRS basis at 31 December 2016 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:

Restated[1] 2015 £bn	IFRS basis	31 December 2016 £bn	Equities down 10% £bn	Interest rates up 1% £bn	0.5% increased credit spread £bn
16.4	Long-term savings	**18.1**	**—**	**(0.4)**	**(0.2)**
8.8	General insurance and other	**10.1**	**(0.1)**	**(0.4)**	**0.6**
(6.9)	Borrowings	**(8.6)**	**—**	**—**	**—**
18.3	**Total equity**	**19.6**	**(0.1)**	**(0.8)**	**0.4**

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. See note B2 for further details.

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 £2.3 billion (before any associated tax impact).

The 0.5% increased credit spread sensitivity does not make an allowance for any adjustment to risk-free interest rates. The long-term business sensitivities provide for any impact of credit spread movements on liability valuations. The 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.

Analysis of assets

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.

2016	Policyholder assets £m	Participating fund assets £m	Shareholder assets £m	Total assets analysed £m	Less assets of operations classified as held for sale £m	Balance sheet total £m
Goodwill and acquired value of in-force business and intangible assets	—	—	7,525	7,525	(12)	7,513
Interests in joint ventures and associates	89	1,356	640	2,085	—	2,085
Property and equipment	—	192	295	487	—	487
Investment property	6,625	3,664	527	10,816	(48)	10,768
Loans	1,027	2,470	21,362	24,859	(75)	24,784
Financial investments						
Debt securities	27,048	102,511	53,715	183,274	(7,738)	175,536
Equity securities	52,571	15,771	670	69,012	(664)	68,348
Other investments	45,630	9,119	3,506	58,255	(2,304)	55,951
Reinsurance assets	18,525	664	7,565	26,754	(411)	26,343
Deferred tax assets	—	—	183	183	(3)	180
Current tax assets	—	—	119	119	—	119
Receivables and other financial assets	435	2,301	6,462	9,198	(1,404)	7,794
Deferred acquisition costs and other assets	25	556	5,312	5,893	—	5,893
Prepayments and accrued income	279	1,394	1,323	2,996	(114)	2,882
Cash and cash equivalents	8,874	17,777	12,312	38,963	(255)	38,708
Assets of operations classified as held for sale	—	—	—	—	13,028	13,028
Total	**161,128**	**157,775**	**121,516**	**440,419**	**—**	**440,419**
Total %	**36.6%**	**35.8%**	**27.6%**	**100.0%**	**—**	**100.0%**
2015 Total – restated[1]	141,592	141,756	104,483	387,831	—	387,831
2015 Total % – restated[1]	36.5%	36.6%	26.9%	100.0%	—	100.0%

1 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. See note B2 for further details.

As at 31 December 2016, 27.6% of Aviva's total asset base was shareholder assets, 35.8% participating fund assets where Aviva shareholders have partial exposure, and 36.6% policyholder assets where Aviva shareholders have no exposure. Of the total assets (excluding held for sale), investment property, loans and financial investments comprise £335.4 billion, compared to £308.0 billion at 31 December 2015.

D2 – Total assets – Valuation bases/fair value hierarchy

Total assets – 2016	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	—	7,525	—	7,525
Interests in joint ventures and associates	—	—	2,085	2,085
Property and equipment	389	98	—	487
Investment property	10,816	—	—	10,816
Loans	21,283	3,576	—	24,859
Financial Investments				
Debt securities	183,274	—	—	183,274
Equity securities	69,012	—	—	69,012
Other investments	58,255	—	—	58,255
Reinsurance assets	18,366	8,388	—	26,754
Deferred tax assets	—	—	183	183
Current tax assets	—	—	119	119
Receivables and other financial assets	—	9,198	—	9,198
Deferred acquisition costs and other assets	—	5,893	—	5,893
Prepayments and accrued income	—	2,996	—	2,996
Cash and cash equivalents	38,963	—	—	38,963
Total	**400,358**	**37,674**	**2,387**	**440,419**
Total %	**90.9%**	**8.6%**	**0.5%**	**100.0%**
Assets of operations classified as held for sale	11,009	2,016	3	13,028
Total (excluding assets held for sale)	**389,349**	**35,658**	**2,384**	**427,391**
Total % (excluding assets held for sale)	**91.1%**	**8.3%**	**0.6%**	**100.0%**
2015 Total – restated[2]	352,629	33,038	2,164	387,831
2015 Total % – restated[2]	90.9%	8.5%	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.
2 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. See note B2 for further details.

D2 – Total assets – Valuation bases/fair value hierarchy continued

Total assets – Policyholder assets 2016	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	—	—	—	—
Interests in joint ventures and associates	—	—	89	89
Property and equipment	—	—	—	—
Investment property	6,625	—	—	6,625
Loans	—	1,027	—	1,027
Financial Investments				
Debt securities	27,048	—	—	27,048
Equity securities	52,571	—	—	52,571
Other investments	45,630	—	—	45,630
Reinsurance assets	18,359	166	—	18,525
Deferred tax assets	—	—	—	—
Current tax assets	—	—	—	—
Receivables and other financial assets	—	435	—	435
Deferred acquisition costs and other assets	—	25	—	25
Prepayments and accrued income	—	279	—	279
Cash and cash equivalents	8,874	—	—	8,874
Total	**159,107**	**1,932**	**89**	**161,128**
Total %	**98.7%**	**1.2%**	**0.1%**	**100.0%**
Assets of operations classified as held for sale	2,489	—	—	2,489
Total (excluding assets held for sale)	**156,618**	**1,932**	**89**	**158,639**
Total % (excluding assets held for sale)	**98.7%**	**1.2%**	**0.1%**	**100.0%**
2015 Total	140,525	926	141	141,592
2015 Total %	99.2%	0.7%	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.

Total assets – Participating fund assets 2016	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	—	—	—	—
Interests in joint ventures and associates	—	—	1,356	1,356
Property and equipment	180	12	—	192
Investment property	3,664	—	—	3,664
Loans	124	2,346	—	2,470
Financial Investments				
Debt securities	102,511	—	—	102,511
Equity securities	15,771	—	—	15,771
Other investments	9,119	—	—	9,119
Reinsurance assets	—	664	—	664
Deferred tax assets	—	—	—	—
Current tax assets	—	—	—	—
Receivables and other financial assets	—	2,301	—	2,301
Deferred acquisition costs and other assets	—	556	—	556
Prepayments and accrued income	—	1,394	—	1,394
Cash and cash equivalents	17,777	—	—	17,777
Total	**149,146**	**7,273**	**1,356**	**157,775**
Total %	**94.5%**	**4.6%**	**0.9%**	**100.0%**
Assets of operations classified as held for sale	8,520	1,482	—	10,002
Total (excluding assets held for sale)	**140,626**	**5,791**	**1,356**	**147,773**
Total % (excluding assets held for sale)	**95.2%**	**3.9%**	**0.9%**	**100.0%**
2015 Total	132,319	8,142	1,295	141,756
2015 Total %	93.4%	5.7%	0.9%	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

Total assets – Shareholders assets 2016	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	—	**7,525**	—	**7,525**
Interests in joint ventures and associates	—	—	**640**	**640**
Property and equipment	**209**	**86**	—	**295**
Investment property	**527**	—	—	**527**
Loans	**21,159**	**203**	—	**21,362**
Financial Investments				
Debt securities	**53,715**	—	—	**53,715**
Equity securities	**670**	—	—	**670**
Other investments	**3,506**	—	—	**3,506**
Reinsurance assets	**7**	**7,558**	—	**7,565**
Deferred tax assets	—	—	**183**	**183**
Current tax assets	—	—	**119**	**119**
Receivables and other financial assets	—	**6,462**	—	**6,462**
Deferred acquisition costs and other assets	—	**5,312**	—	**5,312**
Prepayments and accrued income	—	**1,323**	—	**1,323**
Cash and cash equivalents	**12,312**	—	—	**12,312**
Total	**92,105**	**28,469**	**942**	**121,516**
Total %	**75.8%**	**23.4%**	**0.8%**	**100.0%**
Assets of operations classified as held for sale	—	**534**	**3**	**537**
Total (excluding assets held for sale)	**92,105**	**27,935**	**939**	**120,979**
Total % (excluding assets held for sale)	**76.1%**	**23.1%**	**0.8%**	**100.0%**
2015 Total - restated[2]	79,785	23,970	728	104,483
2015 Total % - restated[2]	76.4%	22.9%	0.7%	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.
2 Following a correction to accounting and modelling for annual management charge rebates in UK Life, prior year comparatives have been restated. See note B2 for further details.

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						
Investment property and financial assets – Total 2016	Level 1 £m	Level 2 £m	Level 3 £m	Sub-total fair value £m	Amortised cost £m	Less: Assets of operations classified as held for sale £m	Balance sheet total £m
Investment property	—	—	**10,816**	**10,816**	—	**(48)**	**10,768**
Loans	—	**360**	**20,923**	**21,283**	**3,576**	**(75)**	**24,784**
Debt securities	**102,724**	**63,234**	**17,316**	**183,274**	—	**(7,738)**	**175,536**
Equity securities	**68,099**	—	**913**	**69,012**	—	**(664)**	**68,348**
Other investments (including derivatives)	**47,832**	**6,359**	**4,064**	**58,255**	—	**(2,304)**	**55,951**
Assets of operations classified as held for sale	—	—	—	—	—	**10,829**	**10,829**
Total	**218,655**	**69,953**	**54,032**	**342,640**	**3,576**	—	**346,216**
Total %	**63.2%**	**20.2%**	**15.6%**	**99.0%**	**1.0%**	—	**100.0%**
Assets of operations classified as held for sale	**9,408**	**366**	**980**	**10,754**	**75**	—	**10,829**
Total (excluding assets held for sale)	**209,247**	**69,587**	**53,052**	**331,886**	**3,501**	—	**335,387**
Total % (excluding assets held for sale)	**62.5%**	**20.7%**	**15.8%**	**99.0%**	**1.0%**	—	**100.0%**
2015 Total	191,265	64,210	49,122	304,597	3,354	—	307,951
2015 Total %	62.1%	20.8%	16.0%	98.9%	1.1%	—	100.0%

At 31 December 2016, the proportion of total financial assets classified as Level 1 in the fair value hierarchy increased to 63.2% *(2015: 62.1%)*. The proportion of Level 2 loans and financial assets was 20.2% *(2015: 20.8%)* and investment properties, loans and financial assets classified as Level 3 was 15.6% *(2015: 16.0%)*.

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

	2016				2015			
	Fair value hierarchy				Fair value hierarchy			
Investment property – Total	**Level 1 £m**	**Level 2 £m**	**Level 3 £m**	**Total £m**	Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Lease to third parties under operating leases	—	—	**10,754**	**10,754**	—	—	11,149	11,149
Vacant investment property/held for capital appreciation	—	—	**62**	**62**	—	—	152	152
Total	—	—	**10,816**	**10,816**	—	—	11,301	11,301
Total %	—	—	**100.0%**	**100.0%**	—	—	100.0%	100.0%
Assets of operations classified as held for sale	—	—	**48**	**48**	—	—	—	—
Total (excluding assets held for sale)	—	—	**10,768**	**10,768**	—	—	11,301	11,301
Total % (excluding assets held for sale)	—	—	**100.0%**	**100.0%**	—	—	100.0%	100.0%

	2016				2015			
	Fair value hierarchy				Fair value hierarchy			
Investment property – Policyholder assets	**Level 1 £m**	**Level 2 £m**	**Level 3 £m**	**Total £m**	Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Lease to third parties under operating leases	—	—	**6,612**	**6,612**	—	—	6,574	6,574
Vacant investment property/held for capital appreciation	—	—	**13**	**13**	—	—	73	73
Total	—	—	**6,625**	**6,625**	—	—	6,647	6,647
Total %	—	—	**100.0%**	**100.0%**	—	—	100.0%	100.0%
Assets of operations classified as held for sale	—	—	—	—	—	—	—	—
Total (excluding assets held for sale)	—	—	**6,625**	**6,625**	—	—	6,647	6,647
Total % (excluding assets held for sale)	—	—	**100.0%**	**100.0%**	—	—	100.0%	100.0%

	2016				2015			
	Fair value hierarchy				Fair value hierarchy			
Investment property – Participating fund assets	**Level 1 £m**	**Level 2 £m**	**Level 3 £m**	**Total £m**	Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Lease to third parties under operating leases	—	—	**3,616**	**3,616**	—	—	4,048	4,048
Vacant investment property/held for capital appreciation	—	—	**48**	**48**	—	—	68	68
Total	—	—	**3,664**	**3,664**	—	—	4,116	4,116
Total %	—	—	**100.0%**	**100.0%**	—	—	100.0%	100.0%
Assets of operations classified as held for sale	—	—	**48**	**48**	—	—	—	—
Total (excluding assets held for sale)	—	—	**3,616**	**3,616**	—	—	4,116	4,116
Total % (excluding assets held for sale)	—	—	**100.0%**	**100.0%**	—	—	100.0%	100.0%

	2016				2015			
	Fair value hierarchy				Fair value hierarchy			
Investment property – Shareholder assets	**Level 1 £m**	**Level 2 £m**	**Level 3 £m**	**Total £m**	Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Lease to third parties under operating leases	—	—	**526**	**526**	—	—	527	527
Vacant investment property/held for capital appreciation	—	—	**1**	**1**	—	—	11	11
Total	—	—	**527**	**527**	—	—	538	538
Total %	—	—	**100.0%**	**100.0%**	—	—	100.0%	100.0%
Assets of operations classified as held for sale	—	—	—	—	—	—	—	—
Total (excluding assets held for sale)	—	—	**527**	**527**	—	—	538	538
Total % (excluding assets held for sale)	—	—	**100.0%**	**100.0%**	—	—	100.0%	100.0%

Within total investment properties by value 95.1% *(2015: 95.2%)* 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.

Within total investment properties by value 99.4% *(2015: 98.7%)* 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.

Loans – Total 2016	United Kingdom & Ireland £m	Europe £m	Canada £m	Asia £m	Total £m
Policy loans	**15**	**830**	**—**	**37**	**882**
Loans and advances to banks	**2,564**	**15**	**—**	**—**	**2,579**
Healthcare, Infrastructure & PFI other loans	**2,460**	**—**	**—**	**—**	**2,460**
Mortgage loans	**18,253**	**1**	**—**	**—**	**18,254**
Other loans	**506**	**8**	**170**	**—**	**684**
Total	**23,798**	**854**	**170**	**37**	**24,859**
Total %	**95.8%**	**3.4%**	**0.7%**	**0.1%**	**100.0%**
Assets of operations classified as held for sale	**—**	**75**	**—**	**—**	**75**
Total (excluding assets held for sale)	**23,798**	**779**	**170**	**37**	**24,784**
Total % (excluding assets held for sale)	**96.1%**	**3.1%**	**0.7%**	**0.1%**	**100.0%**
2015 Total	21,507	760	135	31	22,433
2015 Total %	95.9%	3.4%	0.6%	0.1%	100.0%

Loans – Policyholders assets 2016	United Kingdom & Ireland £m	Europe £m	Canada £m	Asia £m	Total £m
Policy loans	**—**	**—**	**—**	**8**	**8**
Loans and advances to banks	**1,019**	**—**	**—**	**—**	**1,019**
Healthcare, Infrastructure & PFI other loans	**—**	**—**	**—**	**—**	**—**
Mortgage loans	**—**	**—**	**—**	**—**	**—**
Other loans	**—**	**—**	**—**	**—**	**—**
Total	**1,019**	**—**	**—**	**8**	**1,027**
Total %	**99.2%**	**—**	**—**	**0.8%**	**100.0%**
Assets of operations classified as held for sale	**—**	**—**	**—**	**—**	**—**
Total (excluding assets held for sale)	**1,019**	**—**	**—**	**8**	**1,027**
Total % (excluding assets held for sale)	**99.2%**	**—**	**—**	**0.8%**	**100.0%**
2015 Total	76	—	—	7	83
2015 Total %	91.6%	—	—	8.4%	100.0%

Loans – Participating fund assets 2016	United Kingdom & Ireland £m	Europe £m	Canada £m	Asia £m	Total £m
Policy loans	**11**	**824**	**—**	**27**	**862**
Loans and advances to banks	**982**	**2**	**—**	**—**	**984**
Healthcare, Infrastructure & PFI other loans	**—**	**—**	**—**	**—**	**—**
Mortgage loans	**120**	**1**	**—**	**—**	**121**
Other loans	**502**	**1**	**—**	**—**	**503**
Total	**1,615**	**828**	**—**	**27**	**2,470**
Total %	**65.4%**	**33.5%**	**—**	**1.1%**	**100.0%**
Assets of operations classified as held for sale	**—**	**75**	**—**	**—**	**75**
Total (excluding assets held for sale)	**1,615**	**753**	**—**	**27**	**2,395**
Total % (excluding assets held for sale)	**67.5%**	**31.4%**	**—**	**1.1%**	**100.0%**
2015 Total	2,638	727	—	21	3,386
2015 Total %	77.9%	21.5%	—	0.6%	100.0%

D3 – Analysis of asset quality continued

D3.2 – Loans continued

Loans – Shareholder assets 2016	United Kingdom & Ireland £m	Europe £m	Canada £m	Asia £m	Total £m
Policy loans	**4**	**6**	**—**	**2**	**12**
Loans and advances to banks	**563**	**13**	**—**	**—**	**576**
Healthcare, Infrastructure & PFI other loans	**2,460**	**—**	**—**	**—**	**2,460**
Mortgage loans	**18,133**	**—**	**—**	**—**	**18,133**
Other loans	**4**	**7**	**170**	**—**	**181**
Total	**21,164**	**26**	**170**	**2**	**21,362**
Total %	**99.1%**	**0.1%**	**0.8%**	**0.0%**	**100.0%**
Assets of operations classified as held for sale	**—**	**—**	**—**	**—**	**—**
Total (excluding assets held for sale)	**21,164**	**26**	**170**	**2**	**21,362**
Total % (excluding assets held for sale)	**99.1%**	**0.1%**	**0.8%**	**0.0%**	**100.0%**
2015 Total	18,793	33	135	3	18,964
2015 Total %	99.1%	0.2%	0.7%	0.0%	100.0%

The value of the Group's loan portfolio (including Policyholder, Participating Fund and Shareholder assets) excluding assets held for sale at 31 December 2016 stood at £24.8 billion *(2015: £22.4 billion)*, an increase of £2.4 billion.

The total shareholder exposure to loans was £21.4 billion *(2015: £19.0 billion)* and represented 86% of the total loan portfolio, with the remaining 14% mainly held in participating funds (£2.4 billion (*2015: £3.4 billion)*) with £1.0 billion *(2015: £nil)* in policyholder assets.

Of the Group's total loan portfolio excluding assets held for sale (including Policyholder, Participating Fund and Shareholder assets), 74% *(2015: 77%)* is invested in mortgage loans.

Primary Healthcare, Infrastructure and PFI other loans included within shareholder assets are £2.5 billion *(2015: £1.2 billion)* and are secured against the income from healthcare and educational premises.

Mortgage loans – Shareholder assets

2016	Total £m
Non-securitised mortgage loans	
– Residential (Equity release)	**730**
– Commercial	**6,651**
– Healthcare, Infrastructure & PFI mortgage loans	**3,336**
	10,717
Securitised mortgage loans	**7,416**
Total	**18,133**
Assets of operations classified as held for sale	**—**
Total (excluding assets held for sale)	**18,133**
2015 Total	16,954

The Group's mortgage loan portfolio is mainly 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 85% 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 value at the end of 2016 of £0.7 billion *(2015: £4.8 billion)*. During 2016 £4.6 billion of loans were transferred from non-securitised residential loans to securitised residential mortgage loans as a UK subsidiary, Aviva Annuity UK Limited, securitised £4,614 million of equity release mortgages by transferring them to a wholly owned subsidiary, Aviva ERFA 15 UK Limited in exchange for £4,586 million of loan notes.

The remaining movement in the year is due to £0.5 billion of net new loans and accrued interest (net of redemptions). Fair value movements were less than £0.1 billion.

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 35.2% *(2015: 26.8%)*. The change from prior year reflects the change in portfolio mix following the transfer, as outlined above.

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

2016	>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	—	—	—	—	10	—	329	281	759	5,272	6,651
0 – 3 months	—	—	—	—	—	—	—	—	—	—	—
3 – 6 months	—	—	—	—	—	—	—	—	—	—	—
6 – 12 months	—	—	—	—	—	—	—	—	—	—	—
> 12 months	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	10	—	329	281	759	5,272	6,651

Of the £6.7 billion *(2015: £6.4 billion)* of UK non-securitised commercial mortgage loans in the shareholder fund held by our UK Life business, £6.4 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 1.89x *(2015: 1.78x)*. 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 2.18x *(2015: 2.05x)*. Average mortgage LTV decreased by 3pp compared to 2015 from 61% to 58% (CRAV). The value of loans in arrears included within our shareholder assets is £0.1 million (*2015: £9 million*).

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. £10.9 billion of shareholder loan assets are backing annuity liabilities and comprise of commercial mortgage loans (£6.4 billion), Healthcare, Infrastructure and PFI mortgage loans (£3.3 billion) and Primary Healthcare, Infrastructure and PFI other loans (£1.2 billion). The Group carries a valuation allowance within the liabilities against the risk of default of commercial mortgages, including Healthcare and PFI mortgages, of £0.5 billion which equates to 50 bps at 31 December 2016 (*2015: 59 bps*). The total valuation allowance held by Aviva Annuity UK Limited in respect of corporate bonds and mortgages, including Healthcare and PFI mortgages is £1.3 billion (*2015: £1.5 billion*) over the remaining term of the UK Life corporate bond and mortgage portfolio. The valuation allowance for Friends Life Limited in respect of corporate bonds was £0.5 billion *(2015: £0.7 billion)*.

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 (*2015: £3.3 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 74% (*2015: 75%*), 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

Securitised residential mortgages held are predominantly issued through vehicles in the UK.

As at 31 December 2016, the Group has £7.4 billion *(2015: £2.5 billion)* securitised mortgage loans of which £2.4 billion *(2015: £2.5 billion)* are externally securitised. Funding for the externally securitised residential mortgage assets was obtained by issuing loan note securities. Of these loan notes approximately £217 million (*2015: £256 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.

As outlined above, during 2016 £4.6 billion of non-securitised residential loans were securitised internally through the issuance of loan notes. 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 internally securitised mortgage loans is 23.4%.

D3 – Analysis of asset quality continued

D3.3 – Financial investments

Financial Investments – Total	2016 Cost/ amortised cost £m	2016 Unrealised gains £m	2016 Impairment and unrealised losses £m	2016 Fair value £m	2015 Cost/ amortised cost £m	2015 Unrealised gains £m	2015 Impairment and unrealised losses £m	2015 Fair value £m
Debt securities	**168,075**	**16,408**	**(1,209)**	**183,274**	155,247	10,864	(3,147)	162,964
Equity securities	**57,268**	**13,214**	**(1,470)**	**69,012**	60,124	7,663	(4,229)	63,558
Other investments	**49,199**	**9,035**	**21**	**58,255**	44,263	5,005	(1,573)	47,695
Total	**274,542**	**38,657**	**(2,658)**	**310,541**	259,634	23,532	(8,949)	274,217
Assets of operations classified as held for sale	**9,872**	**865**	**(31)**	**10,706**	—	—	—	—
Total (excluding assets held for sale)	**264,670**	**37,792**	**(2,627)**	**299,835**	259,634	23,532	(8,949)	274,217

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.

D3.3.1 – Debt securities

Debt securities – Total 2016	Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m
UK Government	**28,151**	**2,441**	**160**	**30,752**
Non-UK government	**36,329**	**13,445**	**2,631**	**52,405**
Europe	**31,124**	**7,571**	**2,437**	**41,132**
North America	**1,193**	**3,562**	**194**	**4,949**
Asia Pacific & Other	**4,012**	**2,312**	**—**	**6,324**
Corporate bonds – Public utilities	**4,047**	**7,117**	**508**	**11,672**
Corporate convertible bonds	**180**	**—**	**—**	**180**
Other Corporate bonds	**29,037**	**34,221**	**11,751**	**75,009**
Other	**4,980**	**6,010**	**2,266**	**13,256**
Total	**102,724**	**63,234**	**17,316**	**183,274**
Total %	**56.1%**	**34.5%**	**9.4%**	**100.0%**
Assets of operations classified as held for sale	**6,622**	**247**	**869**	**7,738**
Total (excluding assets held for sale)	**96,102**	**62,987**	**16,447**	**175,536**
Total % (excluding assets held for sale)	**54.7%**	**35.9%**	**9.4%**	**100.0%**
2015 Total	89,158	59,203	14,603	162,964
2015 Total %	54.7%	36.3%	9.0%	100.0%

Debt securities – Policyholders assets 2016	Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m
UK Government	**7,559**	**31**	**—**	**7,590**
Non-UK government	**4,217**	**947**	**2**	**5,166**
Europe	**1,319**	**585**	**1**	**1,905**
North America	**637**	**326**	**1**	**964**
Asia Pacific & Other	**2,261**	**36**	**—**	**2,297**
Corporate bonds – Public utilities	**75**	**728**	**3**	**806**
Corporate convertible bonds	**—**	**—**	**—**	**—**
Other Corporate bonds	**4,177**	**5,836**	**797**	**10,810**
Other	**1,493**	**1,182**	**1**	**2,676**
Total	**17,521**	**8,724**	**803**	**27,048**
Total %	**64.7%**	**32.3%**	**3.0%**	**100.0%**
Assets of operations classified as held for sale	**258**	**—**	**223**	**481**
Total (excluding assets held for sale)	**17,263**	**8,724**	**580**	**26,567**
Total % (excluding assets held for sale)	**65.0%**	**32.8%**	**2.2%**	**100.0%**
2015 Total	14,931	8,460	631	24,022
2015 Total %	62.2%	35.2%	2.6%	100.0%

D3 – Analysis of asset quality continued
D3.3 – Financial investments continued
D3.3.1 – Debt securities continued

Debt securities – Participating fund assets 2016	Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m
UK Government	**10,571**	**1,040**	**41**	**11,652**
Non-UK government	**28,877**	**5,131**	**1,858**	**35,866**
Europe	**26,665**	**3,223**	**1,858**	**31,746**
North America	**534**	**32**	**—**	**566**
Asia Pacific & Other	**1,678**	**1,876**	**—**	**3,554**
Corporate bonds – Public utilities	**3,787**	**1,346**	**13**	**5,146**
Corporate convertible bonds	**180**	**—**	**—**	**180**
Other Corporate bonds	**23,545**	**11,744**	**6,497**	**41,786**
Other	**3,201**	**2,809**	**1,871**	**7,881**
Total	**70,161**	**22,070**	**10,280**	**102,511**
Total %	**68.5%**	**21.5%**	**10.0%**	**100.0%**
Assets of operations classified as held for sale	**6,364**	**247**	**646**	**7,257**
Total (excluding assets held for sale)	**63,797**	**21,823**	**9,634**	**95,254**
Total % (excluding assets held for sale)	**67.0%**	**22.9%**	**10.1%**	**100.0%**
2015 Total	61,357	20,784	8,865	91,006
2015 Total %	67.4%	22.8%	9.8%	100.0%

Debt securities – Shareholder assets 2016	Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m
UK Government	**10,021**	**1,370**	**119**	**11,510**
Non-UK government	**3,235**	**7,367**	**771**	**11,373**
Europe	**3,140**	**3,763**	**578**	**7,481**
North America	**22**	**3,204**	**193**	**3,419**
Asia Pacific & Other	**73**	**400**	**—**	**473**
Corporate bonds – Public utilities	**185**	**5,043**	**492**	**5,720**
Corporate convertible bonds	**—**	**—**	**—**	**—**
Other Corporate bonds	**1,315**	**16,641**	**4,457**	**22,413**
Other	**286**	**2,019**	**394**	**2,699**
Total	**15,042**	**32,440**	**6,233**	**53,715**
Total %	**28.0%**	**60.4%**	**11.6%**	**100.0%**
Assets of operations classified as held for sale	**—**	**—**	**—**	**—**
Total (excluding assets held for sale)	**15,042**	**32,440**	**6,233**	**53,715**
Total % (excluding assets held for sale)	**28.0%**	**60.4%**	**11.6%**	**100.0%**
2015 Total	12,870	29,959	5,107	47,936
2015 Total %	26.8%	62.5%	10.7%	100.0%

Within the shareholder assets 28.0% *(2015: 26.8%)* of exposure to debt securities is based on quoted prices in an active market and are therefore classified as fair value level 1.

Within the shareholder assets 60.4% *(2015: 62.5%)* of exposure to debt securities is based on inputs other than quoted prices and are observable for the asset or liability, either directly or indirectly and are therefore classified as fair value level 2.

Within the shareholder assets 11.6% *(2015: 10.7%)* of 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.

D3 – Analysis of asset quality continued

D3.3 – Financial investments continued

D3.3.1 – Debt securities continued

Debt securities – Total 2016	AAA £m	AA £m	A £m	BBB £m	Less than BBB £m	Non-rated £m	Total £m
	External ratings						
Government							
UK Government	—	**30,603**	**61**	—	—	**69**	**30,733**
UK local authorities	—	—	—	—	—	**19**	**19**
Non-UK Government	**10,769**	**21,206**	**5,442**	**13,011**	**927**	**1,050**	**52,405**
	10,769	**51,809**	**5,503**	**13,011**	**927**	**1,138**	**83,157**
Corporate							
Public utilities	**3**	**367**	**4,847**	**5,726**	**337**	**392**	**11,672**
Convertibles and bonds with warrants	—	—	—	**180**	—	—	**180**
Other corporate bonds	**8,979**	**8,990**	**21,847**	**22,237**	**6,329**	**6,627**	**75,009**
	8,982	**9,357**	**26,694**	**28,143**	**6,666**	**7,019**	**86,861**
Certificates of deposits	—	**298**	**637**	**9**	**88**	—	**1,032**
Structured							
RMBS[1] non-agency ALT A	—	—	—	—	—	—	—
RMBS[1] non-agency prime	**40**	**70**	**90**	**25**	**41**	—	**266**
RMBS[1] agency	**64**	—	—	—	—	—	**64**
	104	**70**	**90**	**25**	**41**	—	**330**
CMBS[2]	**382**	**153**	**108**	**77**	—	**2**	**722**
ABS[3]	**136**	**669**	**577**	**235**	**53**	**9**	**1,679**
CDO (including CLO)[4]	**416**	—	—	—	—	—	**416**
ABCP[5]	—	—	—	**2**	—	—	**2**
	934	**822**	**685**	**314**	**53**	**11**	**2,819**
Wrapped credit	—	**22**	**559**	**81**	**65**	**47**	**774**
Other	**57**	**91**	**664**	**2,739**	**2,983**	**1,767**	**8,301**
Total	**20,846**	**62,469**	**34,832**	**44,322**	**10,823**	**9,982**	**183,274**
Total %	**11.4%**	**34.1%**	**19.0%**	**24.2%**	**5.9%**	**5.4%**	**100.0%**
Assets of operations classified as held for sale	**1,101**	**2,505**	**1,550**	**1,710**	**369**	**503**	**7,738**
Total (excluding assets held for sale)	**19,745**	**59,964**	**33,282**	**42,612**	**10,454**	**9,479**	**175,536**
Total % (excluding assets held for sale)	**11.2%**	**34.2%**	**18.9%**	**24.3%**	**6.0%**	**5.4%**	**100.0%**
2015 Total	20,198	60,916	32,197	34,650	6,509	8,494	162,964
2015 Total %	12.4%	37.4%	19.8%	21.2%	4.0%	5.2%	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 2016	External ratings AAA £m	AA £m	A £m	BBB £m	Less than BBB £m	Non-rated £m	Total £m
Government							
UK Government	—	7,590	—	—	—	—	7,590
UK local authorities	—	—	—	—	—	—	—
Non-UK Government	659	266	1,325	1,824	407	685	5,166
	659	7,856	1,325	1,824	407	685	12,756
Corporate							
Public utilities	—	4	301	447	54	—	806
Convertibles and bonds with warrants	—	—	—	—	—	—	—
Other corporate bonds	250	668	2,325	2,992	2,821	1,754	10,810
	250	672	2,626	3,439	2,875	1,754	11,616
Certificates of deposits	—	298	637	—	41	—	976
Structured							
RMBS[1] non-agency ALT A	—	—	—	—	—	—	—
RMBS[1] non-agency prime	—	1	13	1	7	—	22
RMBS[1] agency	—	—	—	—	—	—	—
	—	1	13	1	7	—	22
CMBS[2]	13	11	1	19	—	—	44
ABS[3]	12	21	41	43	—	—	117
CDO (including CLO)[4]	—	—	—	—	—	—	—
ABCP[5]	—	—	—	2	—	—	2
	25	32	42	64	—	—	163
Wrapped credit	—	—	15	7	—	—	22
Other	9	15	96	442	483	448	1,493
Total	943	8,874	4,754	5,777	3,813	2,887	27,048
Total %	3.5%	32.8%	17.6%	21.4%	14.0%	10.7%	100.0%
Assets of operations classified as held for sale	2	3	20	92	100	264	481
Total (excluding assets held for sale)	941	8,871	4,734	5,685	3,713	2,623	26,567
Total % (excluding assets held for sale)	3.5%	33.4%	17.8%	21.4%	14.0%	9.9%	100.0%
2015 Total	975	11,852	4,045	3,485	1,907	1,758	24,022
2015 Total %	4.1%	49.3%	16.8%	14.5%	8.0%	7.3%	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 – Participating fund assets 2016	External ratings AAA £m	AA £m	A £m	BBB £m	Less than BBB £m	Non-rated £m	Total £m
Government							
UK Government	—	11,644	—	—	—	7	11,651
UK local authorities	—	—	—	—	—	1	1
Non-UK Government	5,466	16,786	2,828	9,917	517	352	35,866
	5,466	28,430	2,828	9,917	517	360	47,518
Corporate							
Public utilities	3	156	1,481	3,170	253	83	5,146
Convertibles and bonds with warrants	—	—	—	180	—	—	180
Other corporate bonds	6,554	4,882	10,883	13,691	3,197	2,579	41,786
	6,557	5,038	12,364	17,041	3,450	2,662	47,112
Certificates of deposits	—	—	—	7	37	—	44
Structured							
RMBS[1] non-agency ALT A	—	—	—	—	—	—	—
RMBS[1] non-agency prime	12	40	55	—	18	—	125
RMBS[1] agency	—	—	—	—	—	—	—
	12	40	55	—	18	—	125
CMBS[2]	106	31	52	57	—	1	247
ABS[3]	—	177	202	153	19	—	551
CDO (including CLO)[4]	409	—	—	—	—	—	409
ABCP[5]	—	—	—	—	—	—	—
	515	208	254	210	19	1	1,207
Wrapped credit	—	10	111	26	7	—	154
Other	46	73	478	2,179	2,382	1,193	6,351
Total	12,596	33,799	16,090	29,380	6,430	4,216	102,511
Total %	12.3%	33.0%	15.7%	28.6%	6.3%	4.1%	100.0%
Assets of operations classified as held for sale	1,099	2,502	1,530	1,618	269	239	7,257
Total (excluding assets held for sale)	11,497	31,297	14,560	27,762	6,161	3,977	95,254
Total % (excluding assets held for sale)	12.1%	32.8%	15.3%	29.1%	6.5%	4.2%	100.0%
2015 Total	12,453	32,793	15,007	22,818	3,911	4,024	91,006
2015 Total %	13.7%	36.0%	16.5%	25.1%	4.3%	4.4%	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

	External ratings						
Debt securities – Shareholder assets 2016	AAA £m	AA £m	A £m	BBB £m	Less than BBB £m	Non-rated £m	Total £m
Government							
UK Government	—	**11,369**	**61**	—	—	**62**	**11,492**
UK local authorities	—	—	—	—	—	**18**	**18**
Non-UK Government	**4,644**	**4,154**	**1,289**	**1,270**	**3**	**13**	**11,373**
	4,644	**15,523**	**1,350**	**1,270**	**3**	**93**	**22,883**
Corporate							
Public utilities	—	**207**	**3,065**	**2,109**	**30**	**309**	**5,720**
Convertibles and bonds with warrants	—	—	—	—	—	—	—
Other corporate bonds	**2,175**	**3,440**	**8,639**	**5,554**	**311**	**2,294**	**22,413**
	2,175	**3,647**	**11,704**	**7,663**	**341**	**2,603**	**28,133**
Certificates of deposits	—	—	—	**2**	**10**	—	**12**
Structured							
RMBS[1] non-agency ALT A	—	—	—	—	—	—	—
RMBS[1] non-agency prime	**28**	**29**	**22**	**24**	**16**	—	**119**
RMBS[1] agency	**64**	—	—	—	—	—	**64**
	92	**29**	**22**	**24**	**16**	—	**183**
CMBS[2]	**263**	**111**	**55**	**1**	—	**1**	**431**
ABS[3]	**124**	**471**	**334**	**39**	**34**	**9**	**1,011**
CDO (including CLO)[4]	**7**	—	—	—	—	—	**7**
ABCP[5]	—	—	—	—	—	—	—
	394	**582**	**389**	**40**	**34**	**10**	**1,449**
Wrapped credit	—	**12**	**433**	**48**	**58**	**47**	**598**
Other	**2**	**3**	**90**	**118**	**118**	**126**	**457**
Total	**7,307**	**19,796**	**13,988**	**9,165**	**580**	**2,879**	**53,715**
Total %	**13.6%**	**36.8%**	**26.0%**	**17.1%**	**1.1%**	**5.4%**	**100.0%**
Assets of operations classified as held for sale	—	—	—	—	—	—	—
Total (excluding assets held for sale)	**7,307**	**19,796**	**13,988**	**9,165**	**580**	**2,879**	**53,715**
Total % (excluding assets held for sale)	**13.6%**	**36.8%**	**26.0%**	**17.1%**	**1.1%**	**5.4%**	**100.0%**
2015 Total	6,770	16,271	13,145	8,347	691	2,712	47,936
2015 Total %	14.1%	34.0%	27.4%	17.4%	1.4%	5.7%	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

Within shareholder assets debt securities, 43% of exposure is in government holdings *(2015: 39%)*. Our corporate debt securities portfolio represents 52% of total shareholder debt securities *(2015: 55%)*. At 31 December 2016, the proportion of our shareholder debt securities that are investment grade increased to 93.5% *(2015: 92.9%)*. The remaining 6.5% of shareholder debt securities that do not have an external rating of BBB or higher can be split as follows:
- 1.1% are debt securities that are rated as below investment grade;
- 5.4% 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 £2.3 billion *(2015: £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), £948 million *(2015: £1,023 million)* are held by the UK Life business. The Group's shareholder holdings in ABS are investment grade of 95.7% *(2015: 95.3%)*. ABS that either have a rating below BBB or are not rated represent approximately 0.1% of shareholder exposure to debt securities *(2015: 0.1%)*

D3 – Analysis of asset quality continued

D3.3.2 – Equity securities

Equity securities – Total assets	Level 1 £m (2016)	Level 2 £m (2016)	Level 3 £m (2016)	Total £m (2016)	Level 1 £m (2015)	Level 2 £m (2015)	Level 3 £m (2015)	Total £m (2015)
	Fair value hierarchy				Fair value hierarchy			
Public utilities	**4,328**	**—**	**—**	**4,328**	3,364	—	3	3,367
Banks, trusts and insurance companies	**15,203**	**—**	**190**	**15,393**	13,893	—	133	14,026
Industrial miscellaneous and all other	**48,263**	**—**	**723**	**48,986**	45,164	—	800	45,964
Non-redeemable preferred shares	**305**	**—**	**—**	**305**	201	—	—	201
Total	**68,099**	**—**	**913**	**69,012**	62,622	—	936	63,558
Total %	**98.7%**	**—**	**1.3%**	**100.0%**	98.5%	—	1.5%	100.0%
Assets of operations classified as held for sale	**664**	**—**	**—**	**664**	—	—	—	—
Total (excluding assets held for sale)	**67,435**	**—**	**913**	**68,348**	62,622	—	936	63,558
Total % (excluding assets held for sale)	**98.7%**	**—**	**1.3%**	**100.0%**	98.5%	—	1.5%	100.0%

Equity securities – Policyholder assets	Level 1 £m (2016)	Level 2 £m (2016)	Level 3 £m (2016)	Total £m (2016)	Level 1 £m (2015)	Level 2 £m (2015)	Level 3 £m (2015)	Total £m (2015)
	Fair value hierarchy				Fair value hierarchy			
Public utilities	**3,448**	**—**	**—**	**3,448**	2,674	—	—	2,674
Banks, trusts and insurance companies	**11,518**	**—**	**5**	**11,523**	10,603	—	—	10,603
Industrial miscellaneous and all other	**37,490**	**—**	**19**	**37,509**	34,062	—	25	34,087
Non-redeemable preferred shares	**91**	**—**	**—**	**91**	30	—	—	30
Total	**52,547**	**—**	**24**	**52,571**	47,369	—	25	47,394
Total %	**100.0%**	**—**	**—**	**100.0%**	99.9%	—	0.1%	100.0%
Assets of operations classified as held for sale	**8**	**—**	**—**	**8**	—	—	—	—
Total (excluding assets held for sale)	**52,539**	**—**	**24**	**52,563**	47,369	—	25	47,394
Total % (excluding assets held for sale)	**100.0%**	**—**	**—**	**100.0%**	99.9%	—	0.1%	100.0%

Equity securities – Participating fund assets	Level 1 £m (2016)	Level 2 £m (2016)	Level 3 £m (2016)	Total £m (2016)	Level 1 £m (2015)	Level 2 £m (2015)	Level 3 £m (2015)	Total £m (2015)
	Fair value hierarchy				Fair value hierarchy			
Public utilities	**874**	**—**	**—**	**874**	685	—	3	688
Banks, trusts and insurance companies	**3,560**	**—**	**104**	**3,664**	3,173	—	97	3,270
Industrial miscellaneous and all other	**10,536**	**—**	**689**	**11,225**	10,899	—	763	11,662
Non-redeemable preferred shares	**8**	**—**	**—**	**8**	7	—	—	7
Total	**14,978**	**—**	**793**	**15,771**	14,764	—	863	15,627
Total %	**95.0%**	**—**	**5.0%**	**100.0%**	94.5%	—	5.5%	100.0%
Assets of operations classified as held for sale	**656**	**—**	**—**	**656**	—	—	—	—
Total (excluding assets held for sale)	**14,322**	**—**	**793**	**15,115**	14,764	—	863	15,627
Total % (excluding assets held for sale)	**94.8%**	**—**	**5.2%**	**100.0%**	94.5%	—	5.5%	100.0%

Equity securities – Shareholder assets	Level 1 £m (2016)	Level 2 £m (2016)	Level 3 £m (2016)	Total £m (2016)	Level 1 £m (2015)	Level 2 £m (2015)	Level 3 £m (2015)	Total £m (2015)
	Fair value hierarchy				Fair value hierarchy			
Public utilities	**6**	**—**	**—**	**6**	5	—	—	5
Banks, trusts and insurance companies	**125**	**—**	**81**	**206**	117	—	36	153
Industrial miscellaneous and all other	**237**	**—**	**15**	**252**	203	—	12	215
Non-redeemable preferred shares	**206**	**—**	**—**	**206**	164	—	—	164
Total	**574**	**—**	**96**	**670**	489	—	48	537
Total %	**85.7%**	**—**	**14.3%**	**100.0%**	91.1%	—	8.9%	100.0%
Assets of operations classified as held for sale	**—**	**—**	**—**	**—**	—	—	—	—
Total (excluding assets held for sale)	**574**	**—**	**96**	**670**	489	—	48	537
Total % (excluding assets held for sale)	**85.7%**	**—**	**14.3%**	**100.0%**	91.1%	—	8.9%	100.0%

Within our total shareholder exposure to equity securities 85.7% is based on quoted prices in an active market and as such is classified as level 1 *(2015: 91.1%)*.

D3 – Analysis of asset quality continued

D3.3.3 – Other investments

Other investments – Total	2016 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m	2015 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Unit trusts and other investment vehicles	**46,476**	**956**	**2,758**	**50,190**	38,411	1,292	2,938	42,641
Derivative financial instruments	**596**	**5,376**	**147**	**6,119**	308	2,745	275	3,328
Deposits with credit institutions	**325**	**—**	**—**	**325**	460	—	—	460
Minority holdings in property management undertakings	**—**	**27**	**1,159**	**1,186**	—	20	940	960
Other	**435**	**—**	**—**	**435**	306	—	—	306
Total	**47,832**	**6,359**	**4,064**	**58,255**	39,485	4,057	4,153	47,695
Total %	**82.1%**	**10.9%**	**7.0%**	**100.0%**	82.8%	8.5%	8.7%	100.0%
Assets of operations classified as held for sale	**2,122**	**119**	**63**	**2,304**	—	—	—	—
Total (excluding assets held for sale)	**45,710**	**6,240**	**4,001**	**55,951**	39,485	4,057	4,153	47,695
Total % (excluding assets held for sale)	**81.6%**	**11.2%**	**7.2%**	**100.0%**	82.8%	8.5%	8.7%	100.0%

Other investments – Policyholder assets	2016 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m	2015 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Unit trusts and other investment vehicles	**42,097**	**853**	**1,692**	**44,642**	36,037	1,205	1,760	39,002
Derivative financial instruments	**63**	**32**	**—**	**95**	28	24	—	52
Deposits with credit institutions	**294**	**—**	**—**	**294**	327	—	—	327
Minority holdings in property management undertakings	**—**	**—**	**172**	**172**	—	—	114	114
Other	**427**	**—**	**—**	**427**	300	—	—	300
Total	**42,881**	**885**	**1,864**	**45,630**	36,692	1,229	1,874	39,795
Total %	**94.0%**	**1.9%**	**4.1%**	**100.0%**	92.2%	3.1%	4.7%	100.0%
Assets of operations classified as held for sale	**1,876**	**85**	**39**	**2,000**	—	—	—	—
Total (excluding assets held for sale)	**41,005**	**800**	**1,825**	**43,630**	36,692	1,229	1,874	39,795
Total % (excluding assets held for sale)	**94.0%**	**1.8%**	**4.2%**	**100.0%**	92.2%	3.1%	4.7%	100.0%

Other investments – Participating fund assets	2016 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m	2015 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Unit trusts and other investment vehicles	**3,038**	**94**	**1,032**	**4,164**	1,633	80	1,139	2,852
Derivative financial instruments	**492**	**3,508**	**102**	**4,102**	189	1,857	216	2,262
Deposits with credit institutions	**28**	**—**	**—**	**28**	28	—	—	28
Minority holdings in property management undertakings	**—**	**—**	**825**	**825**	—	—	597	597
Other	**—**	**—**	**—**	**—**	—	—	—	—
Total	**3,558**	**3,602**	**1,959**	**9,119**	1,850	1,937	1,952	5,739
Total %	**39.0%**	**39.5%**	**21.5%**	**100.0%**	32.2%	33.8%	34.0%	100.0%
Assets of operations classified as held for sale	**246**	**34**	**24**	**304**	—	—	—	—
Total (excluding assets held for sale)	**3,312**	**3,568**	**1,935**	**8,815**	1,850	1,937	1,952	5,739
Total % (excluding assets held for sale)	**37.5%**	**40.5%**	**22.0%**	**100.0%**	32.2%	33.8%	34.0%	100.0%

Other investments – Shareholders assets	2016 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m	2015 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Unit trusts and other investment vehicles	**1,341**	**9**	**34**	**1,384**	741	7	39	787
Derivative financial instruments	**41**	**1,836**	**45**	**1,922**	91	864	59	1,014
Deposits with credit institutions	**3**	**—**	**—**	**3**	105	—	—	105
Minority holdings in property management undertakings	**—**	**27**	**162**	**189**	—	20	229	249
Other	**8**	**—**	**—**	**8**	6	—	—	6
Total	**1,393**	**1,872**	**241**	**3,506**	943	891	327	2,161
Total %	**39.7%**	**53.4%**	**6.9%**	**100.0%**	43.7%	41.2%	15.1%	100.0%
Assets of operations classified as held for sale	**—**	**—**	**—**	**—**	—	—	—	—
Total (excluding assets held for sale)	**1,393**	**1,872**	**241**	**3,506**	943	891	327	2,161
Total % (excluding assets held for sale)	**39.7%**	**53.4%**	**6.9%**	**100.0%**	43.7%	41.2%	15.1%	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 increased during 2016 to 53.4% *(2015: 41.2%)*, primarily due to increases in derivative financial instruments. Total shareholder other investments classified as level 3 have decreased during 2016 to 6.9% *(2015: 15.1%)*, primarily due to disposals in minority holdings in property management undertakings.

In total 93.1% *(2015: 84.9%)* of total shareholder other investments are classified as level 1 or 2 in the fair value hierarchy.

D3 – Analysis of asset quality continued

D3.3.4 – Available for sale investments – Impairments and duration and amount of unrealised losses

The impairment expense during 2016 relating to AFS debt securities and other investments was £nil *(2015: £nil)* and £nil *(2015: £nil)* respectively.

Total unrealised losses on AFS debt securities, equity securities and other investments at 31 December 2016 was £2 million *(2015: £1 million)*, £nil *(2015: £nil)* and £nil *(2015: £nil)* respectively.

2016	0 – 6 months Fair value[1] £m	0 – 6 months Gross unrealised £m	7 – 12 months Fair value[1] £m	7 – 12 months Gross unrealised £m	more than 12 months Fair value[1] £m	more than 12 months Gross unrealised £m	Total Fair value[1] £m	Total Gross unrealised £m
Less than 20% loss position:								
Debt securities	—	—	6	—	73	(2)	79	(2)
Equity securities	—	—	—	—	—	—	—	—
Other investments	—	—	—	—	—	—	—	—
	—	—	6	—	73	(2)	79	(2)
20%-50% loss position:								
Debt securities	—	—	—	—	—	—	—	—
Equity securities	—	—	—	—	—	—	—	—
Other investments	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—
Greater than 50% loss position:								
Debt securities	—	—	—	—	—	—	—	—
Equity securities	—	—	—	—	—	—	—	—
Other investments	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—
Total								
Debt securities	—	—	6	—	73	(2)	79	(2)
Equity securities	—	—	—	—	—	—	—	—
Other investments	—	—	—	—	—	—	—	—
	—	—	6	—	73	(2)	79	(2)
Assets of operations classified as held for sale	—	—	—	—	—	—	—	—
Total (excluding assets held for sale)	—	—	6	—	73	(2)	79	(2)

1 Only includes AFS securities that are in unrealised loss positions.

2015	0 – 6 months Fair value[1] £m	0 – 6 months Gross unrealised £m	7 – 12 months Fair value[1] £m	7 – 12 months Gross unrealised £m	more than 12 months Fair value[1] £m	more than 12 months Gross unrealised £m	Total Fair value[1] £m	Total Gross unrealised £m
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)
Assets of operations classified as held for sale	—	—	—	—	—	—	—	—
Total (excluding assets held for sale)	5	—	8	—	34	(1)	47	(1)

1 Only includes AFS securities that are in unrealised loss positions.

Analysis of assets

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 £5.8 billion *(2015: £4.7 billion).*

Direct sovereign exposures to Greece, Ireland, Portugal, Italy and Spain (net of non-controlling interests, excluding policyholder assets)

	Participating		Shareholder		Total	
	2016 £bn	2015 £bn	**2016 £bn**	2015 £bn	**2016 £bn**	2015 £bn
Greece	**—**	—	**—**	—	**—**	—
Ireland	**0.7**	0.6	**0.1**	0.1	**0.8**	0.7
Portugal	**0.1**	0.1	**—**	—	**0.1**	0.1
Italy	**5.4**	4.4	**0.4**	0.3	**5.8**	4.7
Spain	**1.0**	0.8	**0.4**	0.4	**1.4**	1.2
Total Greece, Ireland, Portugal, Italy and Spain	**7.2**	5.9	**0.9**	0.8	**8.1**	6.7

Direct sovereign exposures to Greece, Ireland, Portugal, Italy and Spain (gross of non-controlling interests, excluding policyholder assets)

	Participating		Shareholder		Total	
	2016 £bn	2015 £bn	**2016 £bn**	2015 £bn	**2016 £bn**	2015 £bn
Greece	**—**	—	**—**	—	**—**	—
Ireland	**0.7**	0.6	**0.1**	0.1	**0.8**	0.7
Portugal	**0.1**	0.1	**—**	—	**0.1**	0.1
Italy	**7.5**	6.1	**0.5**	0.5	**8.0**	6.6
Spain	**1.4**	1.1	**0.7**	0.6	**2.1**	1.7
Total Greece, Ireland, Portugal, Italy and Spain	**9.7**	7.9	**1.3**	1.2	**11.0**	9.1

D3.3.6 – Non-UK Government debt securities (gross of non-controlling interests)

	Policyholder		Participating		Shareholder		Total	
Non-UK Government Debt Securities	**2016 £m**	2015 £m	**2016 £m**	2015 £m	**2016 £m**	2015 £m	**2016 £m**	2015 £m
Austria	**11**	14	**715**	697	**138**	140	**864**	851
Belgium	**21**	34	**1,273**	1,195	**357**	166	**1,651**	1,395
France	**115**	139	**13,285**	10,673	**1,859**	1,846	**15,259**	12,658
Germany	**142**	145	**1,629**	1,470	**606**	590	**2,377**	2,205
Greece	**—**	—	**—**	—	**—**	—	**—**	—
Ireland	**3**	12	**662**	595	**130**	100	**795**	707
Italy	**223**	319	**7,500**	6,090	**556**	442	**8,279**	6,851
Netherlands	**47**	31	**976**	1,156	**329**	302	**1,352**	1,489
Poland	**807**	559	**769**	689	**384**	399	**1,960**	1,647
Portugal	**2**	7	**118**	110	**—**	—	**120**	117
Spain	**88**	98	**1,386**	1,093	**659**	636	**2,133**	1,827
European Supranational debt	**174**	72	**2,404**	2,798	**1,821**	1,760	**4,399**	4,630
Other European countries	**272**	167	**1,029**	1,107	**642**	520	**1,943**	1,794
Europe	**1,905**	1,597	**31,746**	27,673	**7,481**	6,901	**41,132**	36,171
Canada	**16**	49	**174**	178	**2,397**	1,917	**2,587**	2,144
United States	**948**	323	**392**	100	**1,022**	409	**2,362**	832
North America	**964**	372	**566**	278	**3,419**	2,326	**4,949**	2,976
Singapore	**2**	16	**904**	762	**330**	264	**1,236**	1,042
Other	**2,295**	648	**2,650**	1,752	**143**	75	**5,088**	2,475
Asia Pacific and other	**2,297**	664	**3,554**	2,514	**473**	339	**6,324**	3,517
Total	**5,166**	2,633	**35,866**	30,465	**11,373**	9,566	**52,405**	42,664
Assets of operations classified as held for sale	**—**	—	**2,325**	—	**—**	—	**2,325**	—
Total (excluding assets held for sale)	**5,166**	2,633	**33,541**	30,465	**11,373**	9,566	**50,080**	42,664

At 31 December 2016, the Group's total government (non-UK) debt securities stood at £52.4 billion *(2015: £42.7 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 £11.4 billion *(2015: £9.6 billion)*. The primary exposures, relative to total shareholder (non-UK) government debt exposure, are to Canadian (21%), French (16%), US (9%), Spanish (6%), German (5%) 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 £35.9 billion *(2015: £30.5 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 (37%), Italy (21%), Germany (5%), Belgium (4%), Spain (4%) and Netherlands (3%).

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		
2016	Total senior debt £bn	Total subordinated debt £bn	Total debt £bn	Total senior debt £bn	Total subordinated debt £bn	Total debt £bn
Australia	**0.3**	**—**	**0.3**	**0.8**	**0.3**	**1.1**
Denmark	**—**	**—**	**—**	**1.3**	**—**	**1.3**
France	**0.5**	**0.1**	**0.6**	**3.2**	**0.7**	**3.9**
Germany	**0.1**	**—**	**0.1**	**0.4**	**0.3**	**0.7**
Ireland	**—**	**—**	**—**	**—**	**—**	**—**
Italy	**0.1**	**—**	**0.1**	**0.2**	**—**	**0.2**
Netherlands	**0.3**	**0.2**	**0.5**	**1.4**	**0.3**	**1.7**
Spain	**0.7**	**—**	**0.7**	**0.6**	**0.1**	**0.7**
Sweden	**0.2**	**—**	**0.2**	**0.4**	**0.2**	**0.6**
Switzerland	**—**	**—**	**—**	**1.7**	**—**	**1.7**
United Kingdom	**1.4**	**0.5**	**1.9**	**1.6**	**1.0**	**2.6**
United States	**1.1**	**0.2**	**1.3**	**1.8**	**0.1**	**1.9**
Other	**0.7**	**0.2**	**0.9**	**1.4**	**0.1**	**1.5**
Total	**5.4**	**1.2**	**6.6**	**14.8**	**3.1**	**17.9**
Assets of operations classified as held for sale	**—**	**—**	**—**	**0.9**	**0.2**	**1.1**
Total (excluding assets held for sale)	**5.4**	**1.2**	**6.6**	**13.9**	**2.9**	**16.8**
2015 Total	4.9	1.0	5.9	12.9	2.8	15.7

Net of non-controlling interests, our direct shareholder assets exposure to worldwide bank debt securities is £6.6 billion *(2015: £5.9 billion)*. The majority of our holding (82%) is in senior debt. The primary exposures are to UK (29%), US (20%) and Spanish (11%) 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 £17.9 billion *(2015: £15.7 billion)*. The majority of the exposure (83%) is in senior debt. Participating funds are the most exposed to French (22%), UK (15%) 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		
2016	Total senior debt £bn	Total subordinated debt £bn	Total debt £bn	Total senior debt £bn	Total subordinated debt £bn	Total debt £bn
Australia	**0.3**	**—**	**0.3**	**0.9**	**0.3**	**1.2**
Denmark	**—**	**—**	**—**	**1.3**	**—**	**1.3**
France	**0.5**	**0.1**	**0.6**	**3.8**	**0.8**	**4.6**
Germany	**0.1**	**—**	**0.1**	**0.5**	**0.3**	**0.8**
Ireland	**—**	**—**	**—**	**—**	**—**	**—**
Italy	**0.1**	**—**	**0.1**	**0.2**	**—**	**0.2**
Netherlands	**0.3**	**0.2**	**0.5**	**1.5**	**0.3**	**1.8**
Spain	**0.8**	**—**	**0.8**	**0.7**	**0.1**	**0.8**
Sweden	**0.2**	**—**	**0.2**	**0.4**	**0.3**	**0.7**
Switzerland	**—**	**—**	**—**	**1.7**	**—**	**1.7**
United Kingdom	**1.4**	**0.5**	**1.9**	**1.7**	**1.0**	**2.7**
United States	**1.1**	**0.2**	**1.3**	**2.0**	**0.1**	**2.1**
Other	**0.7**	**0.2**	**0.9**	**1.5**	**0.1**	**1.6**
Total	**5.5**	**1.2**	**6.7**	**16.2**	**3.3**	**19.5**
Assets of operations classified as held for sale	**—**	**—**	**—**	**1.7**	**0.5**	**2.2**
Total (excluding assets held for sale)	**5.5**	**1.2**	**6.7**	**14.5**	**2.8**	**17.3**
2015 Total	5.0	1.0	6.0	14.2	2.9	17.1

Gross of non-controlling interests, our direct shareholder assets exposure to worldwide bank debt securities is £6.7 billion *(2015: £6.0 billion)*. The majority of our holding (82%) is in senior debt. The primary exposures are to UK (28%), US (19%) and Spanish (12%) 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 £19.5 billion *(2015: £17.1 billion)*. The majority of the exposure (83%) is in senior debt. Participating funds are most exposed to French (24%), UK (14%) and US (11%) 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						
Ratings 2016	**AAA £m**	**AA £m**	**A £m**	**BBB £m**	**Less than BBB £m**	**Not rated £m**	**Total £m**
Policyholders assets	**—**	**17,531**	**751**	**—**	**—**	**243**	**18,525**
Participating fund assets	**—**	**650**	**10**	**4**	**—**	**—**	**664**
Shareholder assets	**—**	**6,427**	**928**	**10**	**—**	**200**	**7,565**
Total	**—**	**24,608**	**1,689**	**14**	**—**	**443**	**26,754**
Total %	**—**	**92.0%**	**6.3%**	**—**	**—**	**1.7%**	**100.0%**
Assets of operations classified as held for sale	**—**	**411**	**—**	**—**	**—**	**—**	**411**
Total (excluding assets held for sale)	**—**	**24,197**	**1,689**	**14**	**—**	**443**	**26,343**
Total % (excluding assets held for sale)	**—**	**91.9%**	**6.4%**	**—**	**—**	**1.7%**	**100.0%**
2015 Total	28	18,432	1,675	—	—	783	20,918
2015 Total %	0.1%	88.2%	8.0%	—	—	3.7%	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 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 2016, 99% *(2015: 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 the 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:

				2016				2015
	UK £m	**Ireland £m**	**Canada £m**	**Total £m**	UK £m	Ireland £m	Canada £m	Total £m
Bonds								
Fixed interest	**7,085**	**249**	**151**	**7,485**	5,542	216	133	5,891
Index-linked	**11,469**	**157**	**—**	**11,626**	5,758	114	—	5,872
Equities	**71**	**—**	**—**	**71**	70	—	—	70
Property	**338**	**—**	**—**	**338**	377	7	—	384
Pooled investment vehicles	**3,433**	**200**	**96**	**3,729**	2,904	143	96	3,143
Derivatives	**86**	**1**	**—**	**87**	96	—	—	96
Cash and other[1]	**(3,046)**	**3**	**34**	**(3,009)**	1,244	4	3	1,251
Total fair value of scheme assets	**19,436**	**610**	**281**	**20,327**	15,991	484	232	16,707
Less: consolidation elimination for non-transferable Group insurance policy[2]	**(633)**	**—**	**—**	**(633)**	(546)	—	—	(546)
Total IAS 19 fair value of scheme assets	**18,803**	**610**	**281**	**19,694**	15,445	484	232	16,161

1 Cash and other assets comprise cash at bank, insurance policies, receivables, payables and repos. At 31 December 2016, repos of £4,666 million *(2015: £nil)* are included within cash and other assets.
2 The Friends Provident Pension Scheme (FPPS) assets are included in the UK balances. As at 31 December 2016, the FPPS's cash and other balances includes an insurance policy of £633 million *(2015: £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:

		2016				2015
	Total Quoted £m	**Total Unquoted £m**	**Total £m**	Total Quoted £m	Total Unquoted £m	Total £m
Bonds						
Fixed interest	**3,697**	**3,788**	**7,485**	2,796	3,095	5,891
Index-linked	**11,141**	**485**	**11,626**	5,436	436	5,872
Equities	**71**	**—**	**71**	70	—	70
Property	**—**	**338**	**338**	—	384	384
Pooled investment vehicles	**189**	**3,540**	**3,729**	291	2,852	3,143
Derivatives	**70**	**17**	**87**	6	90	96
Cash and other[1]	**714**	**(3,723)**	**(3,009)**	532	719	1,251
Total fair value of scheme assets	**15,882**	**4,445**	**20,327**	9,131	7,576	16,707
Less: consolidation elimination for non-transferable Group insurance policy[2]	**—**	**(633)**	**(633)**	—	(546)	(546)
Total IAS 19 fair value of scheme assets	**15,882**	**3,812**	**19,694**	9,131	7,030	16,161

1 Cash and other assets comprise cash at bank, insurance policies, receivables, payables and repos. At 31 December 2016, repos of £4,666 million *(2015: £nil)* are included within cash and other assets.
2 The Friends Provident Pension Scheme (FPPS) assets are included in the UK balances. As at 31 December 2016, the FPPS's cash and other balances includes an insurance policy of £633 million *(2015: £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%[3]) 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. This risk has reduced due to the Aviva Staff Pension Scheme entering into a longevity swap in 2014 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 2015, the RAC pension scheme entered into a longevity swap covering approximately £600 million of pensioner in payment scheme liabilities.

3 Excluding repos of £4,666 million

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 a range of leading international banks, all of which have investment grade credit ratings. These facilities are used to support the Group's commercial paper programme. The expiry profile of the undrawn committed central borrowing facilities is as follows:

	2016 £m	2015 £m
Expiring within one year	**—**	575
Expiring beyond one year	**1,650**	1,075
Total	**1,650**	1,650

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

In this section Page

E1 – Sales, VNB and new business margin analysis by market (MCEV basis)

The table below sets out the present value of new business premiums (PVNBP) written by the life and related businesses, value generated by new business written during the period (VNB) and the resulting margin, gross of tax and non-controlling interests, on an MCEV basis. Following the introduction of the Solvency II regime on 1 January 2016, MCEV (which is calculated on the expired Solvency I basis) is no longer used as an indicator of the drivers of financial performance of the Group's in force Life and related businesses. However, PVNBP and VNB are still currently used alongside adjusted Solvency II VNB & PVNBP on a Solvency II basis to give insight to the relative volume and profitability of business written in the year compared to prior years. Adjusted Solvency II VNB is reported in note 4b of the overview section of this report and will be the new reported metric (along with PVNBP on a Solvency II basis) effective 1 January 2017. The MCEV VNB and MCEV PVNBP will be disclosed for the last time at 31 December 2016.

The VNB shown below is the present value of the projected stream of pre-tax distributable profit generated by the new business written during the period, including expected profit between the point the business is written and the valuation date on an MCEV basis. 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 VNB and PVNBP for 2016 include £3 million and £257 million respectively relating to the internal transfer of annuities from a with-profits fund to a non profit fund during the second half of 2016 in the UK. The methodology underlying the calculation of PVNBP and VNB (on an MCEV basis) remains unchanged from the prior year as set out in F1 of the Aviva 2015 MCEV report. The demographic assumptions have been updated to reflect the position as at 31 December 2016 and are materially the same as those used at 31 December 2015 as set out in F2 of the Aviva 2015 MCEV report. The economic assumptions have been updated to be those relevant at the point the business is written 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 principal economic assumptions are set out in E14.

Gross of tax and non-controlling interests	Present value of new business premiums[1] 2016 £m	2015 £m	Value of new business[2] 2016 £m	2015 £m	New business margin 2016 %	2015 %
United Kingdom[3]	**18,092**	16,236	**671**	609	**3.7%**	3.8%
Ireland	**709**	561	**24**	16	**3.4%**	2.9%
United Kingdom & Ireland	**18,801**	16,797	**695**	625	**3.7%**	3.7%
France	**5,525**	4,821	**224**	198	**4.1%**	4.1%
Poland	**430**	448	**65**	65	**15.1%**	14.5%
Italy	**3,634**	2,147	**124**	79	**3.4%**	3.7%
Spain	**938**	622	**42**	31	**4.5%**	5.0%
Turkey	**448**	460	**25**	27	**5.6%**	5.9%
Europe	**10,975**	8,498	**480**	400	**4.4%**	4.7%
Asia[4]	**2,346**	2,823	**148**	151	**6.3%**	5.3%
Aviva Investors	**2,845**	1,647	**29**	16	**1.0%**	1.0%
Total	**34,967**	29,765	**1,352**	1,192	**3.9%**	4.0%

1 A reconciliation to IFRS net written premiums can be found in note E13.
2 A reconciliation to adjusted Solvency II VNB can be found in note 4b of the Overview section.
3 United Kingdom includes Friends Life from 10 April 2015.
4 Asia includes FPI from 10 April 2015.

E2 – Trend analysis of VNB – cumulative

Gross of tax and non-controlling interests	1Q15 YTD £m	2Q15 YTD £m	3Q15 YTD £m	4Q15 YTD £m	1Q16 YTD £m	2Q16 YTD £m	3Q16 YTD £m	**4Q16 YTD £m**	Growth[1] on 4Q15 Sterling %	Growth[1] on 4Q15 Constant currency %
United Kingdom[2,3]	103	253	404	609	107	269	394	**671**	**10%**	**10%**
Ireland	3	7	11	16	5	11	19	**24**	**49%**	**31%**
United Kingdom & Ireland	106	260	415	625	112	280	413	**695**	**11%**	**11%**
France	56	98	144	198	59	103	145	**224**	**13%**	**—**
Poland[4]	15	30	46	65	15	27	44	**65**	**(1)%**	**(9)%**
Italy	19	39	57	79	26	71	96	**124**	**58%**	**39%**
Spain	6	13	20	31	6	16	27	**42**	**33%**	**18%**
Turkey	6	12	17	27	5	12	14	**25**	**(7)%**	**(9)%**
Europe	102	192	284	400	111	229	326	**480**	**20%**	**7%**
Asia[4]	36	76	115	151	31	61	100	**148**	**(2)%**	**(11)%**
Aviva Investors	3	6	9	16	5	13	18	**29**	**77%**	**77%**
Total	247	534	823	1,192	259	583	857	**1,352**	**13%**	**8%**

1 Currency movements are calculated using unrounded numbers so minor rounding differences may exist.
2 United Kingdom includes Friends Life from 10 April 2015.
3 Includes £3 million relating to the internal transfer of annuities from a with-profits fund to a non profit fund in 4Q16.
4 Poland includes Lithuania. Asia includes FPI from 10 April 2015.

E3 – Trend analysis of VNB – discrete

Gross of tax and non-controlling interests	1Q15 Discrete £m	2Q15 Discrete £m	3Q15 Discrete £m	4Q15 Discrete £m	1Q16 Discrete £m	2Q16 Discrete £m	3Q16 Discrete £m	**4Q16 Discrete £m**	Growth[1] on 4Q15 Sterling %	Growth[1] on 4Q15 Constant currency %
United Kingdom[2,3]	103	150	151	205	107	162	125	**277**	**35%**	**35%**
Ireland	3	4	4	5	5	6	8	**5**	**(1)%**	**(14)%**
United Kingdom & Ireland	106	154	155	210	112	168	133	**282**	**34%**	**34%**
France	56	42	46	54	59	44	42	**79**	**46%**	**27%**
Poland[4]	15	15	16	19	15	12	17	**21**	**8%**	**(3)%**
Italy	19	20	18	22	26	45	25	**28**	**29%**	**12%**
Spain	6	7	7	11	6	10	11	**15**	**27%**	**11%**
Turkey	6	6	5	10	5	7	2	**11**	**15%**	**9%**
Europe	102	90	92	116	111	118	97	**154**	**32%**	**16%**
Asia[4]	36	40	39	36	31	30	39	**48**	**35%**	**21%**
Aviva Investors	3	3	3	7	5	8	5	**11**	**48%**	**48%**
Total	247	287	289	369	259	324	274	**495**	**34%**	**27%**

1 Currency movements are calculated using unrounded numbers so minor rounding differences may exist.
2 United Kingdom includes Friends Life from 10 April 2015.
3 Includes £3 million relating to the internal transfer of annuities from a with-profits fund to a non profit fund in 4Q16.
4 Poland includes Lithuania. Asia includes FPI from 10 April 2015

E4 – Trend analysis of PVNBP – cumulative

Present value of new business premiums[1]	1Q15 YTD £m	2Q15 YTD £m	3Q15 YTD £m	4Q15 YTD £m	1Q16 YTD £m	2Q16 YTD £m	3Q16 YTD £m	**4Q16 YTD £m**	Growth[2] on 4Q15 Sterling %	Growth[2] on 4Q15 Constant currency %
United Kingdom[3,4,5]	2,445	7,071	11,696	16,236	4,136	8,214	12,219	**18,092**	**11%**	**11%**
Ireland	132	270	406	561	150	339	496	**709**	**26%**	**12%**
United Kingdom & Ireland	2,577	7,341	12,102	16,797	4,286	8,553	12,715	**18,801**	**12%**	**11%**
France	1,319	2,553	3,639	4,821	1,487	2,889	4,100	**5,525**	**15%**	**1%**
Poland[6]	110	218	319	448	100	197	299	**430**	**(4)%**	**(12)%**
Italy	603	1,116	1,518	2,147	752	2,025	2,699	**3,634**	**69%**	**50%**
Spain	224	363	455	622	124	300	586	**938**	**51%**	**33%**
Turkey	134	251	347	460	98	214	313	**448**	**(3)%**	**(4)%**
Europe	2,390	4,501	6,278	8,498	2,561	5,625	7,997	**10,975**	**29%**	**15%**
Asia[6]	623	1,449	2,218	2,823	497	986	1,537	**2,346**	**(17)%**	**(24)%**
Aviva Investors	366	761	1,165	1,647	485	1,388	2,094	**2,845**	**73%**	**73%**
Total	5,956	14,052	21,763	29,765	7,829	16,552	24,343	**34,967**	**17%**	**12%**

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 Life from 10 April 2015.
4 Includes c.£1 billion PVNBP (net of reinsurance) relating to a longevity insurance transaction completed in 3Q15.
5 Includes £257 million relating to the internal transfer of annuities from a with-profits fund to a non profit fund in 4Q16.
6 Poland includes Lithuania. Asia includes FPI from 10 April 2015.

E5 – Trend analysis of PVNBP – discrete

Present value of new business premiums[1]	1Q15 Discrete £m	2Q15 Discrete £m	3Q15 Discrete £m	4Q15 Discrete £m	1Q16 Discrete £m	2Q16 Discrete £m	3Q16 Discrete £m	**4Q16 Discrete £m**	Growth[2] on 4Q15 Sterling %	Growth[2] on 4Q15 Constant currency %
United Kingdom[3,4,5]	2,445	4,626	4,625	4,540	4,136	4,078	4,005	**5,873**	**29%**	**29%**
Ireland	132	138	136	155	150	189	157	**213**	**37%**	**19%**
United Kingdom & Ireland	2,577	4,764	4,761	4,695	4,286	4,267	4,162	**6,086**	**30%**	**29%**
France	1,319	1,234	1,086	1,182	1,487	1,402	1,211	**1,425**	**21%**	**4%**
Poland[6]	110	108	101	129	100	97	102	**131**	**—**	**(10)%**
Italy	603	513	402	629	752	1,273	674	**935**	**49%**	**29%**
Spain	224	139	92	167	124	176	286	**352**	**111%**	**83%**
Turkey	134	117	96	113	98	116	99	**135**	**20%**	**11%**
Europe	2,390	2,111	1,777	2,220	2,561	3,064	2,372	**2,978**	**34%**	**17%**
Asia[6]	623	826	769	605	497	489	551	**809**	**34%**	**22%**
Aviva Investors	366	395	404	482	485	903	706	**751**	**56%**	**56%**
Total	5,956	8,096	7,711	8,002	7,829	8,723	7,791	**10,624**	**33%**	**26%**

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 Life from 10 April 2015.
4 Includes c.£1 billion PVNBP (net of reinsurance) relating to a longevity insurance transaction completed in 3Q15.
5 Includes £257 million relating to the internal transfer of annuities from a with-profits fund to a non profit fund in 4Q16.
6 Poland includes Lithuania. Asia includes FPI from 10 April 2015.

E6 – Trend analysis of PVNBP by product – cumulative

									Growth[2] on 4Q15	
Present value of new business premiums[1]	1Q15 YTD £m	2Q15 YTD £m	3Q15 YTD £m	4Q15 YTD £m	1Q16 YTD £m	2Q16 YTD £m	3Q16 YTD £m	**4Q16 YTD £m**	**Sterling %**	**Constant currency %**
Pensions	1,319	3,897	6,085	8,950	2,889	5,551	8,017	**11,562**	**29%**	**29%**
Annuities[3,4]	136	777	2,205	2,945	224	570	934	**2,074**	**(30)%**	**(30)%**
Bonds	39	80	109	139	31	59	92	**133**	**(4)%**	**(4)%**
Protection	268	712	1,152	1,586	474	896	1,380	**1,779**	**12%**	**12%**
Equity release	206	458	584	699	111	247	420	**637**	**(9)%**	**(9)%**
Other	477	1,147	1,561	1,917	407	891	1,376	**1,907**	**—**	**—**
United Kingdom[5]	2,445	7,071	11,696	16,236	4,136	8,214	12,219	**18,092**	**11%**	**11%**
Ireland	132	270	406	561	150	339	496	**709**	**26%**	**12%**
United Kingdom & Ireland	2,577	7,341	12,102	16,797	4,286	8,553	12,715	**18,801**	**12%**	**11%**
Savings	1,224	2,389	3,423	4,535	1,384	2,698	3,845	**5,116**	**13%**	**—**
Protection	95	164	216	286	103	191	255	**409**	**43%**	**26%**
France	1,319	2,553	3,639	4,821	1,487	2,889	4,100	**5,525**	**15%**	**1%**
Pensions	192	356	493	700	156	320	475	**752**	**7%**	**1%**
Savings	754	1,330	1,767	2,443	792	2,139	3,001	**4,082**	**67%**	**48%**
Annuities	—	1	1	1	—	—	1	**1**	**(21)%**	**(30)%**
Protection	125	261	378	533	126	277	420	**615**	**15%**	**5%**
Poland[6], Italy, Spain and Turkey	1,071	1,948	2,639	3,677	1,074	2,736	3,897	**5,450**	**48%**	**33%**
Europe	2,390	4,501	6,278	8,498	2,561	5,625	7,997	**10,975**	**29%**	**15%**
Asia[6]	623	1,449	2,218	2,823	497	986	1,537	**2,346**	**(17)%**	**(24)%**
Aviva Investors	366	761	1,165	1,647	485	1,388	2,094	**2,845**	**73%**	**73%**
Total	5,956	14,052	21,763	29,765	7,829	16,552	24,343	**34,967**	**17%**	**12%**

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 Includes £257 million relating to the internal transfer of annuities from a with-profits fund to a non profit fund in 4Q16.
5 United Kingdom includes Friends Life from 10 April 2015.
6 Poland includes Lithuania, Asia includes FPI from 10 April 2015

E7 – Trend analysis of PVNBP by product – discrete

									Growth[2] on 4Q15	
Present value of new business premiums[1]	1Q15 Discrete £m	2Q15 Discrete £m	3Q15 Discrete £m	4Q15 Discrete £m	1Q16 Discrete £m	2Q16 Discrete £m	3Q16 Discrete £m	**4Q16 Discrete £m**	**Sterling %**	**Constant currency %**
Pensions	1,319	2,578	2,188	2,865	2,889	2,662	2,466	**3,545**	**24%**	**24%**
Annuities[3,4]	136	641	1,428	740	224	346	364	**1,140**	**54%**	**54%**
Bonds	39	41	29	30	31	28	33	**41**	**36%**	**36%**
Protection	268	444	440	434	474	422	484	**399**	**(8)%**	**(8)%**
Equity release	206	252	126	115	111	136	173	**217**	**89%**	**89%**
Other	477	670	414	356	407	484	485	**531**	**50%**	**50%**
United Kingdom[5]	2,445	4,626	4,625	4,540	4,136	4,078	4,005	**5,873**	**29%**	**29%**
Ireland	132	138	136	155	150	189	157	**213**	**37%**	**19%**
United Kingdom & Ireland	2,577	4,764	4,761	4,695	4,286	4,267	4,162	**6,086**	**30%**	**29%**
Savings	1,224	1,165	1,034	1,112	1,384	1,314	1,147	**1,271**	**14%**	**(1)%**
Protection	95	69	52	70	103	88	64	**154**	**123%**	**92%**
France	1,319	1,234	1,086	1,182	1,487	1,402	1,211	**1,425**	**21%**	**4%**
Pensions	192	164	137	207	156	164	155	**277**	**33%**	**19%**
Savings	754	576	437	676	792	1,347	862	**1,081**	**60%**	**39%**
Annuities	—	1	—	—	—	—	1	**—**	**—**	**—**
Protection	125	136	117	155	126	151	143	**195**	**25%**	**11%**
Poland[6], Italy, Spain and Turkey	1,071	877	691	1,038	1,074	1,662	1,161	**1,553**	**49%**	**31%**
Europe	2,390	2,111	1,777	2,220	2,561	3,064	2,372	**2,978**	**34%**	**17%**
Asia[6]	623	826	769	605	497	489	551	**809**	**34%**	**22%**
Aviva Investors	366	395	404	482	485	903	706	**751**	**56%**	**56%**
Total	5,956	8,096	7,711	8,002	7,829	8,723	7,791	**10,624**	**33%**	**26%**

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 Includes £257 million relating to the internal transfer of annuities from a with-profits fund to a non profit fund in 4Q16.
5 United Kingdom includes Friends Life from 10 April 2015.
6 Poland includes Lithuania Asia includes FPI from 10 April 2015

E8 – Geographical analysis of regular and single premiums

	Regular premiums							Single premiums		
	2016 £m	**Constant currency growth[1]**	**WACF**	**Present value £m**	2015 £m	WACF	Present value £m	**2016 £m**	2015 £m	**Constant currency growth[1]**
United Kingdom[2]	**1,679**	**16%**	**5.3**	**8,831**	1,450	5.8	8,480	**9,261**	7,756	**19%**
Ireland	**32**	**19%**	**6.3**	**202**	24	6.3	152	**507**	409	**10%**
United Kingdom & Ireland	**1,711**	**16%**	**5.3**	**9,033**	1,474	5.9	8,632	**9,768**	8,165	**19%**
France	**103**	**6%**	**8.7**	**901**	86	8.5	729	**4,624**	4,092	**—**
Poland[3]	**42**	**(6)%**	**8.0**	**334**	41	8.0	328	**96**	120	**(27)%**
Italy	**65**	**368%**	**3.0**	**194**	12	7.8	93	**3,440**	2,054	**48%**
Spain	**34**	**(3)%**	**7.0**	**238**	32	6.0	192	**700**	430	**44%**
Turkey	**98**	**(1)%**	**3.7**	**366**	97	3.8	365	**82**	95	**(15)%**
Europe	**342**	**18%**	**5.9**	**2,033**	268	6.4	1,707	**8,942**	6,791	**17%**
Asia[3]	**227**	**(31)%**	**7.5**	**1,707**	300	6.9	2,060	**639**	763	**(21)%**
Aviva Investors	**—**	**—**	**—**	**—**	—	—	—	**2,845**	1,647	**73%**
Total	**2,280**	**9%**	**5.6**	**12,773**	2,042	6.1	12,399	**22,194**	17,366	**21%**

1 Currency movements are calculated using unrounded numbers so minor rounding differences may exist.
2 United Kingdom includes Friends Life from 10 April 2015.
3 Poland includes Lithuania. Asia includes FPI from 10 April 2015.

E9 – Trend analysis of Investment sales – cumulative

									Growth[2] on 4Q15	
Investment sales[1]	1Q15 YTD £m	2Q15 YTD £m	3Q15 YTD £m	4Q15 YTD £m	1Q16 YTD £m	2Q16 YTD £m	3Q16 YTD £m	**4Q16 YTD £m**	**Sterling %**	**Constant currency %**
United Kingdom & Ireland[3]	271	710	1,041	1,315	260	575	956	**1,390**	**6%**	**6%**
Aviva Investors[4]	1,073	2,102	3,475	4,993	1,384	3,587	4,119	**5,765**	**15%**	**6%**
Asia[5]	41	78	103	129	28	58	97	**137**	**6%**	**(5)%**
Total investment sales	1,385	2,890	4,619	6,437	1,672	4,220	5,172	**7,292**	**13%**	**6%**

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 UK & Ireland investment sales are also reported in UK Life PVNBP following the extension of MCEV covered business, YTD investment sales of £271 million for 1Q15, £710 million for 2Q15, £1,041 million for 3Q15, £1,315 million for 4Q15, £260 million for 1Q16, £575 million for 2Q16, £956 million for 3Q16 and £1,390 million for 4Q16 are equivalent to £295 million, £774 million, £1,110 million, £1,352 million, £284 million, £636 million, £1,019 million and £1,484 million on a PVNBP basis.
4 YTD investment sales of £362 million for 1Q15, £755 million for 2Q15, £1,156 million for 3Q15, £1,635 million for 4Q15, £480 million for 1Q16, £1,381 million for 2Q16, £2,085 million for 3Q16 and £2,834 million for 4Q16 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.

E10 – Trend analysis of Investment sales – discrete

									Growth[2] on 4Q15	
Investment sales[1]	1Q15 Discrete £m	2Q15 Discrete £m	3Q15 Discrete £m	4Q15 Discrete £m	1Q16 Discrete £m	2Q16 Discrete £m	3Q16 Discrete £m	**4Q16 Discrete £m**	**Sterling %**	**Constant currency %**
United Kingdom & Ireland[3]	271	439	331	274	260	315	381	**434**	**58%**	**58%**
Aviva Investors[4]	1,073	1,029	1,373	1,518	1,384	2,203	532	**1,646**	**8%**	**(1)%**
Asia[5]	41	37	25	26	28	30	39	**40**	**55%**	**35%**
Total investment sales	1,385	1,505	1,729	1,818	1,672	2,548	952	**2,120**	**17%**	**7%**

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 UK & Ireland investment sales are also reported in UK Life PVNBP following the extension of MCEV covered business. Discrete investment sales of £271 million for 1Q15, £439 million for 2Q15, £331 million for 3Q15, £274 million for 4Q15, £260 million for 1Q16, £315 million for 2Q16, £381 million for 3Q16 and £434 million for 4Q16 are equivalent to £295 million, £479 million, £336 million and £242 million, £284 million, £352 million, £383 million and £464 million respectively on a PVNBP basis.
4 Discrete investment sales of £362 million for 1Q15, £393 million for 2Q15, £401 million for 3Q15, £479 million for 4Q15 £480 million for 1Q16, £901 million for 2Q16, £703 million for 3Q16 and £750 million for 4Q16 are also included in Aviva Investors' PVNBP at the same level following the extension of MCEV covered business.
5 Some of Asia investment sales are also reported in Asia PVNBP following an extension of MCEV covered business.

E11 – Trend analysis of general insurance and health net written premiums – cumulative

	1Q15 YTD £m	2Q15 YTD £m	3Q15 YTD £m	4Q15 YTD £m	1Q16 YTD £m	2Q16 YTD £m	3Q16 YTD £m	**4Q16 YTD £m**	**Growth[1] on 4Q15 Sterling %**	**Growth[1] on 4Q15 Constant currency %**
General insurance										
United Kingdom[2]	855	1,851	2,750	3,685	958	2,001	2,940	**3,930**	**7%**	**7%**
Ireland	63	134	210	282	83	179	280	**378**	**34%**	**19%**
United Kingdom & Ireland	918	1,985	2,960	3,967	1,041	2,180	3,220	**4,308**	**9%**	**8%**
Europe	399	674	910	1,200	437	757	1,058	**1,438**	**20%**	**6%**
Canada	409	1,013	1,519	1,992	417	1,049	1,766	**2,453**	**23%**	**14%**
Asia & Other	3	6	8	12	3	5	9	**12**	**(3)%**	**(13)%**
	1,729	3,678	5,397	7,171	1,898	3,991	6,053	**8,211**	**15%**	**9%**
Health insurance										
United Kingdom[3]	158	315	423	529	151	292	402	**514**	**(3)%**	**(3)%**
Ireland	28	42	58	85	27	43	49	**49**	**(42)%**	**(49)%**
United Kingdom & Ireland	186	357	481	614	178	335	451	**563**	**(8)%**	**(10)%**
Europe	89	128	157	210	97	155	188	**235**	**12%**	**(1)%**
Asia[4]	33	55	75	95	37	64	92	**125**	**32%**	**17%**
	308	540	713	919	312	554	731	**923**	**—**	**(5)%**
Total	2,037	4,218	6,110	8,090	2,210	4,545	6,784	**9,134**	**13%**	**7%**

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 written in 2015 and completed in 2016 in Aviva Insurance Limited (AIL).
3 These premiums are also reported in UK Life PVNBP following the extension of MCEV covered business.1Q15 NWP of £158 million, 2Q15 YTD NWP of £315 million, 3Q15 YTD NWP of £423 million, 4Q15 YTD NWP of £529 million, 1Q16 YTD NWP of £151 million, 2Q16 YTD NWP of £292 million, 3Q16 YTD NWP of £402 million and 4Q16 YTD NWP of £514 million are equivalent to £181 million, £373 million, £451 million, £565 million, £123 million, £255 million, £357 million and £424 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, 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, 1Q16 NWP of £14 million, 2Q16 YTD NWP of £30 million, 3Q16 YTD NWP of £46 million and 4Q16 YTD NWP of £67 million are equivalent to £48 million, £120 million, £184 million, £214 million, £48 million, £97 million, £133 million and £209 million on a PVNBP basis respectively.

E12 – Trend analysis of general insurance and health net written premiums – discrete

	1Q15 Discrete £m	2Q15 Discrete £m	3Q15 Discrete £m	4Q15 Discrete £m	1Q16 Discrete £m	2Q16 Discrete £m	3Q16 Discrete £m	**4Q16 Discrete £m**	**Growth[1] on 4Q15 Sterling %**	**Growth[1] on 4Q15 Constant currency %**
General insurance										
United Kingdom[2]	855	996	899	935	958	1,043	939	**990**	**6%**	**6%**
Ireland	63	71	76	72	83	96	101	**98**	**38%**	**20%**
United Kingdom & Ireland	918	1,067	975	1,007	1,041	1,139	1,040	**1,088**	**8%**	**7%**
Europe	399	275	236	290	437	320	301	**380**	**30%**	**13%**
Canada	409	604	506	473	417	632	717	**687**	**45%**	**30%**
Asia & Other	3	3	2	4	3	2	4	**3**	**(31)%**	**(37)%**
	1,729	1,949	1,719	1,774	1,898	2,093	2,062	**2,158**	**22%**	**14%**
Health insurance										
United Kingdom[3]	158	157	108	106	151	141	110	**112**	**6%**	**6%**
Ireland[5]	28	14	16	27	27	16	6	**—**	**(100)%**	**(100)%**
United Kingdom & Ireland	186	171	124	133	178	157	116	**112**	**(15)%**	**(18)%**
Europe	89	39	29	53	97	58	33	**47**	**(12)%**	**(24)%**
Asia[4]	33	22	20	20	37	27	28	**33**	**62%**	**42%**
	308	232	173	206	312	242	177	**192**	**(7)%**	**(13)%**
Total	2,037	2,181	1,892	1,980	2,210	2,335	2,239	**2,350**	**19%**	**11%**

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 written in 2015 and completed in 2016 in Aviva Insurance Limited (AIL).
3 These premiums are also reported in UK Life PVNBP following the extension of MCEV covered business. 1Q15 NWP of £158 million, 2Q15 NWP of £157 million, 3Q15 NWP of £108 million, 4Q15 NWP of £106 million, 1Q16 NWP of £151 million, 2Q16 NWP of £141 million, 3Q16 NWP of £110 million and 4Q16 NWP of £112 million, are equivalent to £182 million, £191 million, £78 million, £114 million, £123 million, £132 million, £123 million and £132 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. For Singapore long term health business, 1Q15 NWP of £10 million and 2Q15 NWP of £13 million, 3Q15 NWP of £13 million and 4Q15 NWP of £15 million, 1Q16 NWP of £14 million, 2Q16 NWP of £15 million, 3Q16 NWP of £16 million and 4Q16 NWP of £21 million are equivalent to £48 million, £72 million, £64 million,£30 million, £48 million, £49 million, £36 million and £76 million on a PVNBP basis respectively.
5 The sale of the Ireland Health business was completed in 3Q16.

VNB & Sales analysis

E13 – Reconciliation of sales to net written premiums in IFRS

The table below presents our consolidated sales for the year ended 31 December 2016 and the year ended 31 December 2015 as well as the reconciliation of sales to net written premiums in IFRS.

	2016 £m	2015 £m
Present value of new business premiums[1]	**34,967**	29,765
Investment sales	**7,292**	6,437
General insurance and health net written premiums	**9,134**	8,090
Less: long-term health and collectives business[2]	**(4,944)**	(3,660)
Total sales	**46,449**	40,632
Less: Effect of capitalisation factor on regular premium long-term business	**(10,493)**	(10,357)
Share of long-term new business sales from JVs and associates	**(552)**	(427)
Annualisation impact of regular premium long-term business[3]	**(264)**	(251)
Deposits taken on non-participating investment contracts and equity release contracts	**(7,834)**	(6,560)
Retail sales of mutual fund type products (investment sales)	**(7,292)**	(6,437)
Add: IFRS gross written premiums from existing long-term business[3]	**4,867**	4,676
Less: long-term insurance and savings business premiums ceded to reinsurers	**(1,696)**	(1,529)
Less: Outward reinsurance premium relating to general insurance business[4]	**(107)**	(712)
Total IFRS net written premiums	**23,078**	19,035
Analysed as:		
Long-term insurance and savings net written premiums	**14,051**	11,658
General insurance and health net written premiums	**9,027**	7,377
	23,078	19,035

1 Includes £257 million relating to the internal transfer of annuities from a with-profits fund to a non profit fund during the second half of 2016.
2 Long-term health and collectives business are included as part of PVNBP following the extension of MCEV covered business.
3 £200 million has been reclassified from 'Annualisation impact of regular premium long-term business' to 'IFRS gross written premiums from existing long-term business' in UK Life for 2015.
4 Outwards reinsurance premium ceded represents £107 million (*2015: £712 million*) relating to an outwards reinsurance contract completed by the UK General Insurance business.

Effect of capitalisation factor on regular premium long-term business
PVNBP is derived from the single and regular premiums of the products sold during the financial period and is expressed at the point of sale. The PVNBP calculation is equal to total single premium sales received in the year plus the discounted value of regular premiums expected to be received over the term of the new contracts. The discounted value of regular premiums is calculated using the same market consistent embedded value methodology as for VNB (on a MCEV basis).

The discounted value reflects the expected income streams over the life of the contract, adjusted for expected levels of persistency, discounted back to present value. The discounted value can also be expressed as annualised regular premiums multiplied by a weighted average capitalisation factor (WACF). The WACF varies over time depending on the mix of new products sold, the average outstanding term of the new contracts and the projection assumptions.

Share of long-term new business sales from joint ventures and associates
Total long-term new business sales include our share of sales from joint ventures and associates. Under IFRS reporting, premiums from these sales are excluded from our consolidated accounts, with only our share of profits or losses from such businesses being brought into the income statement separately.

Annualisation impact of regular premium long-term business
As noted above, the calculation of PVNBP includes annualised regular premiums. The impact of this annualisation is removed in order to reconcile the non-GAAP new business sales to IFRS premiums and will vary depending on the volume of regular premium sales during the year.

Deposits taken on non-participating investment contracts and equity release contracts
Under IFRS, non-participating investment contracts are recognised in the Statement of Financial Position by recording the cash received as a deposit and an associated liability and are not recorded as premiums received in the IFRS income statement. Only the margin earned is recognised in the IFRS income statement.

Retail sales of mutual fund type products (investment sales)
Investment sales included in the total sales number represent the cash inflows received from customers to invest in mutual fund type products such as unit trusts and OEICs. We earn fees on the investment and management of these funds which are recorded separately in the IFRS income statement as 'fees and commissions received' and are not included in statutory premiums.

IFRS gross written premiums from existing long-term business
The non-GAAP measure of long-term and savings sales focuses on new business written in the year under review while the IFRS income statement includes premiums received from all business, both new and existing.

E14 – Principal Assumptions underlying the calculation of VNB (on a MCEV basis)

(a) Reference rates

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:

United Kingdom	**4Q 2016**	3Q 2016	2Q 2016	1Q 2016	4Q 2015	3Q 2015	2Q 2015	1Q 2015
Reference rate								
1 year	**0.5%**	0.5%	0.6%	0.7%	0.7%	0.7%	0.6%	0.6%
5 years	**0.9%**	0.5%	1.0%	1.6%	1.4%	1.7%	1.4%	1.5%
10 years	**1.3%**	0.8%	1.4%	2.0%	1.9%	2.2%	1.7%	1.9%
15 years	**1.4%**	1.0%	1.7%	2.2%	2.0%	2.4%	1.9%	2.1%
20 years	**1.5%**	1.0%	1.7%	2.3%	2.1%	2.4%	2.0%	2.2%

Eurozone	**4Q 2016**	3Q 2016	2Q 2016	1Q 2016	4Q 2015	3Q 2015	2Q 2015	1Q 2015
Reference rate								
1 year	**0.1%**	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%
5 years	**0.1%**	0.1%	0.1%	0.3%	0.4%	0.5%	0.2%	0.4%
10 years	**0.3%**	0.4%	0.5%	1.0%	1.0%	1.2%	0.6%	0.8%
15 years	**0.6%**	0.8%	0.9%	1.5%	1.4%	1.6%	0.7%	1.2%
20 years	**0.7%**	0.9%	1.0%	1.6%	1.5%	1.7%	0.8%	1.4%

(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 2016	3Q 2016	2Q 2016	1Q 2016	4Q 2015	3Q 2015	2Q 2015	1Q 2015
UK immediate annuites[1]	**1.42%**	1.42%	1.51%	1.51%	1.41%	1.40%	1.59%	1.59%
France immediate annuities	**0.20%**	0.31%	0.36%	0.38%	0.45%	0.28%	0.16%	0.19%
France participating business	**0.15%**	0.23%	0.27%	0.29%	0.34%	0.21%	0.12%	0.15%
Italy participating business	**0.15%**	0.23%	0.27%	0.29%	0.34%	0.21%	0.12%	0.15%

1 Immediate annuities have also been sold in Friends Life as well as the UK annuity business (UKA). At Q416, the liquidity premium for Friends Life policies is 63 bps for new business.

In assessing the liquidity premium, 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 – 40 bps)

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.

This page is intentionally left blank

Other information

In this section | Page

Product definitions

Annuity
A type of policy that pays out regular amounts, 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 and may be funded by a policyholder by payment of a series of contributions or by a capital sum. 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.

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.

Critical illness cover
Pays out a lump sum if the insured person is diagnosed with a serious illness that is specified within the insurance policy.

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 to 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. It 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.

Individual savings account (ISAs)
Tax-efficient plans within the UK for investing in stocks and shares, cash deposits or life insurance investment funds, subject to certain limits.

Investment sales
Comprise retail sales of mutual fund-type products such as unit trusts, individual savings accounts (ISAs) and open ended investment companies (OEICs).

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 the 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.

Single premium
A single lump sum is paid by the policyholder at the start 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 within the specified time period.

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 with a lump sum 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

Alternative performance measures
Alternative performance measures ('APMs') are non-GAAP measures used by the Aviva Group within its financial publications to supplement disclosures prepared in accordance with other regulations such as International Financial Reporting Standards (IFRS) and Solvency II. We believe that these measures provide useful information to enhance the understanding of financial performance. The APMs should be

viewed as complementary to, rather than a substitute for, the figures determined according to other regulatory measures. The Group's APMs are highlighted below using the following symbol '‡'.

Acquired value of in force (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, or investment in, a business.

Adjusted Solvency II value of new business‡
Adjusted Solvency II VNB is the increase in Solvency II Own Funds resulting from business written in the period, adjusted to remove the impact of contract boundaries, to include look through profits in service companies (where not included in Solvency II) and to include business that has previously been included in MCEV VNB but which is not included in the Solvency II valuation. There is no explicit adjustment to include the cost associated with holding the Solvency II capital requirement as the Solvency II risk margin is viewed to be sufficient.

From 2017 onwards, adjusted Solvency II VNB will replace MCEV VNB as a key performance indicator.

The methodology underlying the calculation of adjusted Solvency II VNB uses Solvency II rules with adjustments to reflect a more realistic basis than the prudential Solvency II basis. Adjusted Solvency II VNB can be reconciled to MCEV VNB and to the Solvency II Own Funds impact of new business; however there is no equivalent IFRS metric.

Annual premium equivalent (APE)
Used as a measure of life sales. It is calculated as the sum of new regular premiums plus 10% of new single premiums written in the period.

Association of British Insurers (ABI)
A major trade association for UK insurance companies, established in July 1985.

Available for sale (AFS)
Securities that have been acquired neither for short-term sale nor to be held to maturity and are not classified as other than trading. 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.

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 operating businesses to the Group, comprising dividends and interest on internal loans. These amounts eliminate on consolidation and are hence not directly reconcilable to the Group's IFRS consolidated statement of cash flows.

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.

The components used to calculate COR for the Group are detailed in note 7.ii – General insurance and health.

Contract boundaries
A contract boundary is the first point in time in the lifetime of an insurance policy at which the insurer has the ability to review the premiums charged at the individual policy level, without any contractual constraints. For policies in which such a point does not exist, the contract boundary is the same as the full term of the contract. Under Solvency II, if a contract boundary on an insurance contract is less than the full term of the contract the expected future premiums and obligations that relate to cover which may be provided after that date are not recognised in the measurement of the insurance liabilities.

Cost of non-hedgeable risks (CNHR)
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. The cost of non-hedgeable risks reduces the MCEV value of new business.

Covered business
The contracts to which the MCEV basis has been applied.

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 remittances by business units. It is a measure of the cash available to pay dividends, reduce debt, pay exceptional charges or invest back into our business. The cash remittances from business units eliminate on consolidation and hence the excess centre cash flow is not directly reconcilable to the Group's IFRS consolidated statement of cash flows.

Fair value
The price that would be received to sell an asset or paid to transfer 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 an independent public body and is independent of the Bank of England. It is responsible for the conduct business regulation of financial services 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.

Frictional costs
The additional taxation and investment costs incurred by shareholders through investing required capital in the Company rather than directly. Frictional costs reduce the MCEV value of new business.

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 to give independent advice on financial matters. IFAs are authorised by the FCA in the UK.

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.

International financial reporting standards (IFRS)
These are international accounting regulations that all publicly listed companies in the European Union are required to use.

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.

Life business
Businesses selling life and pensions contracts that are classified as covered business within MCEV VNB.

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.

Longevity risk
Risk associated with increasing life expectancy trends among policyholders and pensioners.

Long-term and savings business
Collective term for life insurance, pensions, savings, investments and related 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.

MCEV value of new business (VNB)‡
VNB is the present value of future profits from new business written at the point of sale and any changes to existing contracts which were not anticipated at the outset of the contract that generate additional shareholder risk and associated premium income, of the nature of a new policy. An example of a change to existing contracts that is considered to be generating value of new business is an internal transfer of annuities from with-profits funds to a non profit fund. It is calculated on a market consistent basis using economic assumptions set at the start of each quarter or more frequently and best estimate operating assumptions. It is stated after the effect of any frictional costs and the cost of non-hedgeable risks.

MCEV VNB can be reconciled to adjusted Solvency II VNB and to Solvency II Own Funds impact of new business; however there is no equivalent IFRS metric.

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.

Morbidity
Rate of disease or how likely someone will fall ill, varying by such parameters as age, gender and health, used in pricing and calculating liabilities for policyholders of life and annuity products.

Mortality
Rate of death, varying by such parameters as age, gender and health, used in pricing and calculating liabilities for policyholders of life and annuity products, which contain mortality risks.

Net asset value (NAV) per share‡
Net asset value (NAV) per share is calculated as the equity attributable to shareholders of Aviva plc, less preference share capital (both within the Consolidated statement of financial position), divided by the actual number of shares in issue as at the balance sheet date.

Net written premiums
Total gross written premiums for the given period, minus premiums paid over or 'ceded' to reinsurers.

New business margin
New business margins are calculated as the MCEV value of new business divided by the present value of new business premiums (PVNBP), and expressed as a percentage.

Operating capital generation (OCG)‡
OCG is the Solvency II surplus movement in the period due to operating items including the impact of new business, expected investment returns on existing business, operating variances, operating assumption changes and management actions. It excludes economic variances, economic assumption changes and integration and restructuring costs.

Operating earnings per share (EPS)‡
Operating EPS is calculated based on the operating profit attributable to ordinary shareholders net of tax, non-controlling interests, preference dividends, the direct capital instrument (DCI) and tier one notes divided by the weighted average number of ordinary shares in issue, after deducting treasury shares.

The components used to calculate the operating EPS are detailed in note B7 – Earnings per share.

Operating expense ratio‡
The Group operating expense ratio expresses operating expenses as a percentage of operating income. Operating income is calculated as operating profit before Group debt costs and operating expenses.

The components used to calculate the operating expense ratio are detailed in note 1 – Operating profit, note 3 – Expenses and note A3 – Group debt costs and other interest.

Operating expenses‡
The day-to-day expenses involved in running the business including staff costs. For the avoidance of doubt, operating expenses excludes commission, non-operating integration and restructuring costs, and amortisation and impairment of AVIF and intangible assets. The components of operating expenses are detailed in note 3 – Expenses.

Operating profit‡
This is a non-GAAP financial performance measure. 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, the profit or loss on disposal and remeasurement of subsidiaries, joint ventures and associates, integration and restructuring costs and other items. Other items are those items that, in the Directors' view, are required to be separately disclosed by virtue of their nature or incidence to enable a full understanding of the Group's financial performance.

The components of operating profit are detailed in note A - Reconciliation of group operating profit to profit after tax.

Own Funds
Under Solvency II, capital available to cover the SCR and MCR is referred to as own funds. This includes the excess of assets over liabilities in the Solvency II balance sheet (calculated on best estimate, market consistent assumptions and net of transitional measures on technical provisions), subordinated liabilities that qualify as capital under Solvency II, and off-balance sheet own funds approved by the regulator. Own funds eligible to cover the SCR and MCR also reflect any tiering restrictions.

Persistency
The rate at which policies are retained over time and therefore continue to contribute premium income and assets under management.

Present value of new business premiums (PVNBP)
Present value of new regular premiums plus 100% of single premiums from new business written at the point of sale and any changes to existing contracts, which were not anticipated at the outset of the contract that generates additional shareholder risk and associated premium income of the nature of a new policy. An example of a change to existing contracts that is considered to be generating PVNBP is an internal transfer of annuities from with-profits funds to a non profit fund. PVNBP is calculated using assumptions consistent with those used to determine the MCEV value of new business.

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 three statutory objectives: to promote the safety and soundness of these firms, specifically for insurers, to contribute to the securing of an appropriate degree of protection for policyholders and secondary objective to facilitate effective competition.

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.

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 II 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 II cover ratio‡
Own funds divided by the Solvency Capital Requirement, as calculated on a shareholder view. The shareholder view excludes the contribution to Group Solvency Capital Requirement (SCR) and Group own funds of fully ring fenced with-profits funds and staff pension schemes in surplus – these exclusions have no impact on Solvency II surplus.

Solvency II cover ratio is detailed in note 8.iv – Solvency II.

Solvency II own funds impact of new business
The change in own funds resulting from new business written in the period.

Solvency II surplus
Own funds less the Solvency Capital Requirement.

Solvency II surplus impact of new business
The change in Solvency II surplus resulting from new business written in the period.

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.

Transitional Measures on Technical Provisions (TMTP)

TMTP is an adjustment to Solvency II technical provisions to bring them into line with the pre-Solvency II equivalent as at 1 January 2016 when the regulatory basis changed, to smooth the introduction of the new regime. This will decrease linearly over the 16 years following Solvency II implementation but may be recalculated to allow for material changes to the risk profile of the relevant business, subject to agreement with the regulator. TMTP may also be recalculated every 24 months at the request of either the firm or the regulator.

Underwriting result

The profit or loss from general insurance and health activities, excluding investment performance. It is calculated as net earned premiums less net insurance claims, commission and expenses. The underwriting result is calculated in note 7ii – General insurance and health.

UK Corporate Governance Code

The code sets out guidance in the form of principles and provisions on how companies should be directed and controlled to follow good governance practice.

DON'T MISS OUT ON YOUR FUTURE DIVIDENDS!

From November 2017, we are simplifying the way we pay dividends to shareholders by only paying cash dividends directly into a nominated bank account. This provides shareholders with the following benefits:

- A faster, more secure, environmentally friendly way of paying dividends – we currently send out over 200,000 cheques for each dividend
- No more fees for the replacement of lost cheques – one in five dividend cheques issued in 2015 remains uncashed

If you are currently receiving your dividend by cheque, take action now and choose from the dividend payment options detailed below. If you already receive your dividend directly to your bank account, your current payment instruction will apply.

DIVIDEND PAYMENT OPTIONS

Shareholders will be able to receive their dividends in the following ways:

- Directly into your nominated UK bank account
- Directly into your nominated Eurozone bank account
- The Global Payment Service provided by our Registrar, Computershare. This enables shareholders living outside of the Single European Payment Area (SEPA) to elect to receive their dividends or interest payments in a choice of over 60 international currencies
- The Dividend Reinvestment Plan enables eligible shareholders to reinvest their cash dividend in additional Aviva ordinary shares

You can find further details regarding these payment options at www.aviva.com/dividends and register your choice by contacting Computershare using the contact details on the next page, online at www.aviva.com/online or by returning a dividend mandate form. You must register for one of these payment options to receive dividend payments from November 2017.

PARTNERING WITH THE BRITISH RED CROSS

We are a year into our three year strategic partnership with the British Red Cross and already we have achieved a huge amount together to help communities in the UK and globally, be safer and stronger in times of uncertainty and crisis.

This includes training our people to spot the signs of stress in our customers during times of crisis, and continuing our support of the British Red Cross emergency app. Together, we are helping to make people better informed, prepared and therefore more resilient if disaster should strike.

HELP AVIVA SUPPORT THE BRITISH RED CROSS

During November and December 2016, Aviva shareholders completed 1,500 online dividend mandate instructions, meaning a donation of £1,500 to the British Red Cross to help people become safer and stronger in times of uncertainty and crisis.

You can help achieve even more – for every online dividend mandate and every voting instruction received online for the 2017 Annual General Meeting, Aviva will donate £1 to the British Red Cross.

DIVIDEND CHANGES TIMELINE

25 April 2017	Last date to complete a mandate instruction for the dividend payable in May 2017
17 May 2017	Last dividend payment that can be made by cheque
27 October 2017*	Last date to complete a mandate instruction to receive the dividend payable in November 2017
17 November 2017*	First dividend where direct credit is the only method of payment for cash dividends – a reminder will be sent to shareholders who have not received their dividend
Spring 2019	An annual dividend confirmation will be sent to shareholders who have had dividends withheld during the previous year

* Any dates marked with an asterisk are provisional and may be subject to change

MANAGE YOUR SHAREHOLDING ONLINE

www.aviva.com/online:
You can access Computershare online services directly using the above address where you can log in using your Computershare details to:

- Change your address
- Change payment options
- Switch to electronic communications
- View your shareholding
- View any outstanding payments
- Access useful information and view your Aviva policies

www.aviva.co.uk/myaviva:
If you've already registered for MyAviva you'll be able to view useful shareholder information. You can also check the details of Aviva policies you may have. Our online portal brings all this information together into one safe and secure place at a time that suits you. Just login as normal using your email address via **www.aviva.co.uk/myaviva**.

MyAviva also includes a link to the Investor Centre, where you can log in and manage you shareholding as outlined above.

www.aviva.com/shareholders:
For access to our shareholder services centre.

www.aviva.com/dividends:
To find the latest information on Aviva dividends.

www.aviva.com/agm:
To find the latest information on our Annual General Meeting.

www.investorcentre.co.uk/eproxy:
For access to electronic voting for our Annual General Meeting.

www.aviva.com/reports:
To access our latest reports, such as our annual report and accounts.

www.aviva.com/shareprice:
To find out the latest Aviva plc Ordinary share price.

www.londonstockexchange.com:
To find out the latest Aviva plc Preference share price.

SHAREHOLDER UPDATES

In 2017, we want to keep you informed with quarterly online shareholder updates. This will provide a summary on how Aviva is doing as well as information for shareholders. Sign up for email communications at **www.aviva.com/online** to receive a notification when the latest update is available.

SHAREHOLDER PROFILE AS AT 31 DECEMBER 2016

By category of shareholder	Number of shareholders	%*	Number of shares	%*
Individual	578,993	98.22	248,881,261	6.13
Banks and nominee companies	7,906	1.34	3,758,032,990	92.53
Pension fund managers and insurance companies	221	0.04	1,040,014	0.03
Other corporate bodies	2,368	0.40	53,584,941	1.32
Total	**589,488**	**100**	**4,061,539,206**	**100**

By size of shareholding	Number of shareholders	%*	Number of shares	%*
1–1,000	539,400	91.50	134,735,003	3.32
1,001–5,000	44,611	7.57	83,697,278	2.06
5,001–10,000	3,000	0.51	20,785,611	0.51
10,001–250,000	1,861	0.32	78,749,554	1.94
250,001–500,000	154	0.03	54,803,042	1.35
500,001 and above	461	0.08	3,648,142,024	89.82
American Depositary Receipts (ADRs)+	1	0.00	40,626,694	1.00
Total	**589,488**	**100**	**4,061,539,206**	**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.

2017 FINANCIAL CALENDAR

Ordinary 2016 final dividend ex-dividend date*	6 April 2017
2016 final dividend record date (Ordinary and ADR)	7 April 2017
Last day for Dividend Reinvestment Plan and currency election for 2016 final dividend	25 April 2017
Annual General Meeting	11am on 10 May 2017
2016 final dividend payment date*	17 May 2017

The full financial calendar is available at **www.aviva.com/financial-calendar**

* 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 5 April 2017.

GROUP COMPANY SECRETARY
Shareholders may contact the Group Company Secretary:

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

ORDINARY AND PREFERENCE SHARES – CONTACT:
For any queries regarding your shareholding, please contact 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

ANNUAL GENERAL MEETING (AGM)
The 2017 AGM will be held at The Queen Elizabeth II Centre, Broad Sanctuary, Westminster, London SW1P 3EE, on Wednesday, 10 May 2017, 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 2017 AGM will be accessible on the Company's website at **www.aviva.com/agm** shortly after the meeting.

AVIVA PLC ANNUAL REPORT AND ACCOUNTS
Aviva plc annual report and accounts are intended to provide information about the Company's activities and financial performance in the previous year. This strategic report is only part of the Company's annual report and accounts. You can view the full Aviva plc annual report and accounts online at **www.aviva.com/2016ar** or order a printed copy using the contact details opposite.

FORM 20-F
On 1 December 2016, the Company announced that it had resolved to voluntarily delist its American Depositary Shares (ADS) from the NYSE and to terminate the registration of its ADS and the underlying ordinary shares under the Exchange Act and to continue its ADS programme as a 'Level 1' sponsored programme, which will enable investors to trade ADS in the US over-the-counter market. The last day of trading on the NYSE was 22 December 2016 and the Company's obligations to file certain reports with the SEC were suspended on the same date. The Company expects the deregistration of its ADS and the underlying ordinary shares to become effective on 22 March 2017. Copies of the Company's Form 20-F for the financial year ended 31 December 2015 and for prior financial years can be found at **www.aviva.com/reports**.