AVIVA

News Release

AVIVA PLC 2020 PRELIMINARY RESULTS ANNOUNCEMENT

A refocused Aviva, transforming at pace

Resilient financial performance

- Operating profit[1,‡#] of £3,161m *(2019: £3,184m)* and IFRS profit for the year of £2,910m *(2019: £2,663m)*
- Core business unit operating profit[1,‡#] of £2,492m *(2019: £2,558m)*
- Cash remittances[‡#] of £1,500m *(2019: £2,597m)*
- Core business cash remittances[‡#] of £1,359m *(2019: £1,409m excluding UK Life special remittance)*

Sales of Aviva France and Aviva Italy in 2021 – major progress in our strategic transformation

- On completion will significantly strengthen capital and liquidity: excess capital by c.£3.0bn and centre cash by c.£3.9bn
- Build on announced sales of Singapore, Vietnam, Hong Kong, Indonesia and Turkey

Robust financial strength

- Solvency II shareholder cover ratio[‡#] of 202% *(2019: 206%)* and centre liquidity[‡] of £4.1bn *(2019: £2.4bn)*
- Solvency II debt leverage ratio[‡] of 31% *(2019: 31%)*

Delivering against our capital framework

- Expect £1.7bn debt reduction in H1 2021 including £800m tender offer announced today
- Investing for cash generative growth in our Core markets
- Expect to return to shareholders excess capital above 180% Solvency II shareholder cover ratio[‡#]
- Total dividend of 21p *(2019: 15.5p per share)* with a final proposed dividend of 14p per share

Targeting sustainable growth across the UK, Ireland and Canada

- Momentum with record trading in Savings & Retirement, BPA and Group Protection
- New cumulative cash remittance[‡#] target of over £5bn between 2021-23 with guidance for £1.8bn in 2023
- First major insurer globally to target Net Zero greenhouse emission status by 2040

Amanda Blanc, Chief Executive Officer, said:

"Over the past year we have supported our customers in the most challenging of circumstances. Across the whole of Aviva our people have been outstanding and I cannot thank them enough for all they have achieved.

2020 was a year of significant change for Aviva. We have taken major steps forward in simplifying the business, most recently with the sale of Aviva France and today's announcement of the sale of the rest of our Italian operations. Our strategic focus is now on the UK, Ireland and Canada where we have leading positions. We are putting customers at the heart of everything we do and I am confident we will transform Aviva's financial performance and deliver greater value for our shareholders. I recognise we have much more to do and we are getting on with it.

Our performance in 2020 demonstrates the resilience of our Core businesses and our growth potential. We delivered record sales in group protection; record sales of bulk purchase annuities; and record net flows[‡] in savings and retirement, where we are the largest provider of workplace pensions in the UK.

Aviva is financially strong and following the completion of the major disposals, we will be in a position to make a substantial return of capital to our shareholders. We are also announcing today an £800m debt tender offer. This allows us to accelerate our debt reduction plans and lower debt by a total of £1.7bn in the first half of this year.

Aviva is proud to be the UK's leading insurer. We are the only insurer in the UK to meet the needs of customers at every stage of their lives. Our potential is clear and we are determined to realise it for the benefit of our customers, our people and our shareholders."

\# Symbol denotes key financial performance indicators used as a base to determine or modify remuneration.
‡ Denotes Alternative Performance Measures (APMs) and further information can be found in the 'Other information' section.
1 Operating profit represents Group adjusted operating profit which is a non-GAAP APM. Operating profit is not bound by the requirements of IFRS. Further details of this measure are included in the 'Other information' section.

Cash remittances‡#

	2020 £m	2019 £m	Change
Core markets	**1,359**	1,909	(29)%
Manage-for-value markets	**127**	613	(79)%
Other	**14**	75	(81)%
Group cash remittances	**1,500**	2,597	(42)%

Profit

	2020 £m	2019 £m	Sterling % change
Core markets	**2,492**	2,558	(3)%
Manage-for-value markets			
Continuing operations[1]	**999**	899	11%
Discontinued operations[2]	**312**	251	25%
Market operating profit	**3,803**	3,708	3%
Corporate centre and Other Group operations	**(272)**	(204)	(33)%
Group debt costs and other interest	**(370)**	(320)	(16)%
Group adjusted operating profit[3,‡#]	**3,161**	3,184	(1)%
IFRS profit for the year[4]	**2,910**	2,663	9%

	2020	2019	Sterling % change
Operating earnings per share[5‡#]	**60.8p**	60.5p	—
Basic earnings per share	**70.2p**	63.8p	10%

Controllable costs‡

	2020 £m	Restated[6] 2019 £m	Sterling % change
Excluding cost reduction implementation and IFRS 17 costs			
Core markets	**2,735**	2,821	(3)%
Corporate centre and Other Group operations	**250**	253	(1)%
Cost reduction implementation and IFRS 17 costs[7]	**105**	64	64%
Core markets, Corporate centre and Other Group operations	**3,090**	3,138	(2)%
Manage-for-value markets	**845**	884	(4)%
Controllable costs	**3,935**	4,022	(2)%

Solvency II operating capital generation (OCG)‡#

	2020 £m	2019 £m	Sterling % change
Core markets[8]	**1,948**	1,850	5%
Manage-for-value markets			
Continuing operations[1]	**6**	805	(99)%
Discontinued operations[2]	**166**	62	168%
Market operating capital generation	**2,120**	2,717	(22)%
Corporate centre costs and Other[8]	**108**	(174)	162%
Group external debt costs	**(296)**	(284)	(4)%
Group operating capital generation	**1,932**	2,259	(14)%

Solvency II operating own funds generation‡ and Solvency II return on capital‡/equity‡#

	Solvency II operating own funds generation			Solvency II return on capital/equity		
	2020 £m	2019 £m	Sterling % change	2020 %	2019 %	Change
Core markets	**1,740**	1,853	(6)%	**9.3%**	10.4%	(1.1)pp
Manage-for-value markets	**497**	850	(42)%	**6.2%**	11.4%	(5.2)pp
Group centre costs and Other	**(250)**	(162)	(54)%	**N/A**	N/A	N/A
Solvency II return on capital	**1,987**	2,541	(22)%	**8.1%**	10.8%	(2.7)pp
Group operating own funds generation and return on equity[9]	**1,691**	2,257	(25)%	**9.8%**	14.3%	(4.5)pp

Capital Position

	31 December 2020	31 December 2019	Change
Estimated Solvency II shareholder cover ratio[10,‡#]	**202%**	206%	(4)pp
Estimated Solvency II surplus[10]	**£13.0bn**	£12.6bn	3%
Solvency II net asset value per share[10,‡]	**442p**	423p	4%
Solvency II debt leverage ratio[‡]	**31%**	31%	—

Dividend

	2020	2019
Interim dividend per share	**7.00p**	9.50p
Second interim dividend per share	**—**	6.00p
Final dividend per share	**14.00p**	—
Total dividend per share	**21.00p**	15.50p

Symbol denotes key financial performance indicators used as a base to determine or modify remuneration.
‡ Denotes APMs and further information can be found in the 'Other Information' section.
1 Continuing operations include our businesses in France, Italy, Poland and Other (our joint ventures in Turkey, India, China and Aviva Singlife).
2 Discontinued operations include our businesses in Hong Kong, Indonesia, Vietnam, Aviva Singapore and Friends Provident International Limited (FPI).
3 Operating profit represents Group adjusted operating profit which is a non-GAAP APM. Operating profit is not bound by the requirements of IFRS. Further details of this measure are included in the 'Other information' section.
4 IFRS profit for the year represents IFRS profit after tax.
5 Operating earnings per share is derived from the Group adjusted operating profit APM. Further details of this measure are included in the 'Other information' section.
6 Following a review of the presentation of claims handling costs, to achieve consistency in our reporting, comparative amounts have been restated by £83 million for the year ended 31 December 2019 to include previously excluded claims handling costs attributable to the Life & Health business from the UK, Ireland and Poland in controllable costs.
7 Includes costs related to initiatives taken to further reduce our cost base and IFRS 17 implementation costs.
8 Following a review of the presentation of intercompany loan interest, comparative amounts for the year ended 31 December 2019 have been amended to reclassify net interest expense from UK & Ireland Life to Corporate centre costs and Other of £69 million as a non-operating item. The change has no impact on the Group's operating capital generation.
9 Includes Group centre, debt costs and other items not allocated to the markets.
10 The estimated Solvency II position represents the shareholder view only. See note 3 for more details

Chief Executive's Overview

Being there for customers when it really matters is exactly why we exist, and I am proud of how Aviva has responded in this most dramatic of years. Our colleagues have been truly fantastic, responding quickly and ensuring that we provided excellent customer service throughout the year.

I'm pleased with how much progress we have made in the short period of time since I became CEO, but it is not lost on me that there is much more to do. Aviva has significant untapped potential, and I am determined to realise it.

Our performance in 2020 has been very resilient with operating profit[1,‡#] from Core markets just 3% lower at £2,492 million *(2019: £2,558 million)* despite the direct and indirect impact of COVID-19. Cash remittances from Core were £1,359 million *(2019: £1,409m excluding UK Life special remittance)*. Trading in many of our key markets has been strong, with record years for both our Savings & Retirement business and in bulk purchase annuities. We're also making good progress in reducing our expenses though more needs to be done to reach top quartile efficiency that we strive for across all of our Core markets.

Today, we are accelerating our debt reduction plans, which will allow us to lower debt by £1.7 billion in the first half of this year, with an announcement of an £800 million debt tender offer. This is an important first step in executing against our capital framework and after investing in the business moves us closer to returning to shareholders excess capital above 180% Solvency II shareholder cover ratio[‡#] once we have completed our major divestments. In line with previous guidance the Board has proposed a final dividend of 14 pence per share making a total dividend for the year of 21 pence per share.

We are also announcing a new target that demonstrates our confidence in Aviva's ability to deliver profitable growth and growing sustainable dividends. We aim to deliver over £5 billion of cash remittances[‡#] from our Core businesses over the next three years, which combined with reduced centre debt interest and other costs will drive strong growth in excess cash flows to fund sustainable investment in our business and growing returns to shareholders.

Our response to COVID-19

If there was ever any doubt about the importance of our purpose, 2020 provided the answer. Being there for people when it really matters is why we exist, and the past year truly put that to the test.

Colleagues

Our first priority was looking after our people, so they could continue to serve our customers. Within a month we had moved all but a handful of colleagues out of the office and set up everyone to work from home. We offered flexible working to help anyone juggling caring responsibilities and have given practical support to look after everyone's health and wellbeing, ranging from mindfulness sessions to help for those home schooling, including recycling laptops for children and online maths classes from our finance colleagues.

Customers

We recognised the financial and practical challenge of lockdown on both our individual and business customers and did what we could to help them. This included free breakdown cover and enhanced home insurance for NHS staff serving at the front line and deferred monthly payments for people experiencing financial difficulties. For businesses, we created advice on managing new risks and offered flexible insurance, so they were still covered even as they adapted to new ways of working.

Communities

We continue to play a key part in our communities. Aviva has contributed £43 million to support community partners, health services and businesses in our markets round the world. In the UK this included £5 million donated to NHS Charities Together, to help fund welfare and wellbeing for NHS employees, volunteers and patients, as well as long-term mental health support for NHS workers.

Strategy

In 2020 we announced three clear strategic priorities: focus the portfolio, transform performance and financial strength.

Focus the portfolio

Our focus is on our strongest and most strategically advantaged businesses in the UK, Ireland and Canada including Aviva Investors. These are our Core markets, where we have market leading positions, can generate attractive returns, we have a strong powerful brand, we deliver incredible customer service and we have a clear path to win. We will invest for growth across these markets.

Our businesses in continental Europe and Asia are being managed for long term shareholder value. During 2020, we completed the disposals of Friends Provident International Limited, our majority shareholding in Aviva Singapore, and our shares in joint ventures in Indonesia and Hong Kong. We have also announced the sales of our French business, our Italian operations (including Aviva Vita announced in November), our minority shareholding in Turkey, and our entire business in Vietnam, which we expect to complete later in 2021. We are also exploring our strategic options in Poland and our other international joint ventures.

Transform performance

Aviva has fantastic franchises and exceptional long-term relationships with customers and distributors. We will invest in customer experience to provide excellent service and value for money along with delivering profitable growth for our shareholders. We have strong foundations, particularly in the UK. We must build on these foundations and go further in efficiency and performance management to ensure we are top quartile in both customer value and profitability.

Our people play a pivotal role in transforming Aviva and achieving long-term success. We have made good progress in embedding a strong performance culture by overhauling individual performance management, setting clear expectations for our leaders and emphasising the importance of close collaboration. We are also strengthening our executive leadership team with seven appointments to the Executive Committee including new CEOs for UK & Ireland Life and Aviva Investors.

We have good momentum across our Core business. Some of the performance highlights in 2020 included:

UK & Ireland Life	• Savings & Retirement – record net flows[‡] of £8.5 billion *(2019: £7.5 billion)* • Bundled workplace pensions – UK's largest provider by AUM[‡] with £81 billion *(2019: £71 billion)* added 246,000 scheme members • Adviser platform – number 2 by net flows[‡] in the adviser platform market and assets up 18% to £32 billion • Bulk purchase annuities – record sales[2] of £5,955 million *(2019: £4,013 million)* and VNB[‡] up 33% to £278 million *(2019: £208 million)* • Group Protection – record sales[2] of £716 million *(2019: £518 million)*
General Insurance	• UK commercial lines net written premiums (NWP) up 10% to £2,008 million *(2019: £1,819 million)* • Improvement in market-leading broker trust scores in 2020 • Launched Aviva brand on price comparison websites for both motor and home • Canada commercial lines premiums up 7%[3] to £1,021 million *(2019: £961 million)* • Canada personal lines internalised auto claims increasing efficiency and Net Promoter Score (NPS) to +61 *(2019: +45)*
Aviva Investors	• Net flows[‡] of £8.5 billion including £1.7 billion into 3rd party funds (excluding liquidity funds) • £12 billion invested in sustainable investment strategies

One of the key levers in achieving our ambition is our commitment to building a sustainable business. To that end we are launching our new sustainability strategy with an ambition to leverage our existing strengths in Environmental, Social and Governance ("ESG") to lead the UK financial services market in this field. We want Aviva to be recognised as a business that leads by example through products and services that are good for society as a whole and by influencing others to act. We have also set ourselves clear goals to help in the fight against climate change including becoming the first major insurer globally to target achieving net zero greenhouse emission status by 2040. Our ambitions also reflect our commitment to our home market as we aim to invest more in our local communities as well as £10 billion in infrastructure and real estate over the next three years to build a stronger Britain.

Financial strength

Financial strength is a critical underpin to our strategy. Our Solvency II shareholder cover ratio[‡#] of 202% *(2019: 206%)* has remained resilient throughout a turbulent year bolstered by Solvency II operating capital generation (OCG)[‡#] from our business and benefits from disposals of our Manage-for-value operations. These were partly offset by foreign exchange, market movements and modelling changes. Our centre liquidity[‡] of £4.1 billion, as at the end February 2021 *(2019: End of February 2020 £2.4 billion)*, is similarly strong having also benefited from cash remittances[‡#] as well as disposal proceeds from subsidiaries.

Our capital and centre liquidity[‡] will be strengthened further following the sale of Aviva France and today's announcement of the sale of the remainder of our Italian operations, including an increase in excess capital of c.£3.0 billion and centre cash of c.£3.9 billion (including previously announced, not yet completed, sale of Aviva Vita). Our balance sheet will also benefit from reduced volatility in our Solvency II shareholder cover ratio[‡#] by removing exposure to guaranteed life insurance products. The transactions are expected to complete by the end of 2021.

As we have outlined in our capital framework we intend to reduce our Solvency II debt leverage ratio[‡] below 30% and after allowing for investment in the business, we expect to return to shareholders surplus capital in excess 180% of our Solvency II shareholder cover ratio[‡#] once we have completed our major divestments.

As an important first step in executing against our capital framework we are accelerating our debt reduction plans, which will allow us to lower leverage by £1.7 billion in the first half of this year. Today's announced £800 million tender offer combined with £900 million of maturities and optional first call dates, would result in a reduction in our leverage of approximately 4pp compared to the Solvency II debt leverage ratio[‡] of 31% as at end of 2020.

In line with previous guidance, the Board has proposed a final dividend of 14 pence per share, making a total of 21 pence per share for FY 2020 and representing a total for the year of £825 million. We intend to grow our dividend per share by low to mid-single digits over time as we benefit from growth in key segments, improved efficiency as well as lower levels of debt and associated interest. As we make further progress on focusing the portfolio, this will provide further flexibility to both invest in our business and to provide additional returns to shareholders.

Outlook

Aviva has responded incredibly well to the challenge in 2020 presented by COVID-19 and Brexit. Our Core markets have proven to be resilient and our customer service has been very strong. While the broader economic outlook remains uncertain, it is positive to see progress being made with the global vaccination effort and the economy adapting to social distancing measures. Our new cash remittances[‡] target demonstrates our confidence that our Core markets are well positioned to grow. We will continue to move forward with our strategy to focus the portfolio, to transform performance, and ultimately to drive sustainable shareholder returns by growing profitably in our Core markets. We will also look to continue to deliver against our capital framework, by investing in the business and returning excess capital to shareholders.

Group financial headlines
Operating results
Cash remittances‡#
Cash remittances‡# during 2020 were £1.5 billion *(2019: £2.6 billion including £500 million special dividend from UK Life and £172 million special remittance from Italy)*. The vast majority of these, £1,359 million *(2019: £1,909 million including £500 million special dividend from UK Life)* came from our Core markets. Remittances from Manage-for-value businesses were £127 million *(2019: £613 million)* due to regulatory restrictions and our cautious approach given the continuing economic and market uncertainty.

Profits
Operating profit[1,#] of £3,161 million *(2019: £3,184 million)* and operating earnings per share[4,‡] of 60.8 pence *(2019: 60.5 pence)* were stable. IFRS profit for the year was £2,910 million *(2019: 2,663 million)* while basic earnings per share increased to 70.2p *(2019: 63.8p)*. Operating profit[1,#] from Core markets was resilient at £2,492 million *(2019: £2,558 million).*

Operating profit[1,#] remained resilient despite the negative impacts of COVID-19 as we delivered strong results in general insurance, bulk annuities, as well as our savings and retirement propositions, with lower profits from our Heritage business reflecting its gradual run-off. Our Manage-for-value operations also performed well on an IFRS basis. The main impact of COVID-19 was felt in general insurance where the total estimated impact amounted to a loss of £17 million. Within our Core general insurance markets, the impact was greater at £84 million, as business interruption claims net of reinsurance were only partly offset by favourable impacts of reduced economic activity in other product lines tempered by higher profit-contingent commission payments to distributors.

Cost reduction
Our approach to efficiency initiatives was also brought into focus as a result of COVID-19. Although some costs were reduced, for example travel, we incurred incremental expenditure including the IT spend required to allow all of our employees to work remotely. We also contributed £43 million to community support initiatives. Despite these headwinds we have delivered £180 million of cumulative savings since 2018. We remain on track to reduce controllable costs‡ by £300 million by 2022 and will deliver this solely from Core markets.

Solvency II operating capital generation (OCG)‡#
Solvency II OCG‡# decreased to £1,932 million *(2019: £2,259 million)* while Solvency II OCG‡# excluding the impact of capital actions, non-economic assumption changes and other non-recurring items, was stable at £1,414 million *(2019: £1,433 million)*. Total Solvency II OCG‡# was impacted by changes made to our French life model which corrected a mis-applied rule, partly mitigated by an increase in offsetting Group diversification benefits, as well as a positive contribution from management actions of £518 million *(2019: £826 million*). This included positive impact of assumption changes (including longevity releases) albeit lower than in 2019.

Solvency II OCG from Core markets increased 5% to £1,948 million *(2019: £1,850 million)* driven by a strong performance in general insurance.

Solvency II return on equity (RoE)‡#
Solvency II RoE‡# was lower at 9.8% *(2019: 14.3%)* primarily owing to changes to modelling in our French life business which corrected a mis-applied rule, and significantly lower benefit from longevity assumption changes in UK Life. Underlying performance (excluding the impact of capital actions, non-economic assumption changes and other non-recurring items) of Solvency II RoE‡# increased to 9.8% *(2019: 8.1%)* driven by underlying improvements in UK Life, due to BPA new business, and in our UK and Canada General Insurance businesses.

Capital and cash
Centre liquidity‡
At end February 2021, centre liquidity‡ was £4.1 billion *(February 2020: £2.4 billion)* with the increase primarily driven by the receipt of disposal proceeds for our Singapore, Hong Kong, Indonesia and FPI businesses, partially offset by payment of dividends.

Solvency II debt leverage
Solvency II debt leverage ratio‡ remained at 31% in 2020 *(2019: 31%)*, with an increase in total debt offset by an increase in own funds. During the first half of 2020, Aviva issued £500 million of tier 2 subordinated debt in advance of redeeming £500 million of restricted tier 1 securities in July. In October 2020, we issued C$450 million of tier 2 subordinated debt pre-financing a C$450 million instrument maturing in May 2021. With high levels of centre liquidity‡ held at Group centre we reduced our commercial paper in issue by £130 million over 2020.

Today we have announced an £800 million liability management exercise. This tender offer, alongside upcoming debt maturities and optional calls in the first half of 2021, allows us to reduce our Solvency II debt leverage ratio‡ by c.4 percentage points by half year 2021.

Solvency II capital
At 31 December 2020, Aviva's Solvency II shareholder surplus was £13.0 billion and Solvency II shareholder cover ratio‡# was 202% *(2019: £12.6 billion and 206% respectively)*. Solvency II net asset value per share[5,‡] was 442 pence *(2019: 423 pence)*. Solvency II OCG‡# of £1,932 million (*2019: £2,259 million)* and the benefits of disposals were offset by capital market movements driven mainly by the impact of the reduction in interest rates over the course of the year and the payment of dividends in the period.

Corporate credit rating migration and commercial mortgage portfolio
During 2020, we experienced no defaults, less than c£60 million of the bonds in our shareholder portfolio were downgraded below investment grade and less than 13% of the portfolio had been downgraded to a lower letter.

Our commercial mortgage portfolio continues to perform as expected. The average loan to value (LTV) ratio across the portfolio remains low at 61% *(2019: 56%)*, loans in arrears were £34 million *(2019: nil)*, equivalent to 0.5% of the portfolio, and the loan interest cover ratio was 2.74x *(2019: 2.90x)*.

Dividends and capital framework

On 26 November 2020, Aviva announced a new dividend policy and capital framework that align with the Group's strategic priorities. We aim to deliver a sustainable pay-out ratio and grow dividend per share by low to mid-single digits. Under our capital framework, we expect to return to shareholders excess capital above 180% Solvency II shareholder cover ratio[‡#] after allowing for investment in the business and once our Solvency II debt leverage ratio[‡] has been reduced below 30% and we have completed our major divestments.

In light of our 2020 performance and strong capital and liquidity, the Board has proposed a final dividend of 14 pence per share *(2019: nil)*, bringing the total dividend in respect of 2020 financial year to 21 pence per share *(2019: 15.5 pence per share)*. A second interim dividend in respect of 2019 financial year of 6 pence per share was paid in the third quarter of 2020.

Business highlights and growth opportunities

UK and Ireland

We have a vision to grow our business in the UK. Our strategy focusses on achieving top quartile competitiveness in our home market in savings and retirement, general as well as life insurance, protection and health. To do this, we will transform operational efficiency through simplification and automation, improving customer experience, accelerating data, analytics and underwriting capabilities, and building stronger investments capabilities. We will also build cross-UK customer capabilities, make better use of digital tools, and innovate more effectively to make it easier for customers and intermediaries to deal with us.

In 2020, UK and Ireland Life operating profit[1,#] decreased 3% to £1,907 million *(2019: £1,974 million)* with strong performances in bulk purchase annuities and Savings & Retirement and a positive but lower benefit of assumption changes offset by COVID-19 impact on new business sales of equity release and individual protection.

In UK Life and Ireland, Solvency II return on capital[‡] fell to 7.4% *(2019: 9.1%)* as result of positive but lower longevity assumption benefits compared with 2019, partially offset by increased levels of BPAs and improved longevity experience. Solvency II OCG[‡#] increased to £1,259 million (*2019: £1,248 million)* benefiting from management actions taken to optimise capital and a stable new business strain despite a significant increase in BPA sales[2].

Savings & Retirement

Net flows[‡] increased by 14% to £8.5 billion *(2019: £7.5 billion)* with higher net inflows[‡] across Workplace and our Platform business. Operating profit[1,‡#] increased to £119 million *(2019: £88 million)* driven by higher revenues from an increased asset base, with AUM[‡] up 13% over 2020 to £128 billion *(2019: £113 billion).*

Workplace savings – Aviva is the number 1 provider of bundled workplace pensions in the UK serving 3.8 million customers with assets of £81 billion (representing an average annual growth of 12% over the last four years) and net flows[‡] of £5.3 billion in 2020. The savings and retirement market represents an enormous opportunity for Aviva in the UK. The shift to defined contribution (DC) pension saving as individuals are increasingly having to take responsibility for their financial futures as well as regulatory changes such as the introduction of auto enrolment mean that the DC workplace pension market is expected to grow from £390 billion in 2020 to more than £950 billion in 2028.

Adviser platform – In a short space of time we have built up assets of £32 billion and were ranked top 2 by net flows[‡] in 2020 with a market share of 14% of net flows[‡]. The complexity and flexibility of the UK pension and savings system as well as the ageing population, which includes wealthy baby boomers reaching retirement, has accelerated the need for financial advice and for platform solutions that help financial advisers to look after their clients' assets more effectively and efficiently. This has driven growth in the adviser platform market from £400 billion in 2015 to over £750 billion in 2020 with forecast market growth to £1.3 trillion by 2025.

Annuities & Equity Release

Sales[2] rose 21% to £7.5 billion *(2019: £6.2 billion)* while value of new business (VNB)[‡] increased 25% to £356 million *(2019: £284 million),* reflecting strong growth in our BPA business partly offset by lower sales of individual annuities and equity release. Operating profit[1,‡#] was 6% lower at £815 million *(2019: £866 million)* with growth in BPA business but lower profits in individual annuities and equity release.

Bulk Purchase Annuities – In 2020, we were ranked in the top 3 bulk purchase annuity providers with sales[2] growing by 48% to £6.0 billion *(2019: £4.0 billion)* with the overall Annuity & Equity release book increasing AUM[‡] by 11% to £75 billion *(2019: £67 billion)*. The demand from businesses and defined benefit pension fund trustees for annuities has continued to increase with the market growing from £13 billion in 2015 to greater than £30 billion in 2020. This demand has been driven by the desire of corporates to de-risk their exposure to defined benefit pension obligations through the bulk purchase of annuities from insurance companies. At £2 trillion, the total value of defined benefit pension scheme liabilities in the UK is very high and is expected to result in a high level of demand for bulk annuities estimated to be £30 billion to £50 billion per annum across the entire market over the next five years. Aviva's financial strength as well as expertise to both price annuity business effectively and through Aviva Investors to invest profitably for the long-term means we are well placed to further succeed in this growing market.

Individual Annuities – We have retained our number 1 position in the market with individual annuity sales[2] of £1.0 billion *(2019: £1.4 billion)* as we focused on more profitable business as even lower interest rates caused by COVID-19 reduced customer demand. Following the introduction of pension freedoms in 2015 (which gave individuals greater choice in how they access their savings in retirement) the demand for individual annuities in the UK has fallen significantly, nevertheless, we expect individual annuities to remain an important option for customers when securing income in retirement.

Equity Release – In 2020 we maintained our number 3 position in equity release mortgages with sales[2] of £562 million *(2019: £780 million)*. Volumes were impacted by our ability to conduct in-person property valuations owing to lockdowns, nevertheless with £3 trillion of housing equity owned by over 55s, we expect demand for equity release mortgages to continue to grow into the future. With strong growth in property values over the last two decades, unlocking the significant value locked up in their homes is a way for many to achieve financial security in later life.

Protection & Health

Sales[2] were in line with prior year at £2.4 billion *(2019: £2.4 billion)* as record sales of group protection, up 38% to £0.7 billion, were offset by a reduction in individual protection sales[2]. VNB[‡] from Protection & Health was stable at £167 million *(2019: £168 million)*. Operating profit[1,‡#] was 6% lower at £189 million *(2019: £201 million)* as competition impacted both margin and volumes in individual protection, partly offset by an improvement in group protection which benefited from improved claims experience.

Protection – We are a leading provider of both group and individual protection ranking second in each category. In 2020, our group protection business had a record year with sales[2] of £716 million *(2019: £518 million)*, however our individual protection business saw lower sales[2] of £1,210 million *(2019: 1,357 million)* owing to the impact of lockdown measures on the housing market and key distributors including advisors, banks and estate agents. The protection market tends to grow in line with or slightly above inflation which provides a steady and high-quality source of earnings for Aviva. Our key sources of competitive advantage include our brand, digital propositions, underwriting discipline, and our relationships with intermediaries. We have invested in these businesses to drive future growth, while also maintaining our focus on efficiency.

Health – While we are the number 3 player in health insurance, we are the only provider of scale that can offer individual and group protection products, making our health offering not only a standalone but also complementary proposition. 2020 has illustrated the importance of health and wellbeing to individuals, but also to companies and their employees. Our digital offering, where 99% of interactions with health brokers are carried out digitally, positions us well in this increasingly important market. In 2020 we increased sales[2] by 1% to £513 million *(2019: £507 million)*.

General Insurance

UK, Ireland and Canada NWP was stable year on year at £7.7 billion *(2019: £7.7 billion)* with strong commercial lines growth offsetting lower personal lines premiums. Operating profit[1,‡#] increased by 3%[3] to £500 million *(2019: £488 million)* as strong improvements in underlying performance were partially offset by the negative impacts of £84 million of the COVID-19 pandemic as well as lower long term investment return (LTIR). LTIR declined to £274 million *(2019: £314 million)* representing an average return of 2.3% *(2019: 2.8%)* due to lower interest rates and de-risking activity in light of the market volatility in 2020.

Core markets general insurance combined operating ratio (COR)[‡] improved by 0.9 percentage points to 96.8% *(2019: 97.7%)*. Strong underlying performance across our Core markets was partially offset by the net negative impacts of COVID-19, which had 1.1 percentage points adverse impact on COR[‡], and lower benefits from weather and prior year development, which had 3.2 percentage points adverse impact on COR[‡] compared to 2019.

UK Personal Lines – Our personal lines business has market leading digital propositions which are driving high customer advocacy. NWP was 7% lower in 2020 at £2,232 million *(2019: 2,399 million)* reflecting the impact of lockdowns and disruption caused by COVID-19 on the branch networks of our distribution partners as well as rationalisation of unprofitable business lines. We currently have around 10% market share benefiting from the strength of the Aviva brand, strong distribution relationships, including with some of the UK's largest high street banks, as well as market leading reputation with brokers. Until recently only our Quote-me-happy and General Accident brands were available through price comparison websites (PCWs) however in late 2020 we launched our Aviva brand's motor offering on the major PCWs, with good early signs of success, and our home offering has followed.

UK Commercial Lines – We are the largest commercial insurer in the UK with 11% market share. Our digitally transacted channels continue to perform exceptionally, while a favourable underwriting environment and strong retention rates have helped us to grow NWP in 2020 by 10% to £2,008 million *(2019: £1,819 million).* We focus on the small or medium-sized enterprises (SME) and the fast-growing Global Corporate and Specialty (GCS) markets. We expect growth to continue as we address under-insurance amongst SMEs and innovate and invest in our GCS offering to meet client demand for protection against emerging risks. Our success has been driven by a focus on exceptional service and a reputation as a trusted partner. This was evidenced by an increase in broker trust to 95% in contrast to the wider market – a really important measure given the disruption caused by the global pandemic and the pivotal role brokers play in distributing commercial lines products in the UK.

Canada Personal Lines – We are a top 3 insurer in Canada with NWP in 2020 of £2,075 million *(2019: £2,100 million)* reflecting the impact of the pandemic on our distribution partners as well as customer relief measures. The Canadian market is largely intermediated therefore we serve our customers mostly through brokers and through our partner, Royal Bank of Canada (RBC), the most recognised financial services brand in Canada. We are continuing to invest in automation and are looking to improve our digital offering, leveraging the wider Group's expertise, as demand for digital products slowly increases in this more traditional insurance market.

Canada Commercial Lines – We are a leading commercial insurer in Canada with NWP in 2020 up 7%[3] to £1,021 million *(2019: £961 million*) as we benefit from a rate hardening environment reflecting reduced capacity and sustained historical under-pricing across the market. In common with the UK, our Canadian commercial lines business is distributed largely through intermediaries and focuses on the SME and GCS markets. We strive to offer best-in-class service and customer value underpinned by pricing sophistication to help drive even better retention and profitability in the future.

Aviva Investors

Our asset management business, Aviva Investors has £366 billion of assets under management‡ and has an ambition to become a leader in active sustainable investment outcomes. This includes £292 billion of assets managed for Aviva companies, making Aviva Investors pivotal to the Group's wider success. Its long track-record in private debt, infrastructure, and other real assets, has supported our growth in areas such as bulk purchase annuities.

Aviva Investors operating profit[1,‡#] was 11% lower at £85 million *(2019: £96 million)* mainly driven by lower revenue partly offset by a reduction in controllable costs‡. Aviva Investors revenues‡ were impacted by lower contribution from securities lending and a reduction in origination fees reflecting lower demand for alternative strategies as risk appetites reduced in response to COVID-19. Aviva Investors maintained the positive client momentum with positive external clients' net flows‡ of £1.7 billion (excluding liquidity funds), with significant new business wins in real assets and in credit. Total net flows‡ of £8.5 billion *(2019: £(2.8) billion)* included £8.3 billion of net flows‡ into liquidity funds and cash.

Sustainable or ESG investing is becoming hugely important, providing active asset managers with an opportunity to meet this growing client demand and to contribute to society as a whole. Aviva Investors has a decades-long track-record of being at the forefront of sustainable investing having launched the Stewardship range of funds, the UK's first ethical fund range, back in 1984.

This heritage continues as evidenced by Aviva Investors being ranked 2nd globally for our environmental voting track record and 5th for responsible investment by Share Action. We continue to lead in this field having launched our climate transition engagement programme with a promise to divest from companies that are non-responsive to our expectation that all companies should adopt a goal of achieving net zero greenhouse gas emissions by 2050.

Manage-for-value markets

Our businesses in continental Europe and Asia delivered operating profit[1,‡#] of £1,311 million *(2019: £1,150 million)*, up 14%[3] in constant currency term. Solvency II OCG‡# decreased to £172 million *(2019: £867 million)* while Solvency II return on capital‡ fell to 6.2% *(2019: 11.4%)* impacted by a correction of a mis-applied rule in the French Life model and the low interest rate environment.

During 2020, and in line with our strategy, we completed the disposals of Friends Provident International Limited, a majority shareholding in Aviva Singapore, and our share in joint ventures in Indonesia and Hong Kong. We also announced the disposals of our Aviva Vita in Italy and our business in Vietnam. In early 2021 we announced the sales of our French business and our remaining Italian operations which represent major progress in executing our strategy to focus on our strongest businesses in UK, Ireland and Canada.

Symbol denotes key financial performance indicators used as a base to determine or modify remuneration.
‡ Denotes Alternative Performance Measures (APMs) and further information can be found in the Other Information in the 'Other information' section.
1 Operating profit represents Group adjusted operating profit which is a non-GAAP APM. Operating profit is not bound by the requirements of IFRS. Further details of this measure are included in the 'Other information' section.
2 References to sales represent present value of new business sales (PVNBP) which is an APM and further information can be found in the 'Other information' section.
3 Percentages are quoted in constant currency
4 Operating earnings per share is derived from the Group adjusted operating profit APM. Further details of this measure are included in the 'Other information' section.

Notes to editors

All comparators are for the full year 2019 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 2020. The average rates employed in this announcement are 1 euro = £0.88 *(2019: 1 euro = £0.88)* and CAD$1 = £0.58 *(2019: CAD$1 = £0.59)*.

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 document 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 evolving relationship between the UK and the EU); 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 (including the impact of Covid-19) on our business activities and results of operations; the transitional and physical risks associated with climate change; 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 UK's version of 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, execution and separation issues and other risks associated with our disposals; and the timing/regulatory approval impact and other uncertainties, such as diversion of management attention and other resources, relating to announced and future 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, Canada or elsewhere, including the implementation of key legislation and regulation. For a more detailed description of these risks, uncertainties and other factors, please see the 'Risk and risk management' section of the strategic 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 report are current only as of the date on which such statements are made.

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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
Jakub Rosochowski +44 (0) 7385 382206	Andrew Reid +44 (0)20 7662 3131 Sarah Swailes +44 (0)20 7662 6700	Presentation slides: 0700 hrs GMT www.aviva.com Real time media conference call: 0730 GMT Analyst conference call / audiocast: 0830 hrs GMT https://www.aviva.com/

Contents

As a reminder

Throughout this report we use a range of financial metrics to measure our performance and financial strength. These metrics include Alternative Performance Measures (APMs), which are non-GAAP measures that are not bound by the requirements of IFRS and Solvency II. Further guidance in respect of the APMs used by the Group, including a reconciliation to the financial statements (where possible), can be found within the Other Information section.

At our 2020 interim results announcement on 6 August 2020, we announced our strategic priorities to focus on building and extending leadership in the UK, Ireland and Canada ('Core markets'), and managing other International businesses for long-term shareholder value ('Manage-for-value markets'). As a result, the financial performance of our Core markets are presented as UK & Ireland Life, General Insurance (which brings together our UK & Ireland general insurance businesses and Canada) and Aviva Investors. Our Manage-for-value markets consists of our remaining international businesses: France, Italy, Poland, Asia and Other. The 2019 comparative results have been restated from those previously published to reclassify operations on the basis described above.

In addition, the 2019 comparative amounts have been re-presented from those previously published to reclassify the amounts relating to Aviva Singapore, Friends Provident International Limited (FPI), Hong Kong, Indonesia and Vietnam as discontinued operations. Where relevant, these discontinued operations are presented as Manage-for-value markets.

All references to 'Operating profit' represent 'Group adjusted operating profit'.

symbol denotes key financial performance indicators used as a base to determine or modify remuneration.
‡ denotes APMs and further information can be found in the Other Information section.

All percentages, including currency movements, are calculated on unrounded numbers so minor rounding differences may exist.
A glossary explaining key terms used in this report is available on www.aviva.com/glossary.

Solvency II return on capital/equity

1 – Solvency II return on capital‡/equity‡#

Solvency II return on capital/equity measures return generated on shareholder capital at our market level and Group level and is used by the Group to assess performance and growth, as we look to deliver long-term value for our shareholders.

2020	Solvency II operating own funds generation‡ New business (life) £m	Existing business (life) £m	Non-life capital generation £m	Other[1] £m	Total £m	Opening own funds £m	Solvency II return on capital‡/ equity‡# %
UK & Ireland Life	**449**	**273**	**—**	**335**	**1,057**	**14,241**	**7.4%**
UK & Ireland General Insurance[2]	**—**	**—**	**344**	**(15)**	**329**	**2,509**	**13.1%**
Canada	**—**	**—**	**284**	**3**	**287**	**1,442**	**19.9%**
Aviva Investors	**—**	**—**	**67**	**—**	**67**	**488**	**13.7%**
Core markets	**449**	**273**	**695**	**323**	**1,740**	**18,680**	**9.3%**
Manage-for-value markets	**249**	**443**	**133**	**(328)**	**497**	**8,010**	**6.2%**
Group centre costs and Other[2]	**—**	**5**	**(266)**	**11**	**(250)**	**(2,142)**	**N/A**
Solvency II return on capital‡ at 31 December	**698**	**721**	**562**	**6**	**1,987**	**24,548**	**8.1%**
Less: Senior debt					**(12)**	**—**	**—**
Less: Subordinated debt					**(284)**	**(6,942)**	**—**
Solvency II operating own funds generation‡ at 31 December					**1,691**		
Direct capital instrument					**(27)**	**(500)**	**—**
Preference shares[3]					**(38)**	**(450)**	**—**
Net deferred tax assets					**—**	**(78)**	**—**
Solvency II return on equity‡# at 31 December					**1,626**	**16,578**	**9.8%**
Less: Management actions and other[1]					**(6)**	**—**	**—**
Solvency II return on equity (excl. management actions)					**1,620**	**16,578**	**9.8%**

1 Other includes the impact of capital actions, non-economic assumption changes and other non-recurring items.
2 For UK General Insurance only, capital held for internal risk appetite purposes is used instead of opening shareholder Solvency II own funds to ensure consistency in measuring performance across markets. This is only applicable to UK General Insurance Solvency II return on capital and not to the aggregated Group Solvency II return on capital and Solvency II return on equity measures, with the reversal of the impact included in Group centre costs and Other opening own funds.
3 Preference shares includes £21 million of General Accident plc preference dividends and £250 million of capital in respect of General Accident plc.

2019	Solvency II operating own funds generation‡ New business (life) £m	Existing business (life) £m	Non-life capital generation £m	Other[1] £m	Total £m	Opening own funds £m	Solvency II return on capital‡/ equity‡# %
UK & Ireland Life	373	171	—	703	1,247	13,733	9.1%
UK & Ireland General Insurance[2]	—	—	271	62	333	2,326	14.3%
Canada	—	—	185	18	203	1,330	15.3%
Aviva Investors	—	—	70	—	70	509	13.7%
Core markets	373	171	526	783	1,853	17,898	10.4%
Manage-for-value markets	286	320	92	152	850	7,453	11.4%
Group centre costs and Other[2]	—	16	(187)	9	(162)	(1,800)	N/A
Solvency II return on capital‡ at 31 December	659	507	431	944	2,541	23,551	10.8%
Less: Senior debt					(12)	—	—
Less: Subordinated debt					(272)	(6,979)	—
Solvency II operating own funds generation‡ at 31 December					2,257		
Direct capital instrument and Tier 1 notes					(34)	(731)	—
Preference shares[3]					(38)	(450)	—
Net deferred tax assets					—	(95)	—
Solvency II return on equity‡# at 31 December					2,185	15,296	14.3%
Less: Management actions and other[1]					(944)	—	(6.2)%
Solvency II return on equity (excl. management actions)					1,241	15,296	8.1%

1 Other includes the impact of capital actions, non-economic assumption changes and other non-recurring items.
2 For UK General Insurance only, capital held for internal risk appetite purposes is used instead of opening shareholder Solvency II own funds to ensure consistency in measuring performance across markets. This is only applicable to UK General Insurance Solvency II return on capital and not to the aggregated Group Solvency II return on capital and Solvency II return on equity measures, with the reversal of the impact included in Group centre costs and Other opening own funds.
3 Preference shares includes £21 million of dividends and £250 million of capital in respect of General Accident plc.

Solvency II return on equity has decreased by 4.5pp to 9.8% over 2020 *(2019: 14.3%)*, reflecting the following:

- In UK & Ireland Life, Solvency II return on capital has reduced by 1.7pp to 7.4% *(2019: 9.1%)* as a significant increase in bulk purchase annuity volumes and improved longevity experience was more than offset by a smaller longevity assumption release than in 2019 in line with expectations.
- In UK & Ireland General Insurance, Solvency II return on capital has reduced by 1.2pp to 13.1% *(2019: 14.3%)*. Solvency II operating own funds generation has remained stable over the period as improved underlying performance is offset by modest prior year reserve strengthening (compared to a large release in 2019) and higher weather costs compared to a benign 2019. However, opening own funds has increased by £183 million since 2019.
- In Canada, Solvency II return on capital increased by 4.6pp to 19.9% *(2019: 15.3%)* mainly due to improved underlying performance driven by actions around pricing, indemnity management and risk selection.

1 – Solvency II return on capital‡/equity‡# continued

- The estimated impact of the COVID-19 pandemic on operating own funds generation and Solvency II return on capital across core general insurance markets was broadly neutral, principally reflecting business interruption claims net of reinsurance, which were offset by favourable impacts of reduced economic activity in other product lines tempered by higher profit-contingent commission payments to distributors.
- In Manage-for-value markets, Solvency II return on capital has reduced by 5.2pp to 6.2% *(2019: 11.4%)*. The reduction is primarily due to changes made to our French Life model following a management review. This included a mis-applied rule which resulted in a reduction in solvency partly offset by benefits from better modelling in a negative interest rate environment.
- In addition, Solvency II return on equity has reduced by a further 1.1pp due to the higher opening own funds for 2020 which were driven by strong own funds generation in excess of dividends and debt repayments during 2019.

2 – Solvency II capital and cash

2.i – Solvency II operating capital generation‡#

Solvency II operating capital generation (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 support sustainable cash remittances from our businesses, which in turn, supports the Group's dividend as well as funding further investment to provide sustainable growth.

	Solvency II operating capital generation‡#					Of which:	
2020	Impact of new business (life) £m	Earnings from existing business (life) £m	Non-life capital generation £m	Other OCG[1] £m	Total OCG‡# £m	Own funds OCG £m	SCR OCG £m
UK & Ireland Life	(76)	787	—	548	1,259	1,057	202
UK & Ireland General Insurance	—	—	310	47	357	329	28
Canada	—	—	289	(27)	262	287	(25)
Aviva Investors	—	—	70	—	70	67	3
Core markets	**(76)**	**787**	**669**	**568**	**1,948**	**1,740**	**208**
Manage-for-value markets							
Continuing operations	(167)	568	76	(471)	6	263	(257)
Discontinued operations	27	104	(1)	36	166	234	(68)
Market Solvency II operating capital generation	**(216)**	**1,459**	**744**	**133**	**2,120**	**2,237**	**(117)**
Group centre costs and Other	—	(1)	(276)	385	108	(250)	358
Group external debt costs	—	—	(296)	—	(296)	(296)	—
Group Solvency II operating capital generation‡#	**(216)**	**1,458**	**172**	**518**	**1,932**	**1,691**	**241**

1 Other OCG includes the impact of capital actions, non-economic assumption changes and other non-recurring items.

	Solvency II operating capital generation‡#					Of which:	
2019	Impact of new business (life) £m	Earnings from existing business (life) £m	Non-life capital generation £m	Other OCG[1] £m	Total OCG‡# £m	Own funds OCG £m	SCR OCG £m
UK & Ireland Life[2]	(73)	809	—	512	1,248	1,247	1
UK & Ireland General Insurance	—	—	319	(68)	251	333	(82)
Canada	—	—	233	28	261	203	58
Aviva Investors	—	—	90	—	90	70	20
Core markets	(73)	809	642	472	1,850	1,853	(3)
Manage-for-value markets							
Continuing operations	(169)	535	63	376	805	706	99
Discontinued operations	1	49	—	12	62	144	(82)
Market Solvency II operating capital generation	(241)	1,393	705	860	2,717	2,703	14
Group centre costs and Other[2]	—	(5)	(135)	(34)	(174)	(162)	(12)
Group external debt costs	—	—	(284)	—	(284)	(284)	—
Group Solvency II operating capital generation‡#	(241)	1,388	286	826	2,259	2,257	2

1 Other OCG includes the impact of capital actions, non-economic assumption changes and other non-recurring items.
2 Following a review of the presentation of intercompany loan interest, comparative amounts for the 12 months ended 31 December 2019 have been amended to reclassify net interest expense from UK & Ireland Life to Group centre costs and Other of £69 million as a non-operating item. The change has no impact on the Group's operating capital generation.

Solvency II OCG was £1,932 million for the year ended 31 December 2020 *(2019: £2,259 million).*

UK & Ireland Life Solvency II OCG has increased slightly by £11 million to £1,259 million *(2019: £1,248 million)* for the year ended 31 December 2020. New business strain has remained stable despite a significant increase in bulk-purchase annuity volumes reflecting disciplined pricing and efficient use of reinsurance. In 2020, Other OCG includes the beneficial impact of longevity assumption changes and an action to change the mix of business included in our internal reinsurance vehicle.

UK & Ireland General Insurance Solvency II OCG has increased by £106 million to £357 million *(2019: £251 million)* for the year ended 31 December 2020. This is due to improved underlying performance partly offset by modest prior year reserve strengthening (compared to a large release in 2019), higher weather costs compared to a benign 2019 and increased SCR as a result of uncertainty associated with COVID-19. Other OCG in 2020 includes the benefits from investment de-risking, 2019 included the one-off impact of the alignment of UK Digital costs which increased the SCR.

Canada Solvency II OCG is consistent with 2019 at £262 million *(2019: £261 million)* for the year ended 31 December 2020. This is mainly due to improved underlying performance driven by actions around pricing, indemnity management and risk selection partly offset by modest prior year reserve strengthening and an increase in SCR due to COVID-19.

The estimated impact of the COVID-19 pandemic on all core general insurance markets was £(88) million, principally reflecting business interruption claims net of reinsurance, which were partly offset by favourable impacts of reduced economic activity in other product lines tempered by higher profit-contingent commission payments to distributors and an increase in SCR.

In Manage-for-value markets, Solvency II OCG in respect of continuing operations reduced by £799 million to £6 million *(2019: £805 million)* in the year ended 31 December 2020, primarily as a result of changes made to our French Life model following a management review. This included a mis-applied rule which resulted in a reduction in solvency partly offset by benefits from better modelling in a negative interest rate environment (the impact is lower on a Group basis due to diversification which is included in Group centre costs and Other, see below). Solvency II OCG in respect of discontinued operations increased by £104 million to £166 million *(2019: £62 million)* primarily due to Singapore.

2.i – Solvency II operating capital generation‡# continued

Group centre costs and Other Solvency II OCG has increased by £282 million to £108 million *(2019: £(174) million)*. There has been an increase in Solvency II OCG from improved Group diversification due to an approved internal model extension to include general insurance in France and the impact of the France Life model changes being lower on a Group basis. The overall impact on Group Solvency II OCG of the France Life model change is a reduction of approximately £250 million.

2.ii – Solvency II future surplus emergence‡

Emergence of surplus – life business (undiscounted)	**Core markets 2020 £bn**	**Manage-for-value – continuing operations 2020 £bn**	Core Markets 2019 £bn	Manage-for-value – continuing operations 2019 £bn
Year 1	**0.9**	**0.6**	0.9	0.5
Year 2	**0.9**	**0.5**	0.9	0.4
Year 3	**0.8**	**0.5**	0.8	0.4
Year 4	**0.7**	**0.5**	0.7	0.4
Year 5	**0.6**	**0.5**	0.7	0.4
Year 6	**0.6**	**0.4**	0.6	0.4
Year 7	**0.5**	**0.4**	0.5	0.4
Year 8	**0.4**	**0.4**	0.4	0.4
Year 9	**0.4**	**0.3**	0.4	0.3
Year 10	**0.4**	**0.3**	0.3	0.3
Year 11-15	**2.6**	**1.2**	2.1	1.3
Year 16-20	**2.1**	**1.1**	1.8	1.0

The table above shows the expected future emergence of Solvency II surplus from the existing long-term in-force life business. It has been determined in line with previous periods.

The projection is a static analysis as at a point in time and hence it does not include future new business or the potential impact of active management of the business (for example, active management of market, demographic and expense risk through investment, hedging, risk transfer, operational risk and expense management), which may affect the actual amount of OCG earned from existing business in future periods.

2.iii – Cash remittances‡#

The table below reflects actual remittances received by the Group from our businesses, comprising dividends and interest on internal loans. Cash remittances are eliminated on consolidation and hence are not directly reconcilable to the Group's IFRS statement of cash flows.

	2020 £m	2019 £m
UK & Ireland Life[1,2]	**1,007**	1,394
UK & Ireland General Insurance[1,3]	**171**	273
Canada[1,4]	**131**	156
Aviva Investors	**50**	86
Core markets	**1,359**	1,909
Manage-for-value markets[1]	**127**	613
Other	**14**	75
Total	**1,500**	2,597

1 We use a wholly owned, UK domiciled reinsurance subsidiary for internal capital and cash management purposes. Some remittances otherwise attributable to the operating businesses arise from this internal reinsurance vehicle.
2 UK & Ireland Life cash remittances include £250 million *(2019: £nil)* received in February 2021 in respect of 2020 activity.
3 UK & Ireland General Insurance cash remittances include £74 million *(2019: £83 million)* received in February 2021 in respect of 2020 activity.
4 Canada General Insurance cash remittances include £115 million *(2019: £141 million)* received in February 2021 in respect of 2020 activity.

Cash remittances from our core markets in 2020 are lower than 2019 as 2019 included a special remittance of £500 million from UK & Ireland Life which was not repeated in 2020. In addition we have chosen to retain cash in the subsidiaries to maintain balance sheet strength given the unprecedented economic and market uncertainty related to COVID-19. Cash remittances from our Manage-for-value markets are lower mainly driven by regulatory restrictions related to COVID-19 and a 2019 special remittance from Italy of £172 million which is not repeated in 2020. Other includes excess cash remitted to Group on the winding down of Aviva Re.

2.iv – Centre liquidity‡

Centre liquidity comprises cash and liquid assets. Excess centre cash flow represents cash remitted by our businesses 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 or invest back into our core markets.

	2020 £m	2019 £m
Cash remittances‡#	**1,500**	2,597
External interest paid	**(454)**	(456)
Internal interest paid	**(60)**	(58)
Central spend	**(241)**	(115)
Other operating cash flows[1]	**70**	236
Excess centre cash flow	**815**	2,204
Ordinary dividend	**(511)**	(1,184)
Net advance/(reduction) in borrowings	**105**	(191)
External disposal proceeds	**1,253**	—
Other non-operating cash flows[2]	**55**	(35)
Movement in centre liquidity	**1,717**	794
Centre liquidity‡ as at end of February 2021 and 2020 respectively	**4,085**	2,368

1 Other operating cash flows include central investment income and one-off group tax relief payments.
2 Other non-operating cash flows include capital injections, advances and repayments of internal debt and other investment cash flows.

The increase of £1,717 million in centre liquidity is primarily driven by disposal proceeds from the disposal of our Singapore, Hong Kong, Indonesia and FPI businesses, excess centre cash flow and net advance of borrowings partially offset by ordinary dividend payments.

3 – Solvency II position
3.i – Solvency II position (shareholder view)

Shareholder view	2020 £m	2019 £m
Own funds	**25,770**	24,548
SCR	**(12,770)**	(11,910)
Estimated Solvency II surplus at 31 December	**13,000**	12,638
Estimated Solvency II shareholder cover ratio‡#	**202%**	206%

The estimated Solvency II shareholder cover ratio is 202% at 31 December 2020. The Solvency II position disclosed is based on a 'shareholder view'. The shareholder view is considered by management to be more representative of the shareholders' risk exposure and the Group's ability to cover the solvency capital requirement with eligible own funds and aligns with management's approach to dynamically manage its capital position. In arriving at the shareholder position, the following adjustments are typically made to the regulatory Solvency II position:

- The contribution to the Group's SCR and own funds of the most material fully ring fenced with-profits funds of £2.5 billion at 31 December 2020 *(2019: £2.5 billion)* and staff pension schemes in surplus of £1.2 billion at 31 December 2020 *(2019: £1.2 billion)* are excluded. These exclusions have no impact on Solvency II surplus as these funds are self-supporting on a Solvency II capital basis with any surplus capital above SCR not recognised.
- A notional reset of the transitional measure on technical provisions (TMTP), calculated using the same method as used for formal TMTP resets. This presentation avoids step changes to the Solvency II position that arise only when the formal TMTP reset points are triggered. The 31 December 2020 Solvency II position includes a notional reset of £0.6 billion while the 31 December 2019 Solvency II position included a formal, rather than notional, reset of the TMTP in line with the regulatory requirement to reset the TMTP at least every two years and hence no adjustment was required.
- A change in regulations announced in December 2019 allows French insurers to place a part of the Provision pour Participation aux Excédents (PPE) into Solvency II own funds. At December 2019 PPE was included in the France local regulatory own funds but was excluded from the estimated Group regulatory and shareholder own funds, subject to confirmation of the appropriate treatment at Group level. The treatment has since been confirmed and PPE of £0.4 billion is included within Group regulatory own funds at 31 December 2020 but remains excluded from the shareholder position.

	Own funds 2020 £m	SCR 2020 £m	Surplus 2020 £m	Own funds 2019 £m	SCR 2019 £m	Surplus 2019 £m
Estimated Solvency II regulatory surplus as at 31 December	**29,262**	**(16,441)**	**12,821**	28,347	(15,517)	12,830
Adjustments for:						
Fully ring-fenced with-profit funds	**(2,492)**	**2,492**	**—**	(2,501)	2,501	—
Staff pension schemes in surplus	**(1,179)**	**1,179**	**—**	(1,181)	1,181	—
Notional reset of TMTP	**564**	**—**	**564**	—	—	—
PPE	**(385)**	**—**	**(385)**	—	—	—
Pro forma adjustments[1]	**—**	**—**	**—**	(117)	(75)	(192)
Estimated Solvency II shareholder surplus at 31 December	**25,770**	**(12,770)**	**13,000**	24,548	(11,910)	12,638

1 The 31 December 2019 Solvency II position includes the pro forma adjustments for the disposals of FPI (£nil impact on surplus) and Hong Kong (£nil impact on surplus) and the potential impact of an expected change to Solvency II regulations on the treatment of equity release mortgages (£0.2 billion reduction in surplus as a result of an increase in SCR). The 31 December 2020 Solvency II position does not include proforma adjustments. Note that from 31 December 2020 no pro forma adjustments will be made for planned disposals.

Solvency II position continued

3.ii – Movement in Solvency II surplus

Shareholder view	Own funds 2020 £m	SCR 2020 £m	Surplus 2020 £m	Own funds 2019 £m	SCR 2019 £m	Surplus 2019 £m
Solvency II surplus at 1 January	**24,548**	**(11,910)**	**12,638**	23,551	(11,569)	11,982
Opening restatements[1]	**78**	**(202)**	**(124)**	58	6	64
Operating capital generation‡#	**1,691**	**241**	**1,932**	2,257	2	2,259
Non-operating capital generation	**(741)**	**(963)**	**(1,704)**	120	(368)	(248)
Dividends[2]	**(549)**	**—**	**(549)**	(1,222)	—	(1,222)
Hybrid debt	**257**	**—**	**257**	(210)	—	(210)
Acquisitions and disposals	**486**	**64**	**550**	(6)	19	13
Estimated Solvency II surplus at 31 December	**25,770**	**(12,770)**	**13,000**	24,548	(11,910)	12,638

1 Opening restatements allows for adjustments to the estimated position presented in the preliminary announcement and the final position in the Solvency and Financial Condition Report.
2 Dividends includes £17 million *(2019: £17 million)* of Aviva plc preference dividends and £21 million *(2019: £21 million)* of General Accident plc preference dividends, and £511 million for the interim dividends in respect of the 2019 and 2020 financial years.

The estimated Solvency II surplus is £13,000 million at 31 December 2020 *(2019: £12,638 million)*, with a Solvency II shareholder cover ratio of 202% *(2019: 206%)*. The increase in surplus since 31 December 2019 is mainly due to the beneficial impacts from Solvency II OCG, impact from disposals of subsidiaries (primarily Singapore) partially offset by the impact of the economic downturn and interim dividends in respect of the 2019 and 2020 financial years.

At 31 December 2019 we included a specific allowance for the possible adverse impacts of the UK's exit from the European Union on UK commercial and residential property, which we have now removed. Our future property growth assumptions are reviewed on a quarterly basis and as at 31 December 2020 they include a cumulative 5-year growth assumption, from 2021-25 of -1% for UK commercial property (with variation by sector) and 4% for UK residential property.

3.iii – Diversified Solvency Capital Requirement (SCR) analysis

	31 December 2020 £bn	31 December 2019 £bn
Credit risk	**3.2**	2.7
Equity risk	**1.6**	1.4
Interest rate risk	**0.0**	0.4
Other market risk	**1.8**	1.7
Life insurance risk	**3.4**	3.1
General insurance risk	**0.9**	0.8
Operational risk	**1.1**	1.1
Other risk	**0.8**	0.7
Total	**12.8**	11.9

The SCR has increased by £0.9 billion to £12.8 billion since 31 December 2019 primarily due to a reduction in interest rates over the period which has increased a number of risks including credit and life insurance risks. In addition, a regulatory approved internal model change to intra-risk correlations has resulted in a reallocation of capital from interest rate risk to other risks.

3.iv – Solvency II sensitivities

Sensitivity analysis of Solvency II surplus

The following sensitivity analysis of Solvency II surplus 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 SCR calculation is applicable for that sensitivity. For example, future bonus rates are automatically adjusted to reflect sensitivity changes to future investment returns.

TMTP are assumed to be recalculated in all sensitivities where its impact would be material.

3.iv – Solvency II sensitivities continued

The table below shows the absolute change in Solvency II shareholder cover ratio under each sensitivity, e.g. a 2pp positive impact would result in a Solvency II shareholder cover ratio of 204%.

Sensitivities		Impact on Surplus 31 December 2020 £bn	Impact on shareholder cover ratio 31 December 2020 pp	Impact on Surplus 31 December 2019 £bn	Impact on shareholder cover ratio 31 December 2019 pp
Changes in economic assumptions	25 bps increase in interest rate	**0.3**	**5pp**	0.2	4pp
	50 bps increase in interest rate	**0.6**	**9pp**	0.2	6pp
	100 bps increase in interest rate	**0.8**	**15pp**	0.4	11pp
	25 bps decrease in interest rate	**(0.3)**	**(5)pp**	(0.2)	(5)pp
	50 bps decrease in interest rate	**(0.8)**	**(11)pp**	(0.6)	(11)pp
	50 bps increase in corporate bond spread[1,2]	**0.0**	**2pp**	(0.5)	(4)pp
	100 bps increase in corporate bond spread[1,2]	**(0.1)**	**3pp**	(1.1)	(10)pp
	50 bps decrease in corporate bond spread[1,2]	**(0.1)**	**(3)pp**	0.4	3pp
	Credit downgrade on annuity portfolio[3]	**(0.5)**	**(6)pp**	(0.3)	(4)pp
	10% increase in market value of equity	**0.2**	**1pp**	0.3	2pp
	25% increase in market value of equity	**0.5**	**3pp**	0.8	5pp
	10% decrease in market value of equity	**(0.2)**	**(1)pp**	(0.4)	(2)pp
	25% decrease in market value of equity	**(0.6)**	**(5)pp**	(0.9)	(7)pp
	20% increase in value of commercial property[4]	**0.8**	**8pp**	0.7	7pp
	20% decrease in value of commercial property[4]	**(1.1)**	**(11)pp**	(0.9)	(9)pp
	20% increase in value of residential property[4]	**0.6**	**6pp**	0.4	4pp
	20% decrease in value of residential property[4]	**(0.7)**	**(7)pp**	(0.6)	(6)pp
Changes in non-economic assumptions	10% increase in maintenance and investment expenses	**(1.0)**	**(9)pp**	(0.9)	(9)pp
	10% increase in lapse rates	**(0.3)**	**(2)pp**	(0.4)	(3)pp
	5% increase in mortality/morbidity rates – life assurance	**(0.2)**	**(2)pp**	(0.2)	(2)pp
	5% decrease in mortality rates – annuity business	**(1.6)**	**(16)pp**	(1.3)	(13)pp
	5% increase in gross loss ratios	**(0.3)**	**(3)pp**	(0.3)	(3)pp

1 The corporate bond spread sensitivity is applied such that even though movements vary by rating and duration consistent with the approach in the solvency capital requirement, the weighted average spread movement equals the headline sensitivity. Fundamental spreads remain unchanged. This methodology differs to the prior period. The 31 December 2019 corporate bond spread sensitivities have not been restated for the change in approach.
2 A modelling refinement was implemented to the corporate bond credit sensitivities in the UK following a review of the 31 December 2019 methodology.
3 An immediate full letter downgrade on 20% of the annuity portfolio credit assets (e.g. from AAA to AA, from AA to A). The 31 December 2020 downgrade sensitivity now includes infrastructure (except Private Finance Initiatives).
4 The property sensitivities are in addition to reduced property growth assumed over the next 5 years in the base solvency position.

Our sensitivity to assumption changes has remained stable in a tough economic environment. Key changes observed over 2020 to our sensitivities include the following:

- Increased sensitivity to interest rates which was mainly due to the impact of changes made to our French Life model following a review. This included a mis-applied solvency rule partly offset by benefits from better modelling in a negative interest rate environment.
- Reduction to corporate bond spread sensitivity due to hedging, changes in asset allocation and refinements to the corporate bond spread sensitivity methodology.
- Reduction in sensitivity to equity market movements following additional hedging and de-risking across a number of markets.

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 allocations, 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.

Solvency II position continued

3.v – Solvency II net asset value‡

	2020 £m	2020 pence per share[1]	2019 £m	2019 pence per share[1]
Solvency II shareholder unrestricted Tier 1 own funds at 1 January	**16,578**	**423p**	15,296	392p
Opening restatements[2]	**78**	**2p**	58	1p
Operating capital generation‡#	**1,691**	**43p**	2,257	57p
Non-operating capital generation	**(741)**	**(19)p**	120	3p
Dividends[3]	**(549)**	**(14)p**	(1,222)	(31)p
Acquisitions and disposals	**486**	**12p**	(6)	—
Impact of changes to the value of subordinated liabilities	**(167)**	**(4)p**	58	1p
Impact of changes to the value of net deferred tax assets	**(18)**	**(1)p**	17	—
Solvency II shareholder unrestricted Tier 1 own funds at 31 December	**17,358**	**442p**	16,578	423p

1 Number of shares in issue as at 31 December 2020 was 3,928 million *(2019: 3,921 million)*.
2 Opening restatements allows for adjustments made to the estimated position presented in the preliminary announcement and the final position in the Solvency and Financial Condition Report.
3 Dividends includes £17 million *(2019: £17 million)* of Aviva plc preference dividends and £21 million *(2019: £21 million)* of General Accident plc preference dividends, and £511 million for the interim dividends in respect of the 2019 and 2020 financial years *(2019: £1,184 million in respect of the 2018 and 2019 financial years)*.

Solvency II net asset value per share increased by 19 pence to 442 pence per share *(2019: 423 pence)* mainly as a result of the beneficial impacts from operating capital generation and disposals of subsidiaries (primarily Singapore) partially offset by the impact of the economic downturn and the interim dividends in respect of the 2019 and 2020 financial years.

3.vi – Solvency II regulatory own funds and Solvency II debt leverage ratio‡

Regulatory view	2020 £m	2019 £m
Solvency II regulatory debt[1]	**8,316**	7,892
Senior notes	**1,112**	1,052
Commercial paper	**108**	238
Total debt	**9,536**	9,182
Unrestricted Tier 1	**20,850**	20,377
Restricted Tier 1	**1,317**	1,839
Tier 2	**6,740**	5,794
Tier 3[2]	**355**	337
Total regulatory own funds[3]	**29,262**	28,347
Solvency II debt leverage ratio[4,‡]	**31%**	31%

1 Solvency II regulatory debt consists of Restricted Tier 1 and Tier 2 regulatory own funds, and Tier 3 subordinated debt.
2 Tier 3 regulatory own funds at 31 December 2020 consists of £259 million subordinated debt *(2019: £259 million)* plus £96 million net deferred tax assets *(2019: £78 million)*.
3 Regulation was introduced in France that allows French insurers to place the Provision pour Participation aux Excedents (PPE) into Solvency II own funds. At December 2019 PPE was included in the France local regulatory own funds but was excluded from the estimated Group regulatory own funds, subject to confirmation of the appropriate treatment at Group level. The treatment has since been confirmed and PPE is included in the estimated Group regulatory own funds at 31 December 2020.
4 Solvency II debt leverage ratio is calculated as the total debt as a proportion of total regulatory own funds plus commercial paper and senior notes.

Solvency II debt leverage ratio remains at 31% *(2019: 31%)*. An increase in total debt was offset by an increase in Unrestricted Tier 1 own funds over 2020. The net increase in debt was driven by the issuance of 4.000% £500 million Tier 2 notes in June 2020 and 4.000% C$450 million Tier 2 notes in October 2020. These issuances were partially offset by redemption of the Group's 5.9021% £500 million direct capital instrument in July 2020 and a reduction in commercial paper over 2020.

Controllable costs

4 – Controllable costs‡

	2020 £m	Restated[1] 2019 £m
UK & Ireland Life	**1,181**	1,214
UK & Ireland General Insurance	**793**	800
Canada	**401**	402
Aviva Investors	**430**	446
Core markets[2]	**2,805**	2,862
Corporate centre and Other Group operations[3]	**285**	276
Core markets, Corporate centre and Other Group operations	**3,090**	3,138
Manage-for-value markets	**845**	884
Controllable costs‡	**3,935**	4,022

1 Following a review of the presentation of claims handling costs, to achieve consistency in our reporting, comparative amounts have been restated by £83 million for the year ended 31 December 2019 to include previously excluded claims handling costs attributable to the Life & Health businesses from the UK, Ireland and Poland in controllable costs.
2 Controllable costs from Core markets includes £70 million *(2019: £41 million)* in relation to cost reduction implementation and IFRS 17 costs.
3 Controllable costs from Corporate centre and Other Group operations includes £35 million *(2019: £23 million)* in relation to cost reduction implementation and IFRS 17 costs.

Controllable costs have decreased by 2% to £3,935 million *(2019 restated: £4,022 million)* reflecting our focus on cost savings primarily driven by lower staff costs following a reduction in global headcount, partially offset by £43 million of charitable donations made by Aviva to help those most affected by COVID-19 and accelerated onerous contract costs of £50 million, reflecting the reduction in our UK property footprint.

The decrease in controllable costs in UK & Ireland Life and UK & Ireland General Insurance is mainly due to lower staff costs and lower project activity, partially offset by the costs arising from the reduction in our UK property footprint, increased operational costs related to COVID-19 and continued investment in our IT infrastructure. The decrease in Aviva Investors and Manage-for-value markets reflects careful cost control, with savings arising from lower change spend and as a result of cost saving initiatives. The increase in Other Group activities is mainly due to its share of the charitable contributions (£34 million) donated by Aviva during 2020 and its share of the costs arising from the reduction in our UK property footprint (£12 million).

5 – Profit and earnings per share

	2020 £m	Restated 2019 £m
Core markets		
UK & Ireland Life[1]	**1,907**	1,974
UK & Ireland General Insurance	**213**	297
Canada	**287**	191
Aviva Investors	**85**	96
Operating profit from core markets	**2,492**	2,558
Manage-for-value markets		
Continuing operations		
France	**467**	473
Italy	**298**	195
Poland	**196**	194
Other	**38**	37
Discontinued operations	**312**	251
	3,803	3,708
Other Group operations (note A3)	**(22)**	(21)
Corporate centre (note A4)	**(250)**	(183)
Group debt costs and other interest[1] (note A5)	**(370)**	(320)
Operating profit‡#	**3,161**	3,184
Tax attributable to shareholders' profit	**(634)**	(668)
Non-controlling interests	**(98)**	(98)
Preference dividends and other[2]	**(44)**	(51)
Operating profit attributable to ordinary shareholders	**2,385**	2,367
Operating earnings per share‡#	**60.8p**	60.5p

IFRS profit for the year	**2,910**	2,663
Basic earnings per share	**70.2p**	63.8p

1 The comparative amounts for the year ended 31 December 2019 have been amended to reclassify net interest expense from UK & Ireland Life to Group debt costs and other interest. The change has no impact on Group profit before tax or operating profit.
2 Other includes coupon payments in respect of the direct capital instrument (DCI) and for 2019 also includes tier 1 notes.

Core markets operating profit decreased to £2,492 million *(2019: £2,558 million),* with decreases across all core markets, except Canada. Our Core markets were impacted by unfavourable trading conditions as a result of the COVID-19 pandemic partially offset by positive underlying performance.

Within our Core markets UK & Ireland Life operating profit decreased to £1,907 million *(2019: £1,974 million)*. In the UK, strong fee income growth in our Savings & Retirement business driven by a growing asset base was offset by lower operating profit in other business lines, with equity release and individual protection affected by unfavourable economic and trading conditions created by the COVID-19 pandemic, and a reduction in individual annuity volumes at historically low rates. In Ireland, there was an adverse impact from higher project costs in 2020, with the prior year including a non-recurring benefit from methodology and assumption changes.

In the UK & Ireland General Insurance businesses, operating profit decreased to £213 million *(2019: £297 million)*. In the UK, general insurance operating profit decreased to £182 million *(2019: £250 million)*. The improvements in underlying performance was offset by the adverse impact of one-offs, higher weather costs compared to a benign 2019, a modest prior year reserve strengthening compared to a release in 2019, and lower long-term investment returns due to lower yields. In Ireland operating profit decreased to £31 million *(2019: £47 million)* driven by a 4% reduction in net written premiums, one-off expenses and lower investment return.

In Canada, operating profit increased by 50% to £287 million *(2019: £191 million)* due to positive pricing actions, lower Personal lines claims frequency and risk selection. Personal lines performance improved significantly compared to 2019, driven by a decrease in net claims incurred. In Commercial lines, while net written premiums improved through strong new business performance and policy retention, underlying performance was impacted by COVID-19 claims. The improved 2020 operating profit result was also partially offset by unfavourable prior year reserve development, higher weather costs and a 2% reduction in long-term investment return.

Aviva Investors operating profit decreased to £85 million *(2019: £96 million)*, mainly due to lower fee income which was impacted by market volatility, as clients took portfolio de-risking actions.

In Manage-for-value markets operating profit from continuing operations increased by 11% to £999 million *(2019: £899 million)*. This was mainly driven by strong performance in Italy due to higher fee income from assets under management which have grown strongly in the year and an improvement of the General Insurance underwriting results driven by volume increases and favourable claims experience in 2020.

Operating profit from discontinued operations increased by 25% to £312 million *(2019: £251 million)*. This was driven by a change to long-term care morbidity and mortality assumptions in Singapore.

6 – Our Market performance
6.i – UK & Ireland Life

£m (unless otherwise stated)	2020	2019	Sterling % change	Constant currency %
Solvency II operating own funds generation‡	**1,057**	1,247	(15)%	(15)%
Solvency II return on capital‡	**7.4%**	9.1%	(1.7)pp	(1.7)pp
Solvency II operating capital generation[1,‡#]	**1,259**	1,248	1%	1%
Cash remittances‡#	**1,007**	1,394	(28)%	(28)%
Operating profit[1,‡#]	**1,907**	1,974	(3)%	(3)%
Controllable costs[2,‡]	**1,181**	1,214	(3)%	(3)%
New business				
VNB‡	**675**	600	13%	13%
PVNBP‡	**29,258**	29,159	—	—

1 Following a review of the presentation of intercompany loan interest, to achieve consistency in our reporting, comparative amounts have been restated to reclassify net interest expense of £65 million from UK & Ireland Life to Group debt costs and other interest for the year ended 31 December 2019 as a non-operating item. The change has no impact on the Group's operating profit. In addition, comparative amounts for operating capital generation of £69 million for the year ended 31 December 2019 have been restated. The change has no impact on the Group's operating capital generation.
2 Following a review of the presentation of claims handling costs, to achieve consistency in our reporting, comparative amounts have been restated by £78 million for the year ended 31 December 2019 to include previously excluded claims handling costs attributable to UK & Ireland Life in controllable costs.

Overview
Aviva is the UK's largest insurer with a 23%[1] share of the UK life and savings market and we are a trusted provider of a broad range of products to both individual and corporate customers covering their savings, retirement, insurance and health needs. Our strategy is to invest for growth, through which we will become the UK's leading insurer and establish Aviva as the 'go-to' customer brand for all insurance, protection, savings and retirement needs for all of our customers. We have strong relationships with our distribution partners through a variety of channels and also offer digital direct solutions to customers. Our UK Life business is well capitalised and resilient to stress, providing our customers and investors with certainty, especially in times of uncertainty and economic volatility.

UK Life incorporates our Savings & Retirement business, which is maintaining its strong asset and revenue growth through our workplace and retail platforms. We continue to expand our position in bulk purchase annuities (BPA) by offering businesses with de-risking solutions for their pension schemes. Our business lines within the UK Life insurance business continue to generate strong and sustainable cash flows.

In Ireland we are number four in the market. Having acquired Friends First Life Assurance Company DAC, we're focused on delivering a single product range to market and we are committed to making it easier for intermediaries to do business with Aviva.

Operating and financial performance
Solvency II operating own funds generation‡ and return on capital‡
Solvency II return on capital reduced by 1.7pp to 7.4% *(2019: 9.1%)* and Solvency II own funds generation decreased to £1,057 million *(2019: £1,247 million)*, due to the lower net positive impact of assumption changes in 2020 compared to 2019.

Solvency II Operating capital generation (OCG)‡#
Solvency II OCG was stable at £1,259 million *(2019: £1,248 million)* and benefitted from less adverse experience variances than in 2019. New business strain is comparable to 2019, despite higher volumes of BPA. We have optimised the capital strain of writing annuity business in 2020 through careful pricing and reinsurance actions. The net positive impact of assumption changes was lower than in 2019, however this was offset by a number of capital management actions taken both to improve the capital efficiency on our annuity business and to optimise the back book.

Cash remittances‡#
Cash remitted to Group by UK & Ireland Life was £1,007 million *(2019: £1,394 million)*, including £250 million paid in February 2021 in respect of activity in 2020. The prior year included a special remittance of £500 million from UK & Ireland Life which was not repeated in 2020.

1 Association of British Insurers (ABI) – 12 months to end Q320.

Our Market performance continued

6.i – UK & Ireland Life continued

Operating and financial performance continued

Operating profit‡#, new business and net flows‡

Operating profit‡#	2020 £m	2019 £m	Sterling % change
Savings & Retirement[1]	**119**	88	35%
Annuities & Equity Release	**815**	866	(6)%
Protection & Health	**189**	201	(6)%
Heritage[2]	**321**	389	(17)%
Other[3,4]	**469**	371	26%
UK Life	**1,913**	1,915	—
Ireland Life	**(6)**	59	(110)%
Total[3]	**1,907**	1,974	(3)%

1 Includes workplace, platform, individual personal pensions.
2 Heritage represents products no longer actively marketed, including with-profits and bonds.
3 Following a review of the presentation of intercompany loan interest, to achieve consistency in our reporting, comparative amounts have been restated to reclassify net interest expense from UK & Ireland Life to Group debt costs and other interest of £65 million for the year ended 31 December 2019 as a non-operating item. The change has no impact on the Group's operating profit.
4 Other life represents changes in assumptions and modelling, non-recurring items and non-product specific overheads.

UK & Ireland Life operating profit decreased by 3% to £1,907 million *(2019: £1,974 million)*. UK Life operating profit was £1,913 million *(2019: £1,915 million)* reflecting strong growth in our Savings & Retirement business and a net benefit from assumption changes of £466 million *(2019: £574 million)*, including a positive longevity benefit of £390 million. BPA operating profit was higher than 2019, with the impact of higher volumes being partly offset by actions taken to optimise asset allocations for improved capital efficiency. We saw a reduction in profit in equity release and individual protection which were affected by unfavourable economic and trading conditions created by the COVID-19 pandemic. Individual annuity profit decreased due to a reduction in volumes, with rates at historically low levels. The Ireland Life operating loss reflects high transformation project costs, whereas the prior year profit contained a non-recurring benefit from methodology and assumption changes.

New business	VNB‡ 2020 £m	VNB‡ 2019 £m	VNB‡ Sterling % change	PVNBP‡ 2020 £m	PVNBP‡ 2019 £m	PVNBP‡ Sterling % change	New business margin‡ 2020 %	New business margin‡ 2019 %
Savings & Retirement and Other	**140**	140	—	**17,777**	19,006	(6)%	**0.8%**	0.7%
Annuities & Equity Release	**356**	284	25%	**7,508**	6,182	21%	**4.7%**	4.6%
Protection & Health	**167**	168	(1)%	**2,439**	2,382	2%	**6.8%**	7.1%
Ireland Life	**12**	8	50%	**1,534**	1,589	(3)%	**0.8%**	0.5%
Total	**675**	600	13%	**29,258**	29,159	—	**2.3%**	2.1%

PVNBP was stable at £29,258 million *(2019: £29,159 million)* and VNB increased by 13% to £675 million *(2019: £600 million)* with strong growth in BPA generating PVNBP of £5,955 million *(2019: £4,013 million)* and VNB of £278 million *(2019: £208 million)*.

Assets under management‡ and net flows‡	Platform £m	Pensions and other savings & retirement £m	Total Savings & Retirement £m	Annuities & Equity Release £m	Other UK non-profit £m	UK With profits and other £m	Ireland Life £m	2020 Total UK & Ireland Life £m	2019 Total UK & Ireland Life £m
Assets under management‡ at 1 January	29,085	84,153	**113,238**	67,143	48,425	**47,471**	10,966	**287,243**	258,453
Premiums and deposits, net of reinsurance	5,937	9,511	**15,448**	5,022	1,593	**249**	1,299	**23,611**	22,084
Claims and redemptions, net of reinsurance	(2,280)	(4,621)	**(6,901)**	(2,791)	(4,028)	**(3,621)**	(1,089)	**(18,430)**	(20,523)
Net flows‡	3,657	4,890	**8,547**	2,231	(2,435)	**(3,372)**	210	**5,181**	1,561
Market and other movements	1,690	4,783	**6,473**	5,397	6	**1,853**	928	**14,657**	27,229
Assets under management‡ at 31 December	**34,432**	**93,826**	**128,258**	**74,771**	**45,996**	**45,952**	**12,104**	**307,081**	287,243

Net flows increased to £5.2 billion *(2019: £1.6 billion)* reflecting increased net flows in Savings & Retirement of £8.5 billion *(2019: £7.5 billion)*, higher BPA volumes driving Annuities & Equity Release net flows of £2.2 billion *(2019: £1.2 billion)* and lower levels of run-off from the Heritage back book compared to 2019.

Savings & Retirement

Our Savings & Retirement business offers workplace pensions and retail savings products, through both intermediated and retail channels. Our products are supported by guidance and advice and offer access to open architecture asset solutions including Aviva Investors who provide expertise in multi-asset and environmental, social, and governance (ESG) investing. Our new business is capital efficient, with profits being derived from asset management fees less costs. We have a competitive position in both workplace and retail markets, which have delivered diversified and resilient earnings and highly efficient customer acquisition into the group.

Savings & Retirement net flows grew by 14% to £8.5 billion *(2019: £7.5 billion)* with both higher group pension and platform net flows. Group pensions regular and single premiums were resilient given market volatility, and outflows were reduced as expected scheme transfers out were deferred. Despite market volatility inflows onto our platform grew to £5.9 billion *(2019: £5.7 billion)*, and net flows increased to £3.7 billion *(2019: £3.5 billion)*.

Operating profit increased to £119 million *(2019: £88 million)*, driven by growing revenue from an asset base which has increased to £128.3 billion *(2019: £113.2 billion)*.

6.i – UK & Ireland Life continued

Operating and financial performance continued

Operating profit‡#, new business and net flows‡ continued

Annuities & Equity Release

Our Annuities & Equity Release business consists of BPA, individual annuities and equity release. Our products offer customers safe and secure income in their retirement and support employers in their desire to de-risk their pension schemes. We are the UK's largest provider of individual annuities[1], we manage the UK's largest book of equity release mortgages[2], and in the first half of 2020 we were the third largest provider of BPAs[3]. Our Annuities & Equity Release products create synergies, with equity release assets being held long-term to back longer-term annuity liabilities, alongside assets sourced by Aviva Investors. Profits are primarily driven by yields, and our focus on capital efficiency secures significant cashflows, which has allowed us to invest in, and grow, our BPA business.

Annuities & Equity Release operating profit decreased by 6% to £815 million *(2019: £866 million)*. Our BPA business grew strongly, both in new business volumes which grew to £5,955 million *(2019: £4,013 million)* and higher operating profit. Individual annuity operating profit was lower compared to 2019, due to a reduction in volumes as rates fell to historically low levels, while we optimised asset allocations and used reinsurance to improve the capital efficiency of our annuity businesses, partly offsetting the operating profit benefit of higher BPA new business volumes. Equity release operating profit was lower than in 2019 due to the impact on new business volumes from COVID-19.

Annuities & Equity Release VNB increased by 25% to £356 million *(2019: £284 million)* including BPA VNB of £278 million *(2019: £208 million)* driven by higher volumes. New business margin was slightly improved at 4.7% *(2019: 4.6%)*.

Protection & Health

Aviva is the only provider of scale in the UK covering health, group protection and individual protection. We have number two[1] positions in both protection markets and are third[4] in the health market. We have developed strong relationships with our intermediary partners, including financial advisers, estate agents and other third parties. We have invested for growth in these markets, focusing on our digital proposition and bringing new health & wellbeing to market. Pricing and underwriting discipline as well as cost efficiency are key drivers for profitability in this sector.

Protection & Health PVNBP grew 2% to £2,439 million *(2019: £2,382 million)* due to strong group protection performance, particularly in income protection. Individual protection PVNBP decreased due to the effects of COVID-19 movement restrictions which significantly reduced the ability of our distribution partners to write new business. Health volumes were in line with 2019, reflecting a strong performance in the large corporate sector.

Protection & Health operating profit decreased by 6% to £189 million *(2019: £201 million)* mainly due to lower individual protection new business margins and volumes reflecting competitiveness in the market and the impact of COVID-19 on trading. Group protection operating profit was higher than in 2019, benefitting from improved claims experience. Health operating profit increased to £43 million *(2019: £35 million)*, benefitting from lower commission driven by the shift in new business mix and strong expense management. The increase is not attributable to claims disruption due to the pandemic, as the result includes the expected impact of the fair value pledge provided to policyholders, which reflects the extent to which claims levels were lower in 2020 as a result of the COVID-19 pandemic.

Protection & Health VNB was materially in line with prior year at £167 million *(2019: £168 million)*.

Heritage

Aviva has one of the largest back books in the UK, with assets under management (AUM) of c.£90 billion. We manage legacy pension and savings policies for approximately 2 million customers, honouring promises made over many years. As a heritage business, we are in run-off and we manage significant product and platform complexity with multiple third party suppliers. Profit is driven by effective management of AUM run-off and cost efficiency.

Heritage operating profit decreased 17% to £321 million *(2019: £389 million)* and continues to run off broadly in line with our expectations.

Ireland Life

Our core lines of business Ireland Life are protection and annuity business, pre and post retirement unit-linked contracts, as well as unit-linked savings & investments. We are leaders in the income protection and annuity market and have an ambitious target to become the overall life & pensions market leading intermediary provider.

1 ABI – 12 months to end Q320.
2 UK Finance data on UK mortgage lenders.
3 Lane, Clark & Peacock (LCP) pensions de-risking update, October 2020.
4 LaingBuisson.

6.i – UK & Ireland Life continued

Operating and financial performance continued

Operating profit‡#, new business and net flows‡ continued

Ireland Life continued

There was an operating loss in Ireland Life of £(6) million *(2019: profit of £59 million)*. The prior year result included a non-recurring benefit from methodology and assumption changes, with 2020 adversely impacted by increased transformation project costs and higher claims experience on protection business.

Ireland Life PVNBP was broadly stable at £1,534 million *(2019: £1,589 million)* despite the market disruption caused by COVID-19, with strong sales in our unit-linked business. VNB increased by 50% to £12 million *(2019: £8 million)* driven primarily by improvements in annuity margins following re-pricing actions.

Other

Other operating profit increased by £98 million to £469 million *(2019: £371 million)* and includes a net benefit from assumption changes of £466 million *(2019: £574 million)*. Within this, we saw a net positive longevity benefit of £390 million, expense reserve releases of £123 million reflecting our ongoing cost reduction programme and other smaller impacts.

The net impact of COVID-19 related claims for our individual and group protection businesses and expected favourable experience variances on our annuity book was £36 million. The includes our total expected net liabilities on in-force policies from the COVID-19 pandemic over the next year. During 2020, COVID-19 related individual and group protection claims amounted to £31 million, net of reinsurance.

In 2019, the net benefit from assumption changes of £574 million reflected net positive longevity and mortality developments, including adopting CMI 2018, of £751 million which was partly offset by updates to persistency (£126 million charge) and other assumptions. We also recognised a £175 million provision to allow for certain pension policyholders that may not have been adequately informed of switching options available to them.

Controllable costs‡

UK & Ireland Life controllable costs decreased by 3% to £1,181 million *(2019: £1,214 million)* driven by a reduction in project costs and other cost saving initiatives. These benefits were partially offset by accelerated onerous contract costs of £23 million, reflecting the reduction in our UK property footprint.

Our Market performance continued

6.ii – General Insurance: UK & Ireland and Canada

£m (unless otherwise stated)	2020	2019	Sterling % change	Constant currency %	2020	2019	Sterling % change	Constant currency %
Operating profit‡# and controllable costs‡				Operating profit‡#				Controllable costs‡
UK & Ireland	**213**	297	(28)%	(28)%	**793**	800	(1)%	(1)%
Canada	**287**	191	50%	52%	**401**	402	—	1%
	500	488	2%	3%	**1,194**	1,202	(1)%	—
NWP and COR‡				NWP				COR‡
UK & Ireland	**4,630**	4,638	—	—	**98.2%**	97.5%	0.7pp	
Canada	**3,096**	3,061	1%	2%	**94.7%**	97.8%	(3.1)pp	
	7,726	7,699	—	1%	**96.8%**	97.7%	(0.9)pp	
Solvency II operating own funds generation‡ and Solvency II return on capital[1,‡]				Solvency II operating own funds generation‡				Solvency II return on capital‡
UK & Ireland	**329**	333	(1)%	(1)%	**13.1%**	14.3%	(1.2)pp	(1.3)pp
Canada	**287**	203	41%	43%	**19.9%**	15.3%	4.6pp	5.0pp
Solvency II operating capital generation‡# and cash remittances‡#				Solvency II operating capital generation‡#				Cash remittances‡#
UK & Ireland	**357**	251	42%	42%	**171**	273	(37)%	(37)%
Canada	**262**	261	—	2%	**131**	156	(16)%	(15)%

1 For UK general insurance only, capital held for internal risk appetite purposes is used instead of opening shareholder Solvency II own funds to ensure consistency in measuring performance across markets. This is only applicable to UK general insurance Solvency II return on capital (unlevered) and not to the aggregated Group Solvency II return on capital (unlevered) and Solvency II return on equity measures, with the reversal of the impact included in Group centre costs and Other opening own funds.

Overview

Our strongest core general insurance businesses where we are focusing on building and extending our leadership are in the UK, Ireland and Canada. During 2020 we have focused on executing our market strategies, while dealing with the slowdown in trading activity as a result of global COVID-19 pandemic.

In the UK and Ireland, our strategy is to invest for growth and to deliver on our ambition of being the leading insurer in the UK and Ireland as measured by premium, reputation, trust, breadth of distribution and strength of digital platform.

In Canada, our strategy, aligned with Group strategic pillars, is to (1) sustain leading performance throughout execution excellence; (2) transform the service experience through digital; and (3) lead the market with customer-centric innovation.

Core general insurance total operating profit increased to £500 million *(2019: £488 million)*, which translated to a COR of 96.8% *(2019: 97.7%)*. The significant improvement in underlying business performance was partially offset by a £39 million prior year reserve strengthening compared to a £95 million prior year release in 2019, and weather costs were £85 million higher than the very benign 2019. The estimated impact of the COVID-19 pandemic on core general insurance markets was £(84) million, principally reflecting business interruption claims net of reinsurance, which were partly offset by favourable impacts of reduced economic activity in other product lines tempered by higher profit-contingent commission payments to distributors.

Total net written premiums increased to £7,726 million *(2019: £7,699 million),* reflecting volume and rate increases in Global Corporate and Speciality (GCS) Commercial lines offset by a decline in personal lines due to worldwide government-enforced lockdown measures.

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

Operating and financial performance

UK & Ireland General Insurance

Operating profit‡#

Operating profit‡#	2020 £m	2019 £m	Sterling % change
Underwriting result	**63**	86	(27)%
Long-term investment return	**132**	166	(20)%
Other[1]	**(13)**	(2)	550%
UK	**182**	250	(27)%
Ireland	**31**	47	(34)%
Total	**213**	297	(28)%

1 Includes the result of non-insurance operations, unwind of discount rate and pension scheme net finance costs.

Overall UK & Ireland operating profit decreased to £213 million *(2019: £297 million).* The UK saw significantly improved underlying performance compared to 2019, as personal lines benefited from the continued simplification of our business, including the remediation or exit of under-performing segments; and commercial lines benefited from above inflation rate increases and targeted volume growth. These underlying improvements give us confidence in the outlook for 2021.

6.ii – General Insurance: UK & Ireland and Canada continued

Operating and financial performance continued

UK & Ireland General Insurance continued

Operating profit‡# continued

However, 2020 saw a modest prior year reserve strengthening whereas 2019 benefitted from a significant prior year reserve release related to favourable development on motor bodily injury claims. Weather costs, despite being £32 million favourable to our long-term average, were £66 million higher compared to a benign 2019 and there was a £34 million reduction in long-term investment return due to reduced yields. This resulted in an operating profit of £182 million *(2019: £250 million)*.

NWP and COR‡

	NWP			COR‡		
NWP and COR‡	2020 £m	2019 £m	Sterling % change	2020 %	2019 %	Change
Personal lines	**2,232**	2,399	(7)%	**92.4%**	99.3%	(6.9)pp
Commercial lines	**2,008**	1,819	10%	**105.7%**	96.0%	9.7pp
UK	**4,240**	4,218	1%	**98.5%**	97.9%	0.6pp
Ireland	**390**	420	(7)%	**95.2%**	92.6%	2.6pp
Total	**4,630**	4,638	—	**98.2%**	97.5%	0.7pp

Commercial lines NWP grew 10% to £2,008 million *(2019: £1,819 million)*, reflecting a combination of above inflation rate increases and strong growth across all channels, with a focus on our heartland UK corporates and SMEs, and standout performance in our digitally traded channels. Personal lines successfully launched the Aviva brand on price comparison websites in the fourth quarter, but COVID-19 disruption on our distribution partners' new business, and the remediation and exit of unprofitable business as we execute our simplification strategy, resulted in NWP 7% lower at £2,232 million *(2019: £2,399 million)*. Overall UK NWP was 1% higher at £4,240 million *(2019: £4,218 million)*.

UK GI COR improved by 4.6pp excluding the impacts of prior year reserve strengthening and weather. The impact of a 3.6pp adverse movement in prior year reserve development and 1.6pp higher weather costs resulted in a COR of 98.5% *(2019: 97.9%)*.

Personal lines COR of 92.4% *(2019: 99.3%)* was 6.9pp lower year-on-year, reflecting an improvement in underlying performance as we continue to simplify our Personal lines business and remediate or exit under-performing segments. This was supplemented by one-off benefits from lower economic activity as a result of COVID-19, partly offset by higher profit-contingent commission payments, less favourable prior year development and higher weather costs. Commercial lines also saw an improvement in underlying performance driven by above inflation rate increases and targeted volume growth but the COR of 105.7% *(2019: 96.0%)* was 9.7pp higher year-on-year, reflecting COVID-19 claims impacts, primarily related to business interruption, prior year reserve strengthening and higher weather costs.

Ireland NWP reduced by 7% to £390 million *(2019: £420 million)*. Personal lines is behind 2019 by 9%, mainly in the intermediated channel where price competition intensified, while the direct channel remained resilient in 2020. New business in Commercial lines has been challenging in 2020 with restrictions affecting business's customers and the adoption of a cautious underwriting stance.

Ireland GI COR of 95.2% *(2019: 92.6%)* was 2.6pp higher year-on-year, largely driven by one-off expenses. A decrease in NWP paired with one-off expenses, were partially offset by favourable prior year release and weather. Personal lines COR of 90.1% *(2019: 92.5%)* was 2.4pp lower year-on-year driven by benefits from lower economic activity as a result of COVID-19 and favourable prior year development. Commercial lines COR of 102.2% *(2019: 92.8%)* deteriorated driven by the impact of COVID-19 on the commercial property and liability books.

Controllable costs‡

Controllable costs in the UK decreased to £708 million *(2019: £726 million)*, reflecting the simplification of our Personal lines business and a reduction in project spend, while continuing to invest in our IT infrastructure and support growth in our Commercial lines business. 2020 controllable costs also include accelerated onerous contract costs of £15 million, reflecting the reduction in our UK property footprint. In Ireland, controllable costs increased to £85 million *(2019: £74 million)* with cost saving initiatives in 2020 offset by growth-related costs.

Canada

Operating profit‡#

During 2020, operating profit increased by 50% to £287 million *(2019: £191 million)* due to actions around pricing, indemnity management and risk selection as well as benefits from lower economic activity as a result of COVID-19. Personal lines performance improved significantly compared to 2019, driven by a decrease in net claims incurred. In Commercial lines, while net written premiums improved through strong new business performance and policy retention, underlying performance was impacted by COVID-19 claims.

Operating profit‡#	2020 £m	2019 £m	Sterling % change	Constant currency %
Underwriting result	**162**	65	151%	154%
Long-term investment return	**130**	133	(2)%	(1)%
Other[1]	**(5)**	(7)	38%	38%
Total	**287**	191	50%	52%

1 Includes the result of non-insurance operations, unwind of discount rate and pension scheme net finance costs.

In 2020, the underwriting result was a profit of £162 million *(2019: £65 million)*, mainly driven by premium rate increases in Commercial lines, and benefits from lower economic activity as a result of COVID-19 in our Personal lines business, partially offset by unfavourable prior year reserve development, COVID-19 claims, higher profit-contingent commission payments, increased claims severity, and marginally higher weather catastrophe losses compared to the prior year. Longer-term investment return worsened by 2% mostly due to lower short-term reinvestment yields and broker loan interest income.

Our Market performance continued

6.ii – General Insurance: UK & Ireland and Canada continued

Operating and financial performance continued

Canada continued

NWP and COR‡

NWP and COR‡	NWP 2020 £m	2019 £m	Sterling % change	Constant currency %	COR‡ 2020 %	2019 %	Change
Personal lines	**2,075**	2,100	(1)%	—	**87.2%**	97.8%	(10.6)pp
Commercial lines	**1,021**	961	6%	7%	**110.2%**	97.8%	12.4pp
Total	**3,096**	3,061	1%	2%	**94.7%**	97.8%	(3.1)pp

Canada NWP was £3,096 million *(2019: £3,061 million)*, up 2% on a constant currency basis. In Personal lines, NWP reduced to £2,075 million *(2019: £2,100 million)* primarily as a result of the impact of COVID-19, as we offered more consumer relief in motor insurance. Commercial lines NWP increased to £1,021 million *(2019: £961 million)* mostly due to hardening rates.

COR improved to 94.7% *(2019: 97.8%)* due to the improvement in the underwriting result. Personal lines COR of 87.2% *(2019: 97.8%)* was 10.6pp lower year-on-year, driven by better pricing and underwriting, and benefits from lower economic activity as a result of COVID-19, partly offset by higher profit-contingent commission payments. Commercial lines COR of 110.2% *(2019: 97.8%)* was 12.4pp higher year-on-year due to increased claims, mostly as a result of COVID-19.

Controllable costs‡

Controllable costs were £401 million *(2019: £402 million)*. The cost savings initiatives in 2020 were offset by investments in our claims operational capabilities, investment in our pricing capabilities and the GCS business, and continued investment in our IT infrastructure.

Solvency II and cash

Solvency II operating own funds generation‡ and Solvency II return on capital‡

Solvency II operating own funds generation in the UK and Ireland has remained stable over the period at £329 million *(2019: £333 million)*, as improved underlying performance is offset by modest prior year reserve strengthening (compared to a large release in 2019) and higher weather costs compared to a benign 2019. However, opening own funds has increased by £183 million, which translated into a Solvency II return on capital of 13.1% *(2019: 14.3%)*.

In Canada, Solvency II operating own funds generation increased to £287 million *(2019: £203 million)* mainly due to improved underlying performance driven by actions around pricing, indemnity management and risk selection offset by modest offset prior year reserve strengthening and higher weather costs than the prior period, which translated into a Solvency II return on capital of 19.9% *(2019: 15.3%)*.

The estimated impact of the COVID-19 pandemic on Solvency II operating own funds generation and Solvency II return on capital across Core general insurance markets was broadly neutral.

Solvency II operating capital generation (OCG)‡#

UK & Ireland Solvency II OCG has increased by £106 million to £357 million *(2019: £251 million)* reflecting the stable operating own funds described above and the non-repeat of the one-off impact of the alignment of UK Digital costs which increased the SCR in 2019.

In Canada, Solvency II OCG is broadly consistent with 2019 at £262 million *(2019: £261 million)*. This is mainly due to increased Solvency II operating own funds generation described above offset by an increase in SCR due to COVID-19 and the growth in commercial lines.

The estimated impact of the COVID-19 pandemic on Solvency II OCG for Core general insurance markets was £(88) million, principally reflecting increases in the SCR.

Cash remittances‡#

Cash remittances to Group from the UK and Ireland were £171 million *(2019: £273 million)*, including £74 million *(2019: £83 million)* received in February 2021 in respect of 2020 activity. Cash remittances to Group from Canada were £131 million *(2019: £156 million)*, including £115 million *(2019: £141 million)* paid in February 2021 in respect of 2020 activity. The reduction is driven by the decision to retain cash in the subsidiaries to maintain balance sheet strength during the period of uncertainty as a result of the COVID-19 pandemic.

6.iii – Aviva Investors

£m (unless otherwise stated)	2020	2019	Sterling % change	Constant currency %
Aviva Investors revenue‡	**515**	542	(5)%	(5)%
Controllable costs‡	**430**	446	(3)%	(3)%
Operating profit‡#	**85**	96	(11)%	(11)%
Assets under management‡	**£366bn**	£346bn	6%	6%
Solvency II operating own funds generation‡	**67**	70	(4)%	(4)%
Solvency II return on capital‡	**13.7%**	13.7%	—	—
Solvency II operating capital generation‡#	**70**	90	(22)%	(22)%
Cash remittances‡#	**50**	86	(42)%	(42)%

Overview

Aviva Investors manages £366 billion of assets across a number of international markets, with £292 billion managed on behalf of Aviva.

Our strategy is to support Aviva becoming the UK's leading insurer and the go-to customer brand. By combining our insurance heritage and DNA with our skills and experience in asset allocation, portfolio construction and risk management, we provide a range of asset management solutions to our institutional, wholesale and retail clients.

We have a highly diversified range of capabilities, with expertise in real assets, solutions, multi-assets, equities and credit.

The key drivers of our strategy are

- Customer: deliver our customers' investment needs, placing Environmental, Social and Governance (ESG) and a rigorous risk and control culture at the core of our future strategies
- Simplification: streamline our business to become more efficient and deliver better customer outcomes
- Growth: continue to grow in both our Aviva client and external businesses
- People: develop a high-performance culture, focusing on our diversity and inclusion strategy, talent and career development

Our ongoing focus on ESG creates easy ways for our customers to do good, leading by example and influencing others to act, thereby playing an active role in the fight against climate change, creating a stronger economy and society as well as generating enhanced shareholder value over the long-term.

Concerns over the economic disruption caused by COVID-19 led to significant volatility in financial markets and elevated levels of investor activity throughout 2020. Notwithstanding the challenging market conditions, we had positive momentum in our Aviva client and external client businesses throughout 2020.

For our Aviva clients, significant inflows of £5.1 billion from the Core business, primarily on the Adviser channel, Workplace and annuities in the UK, were more than offset by £6.5 billion outflows from the run-off in assets for the existing back book.

External net inflows of £1.7 billion in the period were driven by positive gross flows of £8.3 billion, with significant new business wins in Real Assets (£1.8 billion) and Credit (£3.2 billion). We continued to experience strong momentum in our Liquidity business, with £5.5 billion of net liquidity funds inflows and 80 new client accounts.

Our investment performance was not immune from the market turbulence, and at the end of December 2020 55% of our funds were ahead of benchmark over one year. Consistent delivery of strong investment performance is key to meeting our customers' investment needs and remains a key priority.

Operating and financial performance

Aviva Investors revenue‡

Aviva Investors revenue decreased by 5% to £515 million *(2019: £542 million),* with market volatility contributing to client de-risking and asset allocation decisions leading to lower margins despite positive net inflows, partially offset by a stronger outcome with performance fees across our equities and rates strategies.

Controllable costs‡

Controllable costs decreased by 3% to £430 million *(2019: £446 million)* from cost management actions to mitigate the decrease in revenue.

Operating profit‡#

Operating profit decreased by 11% to £85 million *(2019: £96 million)* mainly due to the lower fee income during 2020.

6.iii – Aviva Investors continued

Operating and financial performance continued

Net flows‡ and assets under management‡ and under administration‡

Assets under management represent all assets managed by Aviva Investors. These comprise assets which are included within the Group's statement of financial position and those belonging to external clients outside the Group which are not included in the statement of financial position. Internal assets are managed by Aviva Investors on behalf of Group companies. Internal legacy relates to products that are no longer actively marketed.

	Internal legacy £m	Internal core £m	External £m	2020 Total £m	2019 Total £m
Assets under management at 1 January	84,927	194,693	66,512	346,132	330,706
Total inflows	12,126	38,824	8,286	59,236	63,523
Total outflows	(18,685)	(33,722)	(6,621)	(59,028)	(67,609)
Net flows‡	(6,559)	5,102	1,665	208	(4,086)
Net flows into liquidity funds and cash	400	2,114	5,799	8,313	1,299
Transfers out to external managers	—	—	—	—	(3,223)
Market and foreign exchange movements	10,199	810	110	11,119	21,436
Assets under management‡ at 31 December	**88,967**	**202,719**	**74,086**	**365,772**	346,132
Externally managed assets under administration at 1 January				36,292	29,104
Externally managed assets under administration net flows and other movements				3,874	7,188
Externally managed assets under administration‡ at 31 December				**40,166**	36,292
Assets under management and administration at 1 January				**382,424**	359,810
Assets under management and administration‡ at 31 December				**405,938**	382,424

Assets under management increased by £19.7 billion to £365.8 billion *(2019: £346.1 billion)*. This is due to £1.7 billion of external net flows, £8.3 billion of net flows into liquidity funds and cash and £11.1 billion of positive market and foreign exchange movements, offset by £(1.4) billion of net flows on our internal client business. Assets under management and administration at 31 December 2020 were £405.9 billion *(2019: £382.4 billion)*.

Solvency II operating own funds generation‡ and Solvency II return on capital‡

Solvency II operating own funds generation decreased by 4% to £67 million *(2019: £70 million)* as a result of lower operating profit as discussed above. Solvency II return on capital was 13.7% *(2019: 13.7%)* despite the lower Solvency II operating own funds generation.

Solvency II operating capital generation (OCG)‡#

Solvency II OCG decreased by 22% to £70 million *(2019: £90 million)* mainly as a result of lower operating profit as discussed above.

Cash remittances‡#

Cash remitted to Group reduced to £50 million *(2019: £86 million)*, as remittances from Aviva Investors' operations in Manage-for-value markets were affected by regulatory restrictions related to COVID-19.

6.iv – Manage-for-value

£m (unless otherwise stated)	2020	2019	Sterling % change	Constant currency %
Solvency II operating own funds generation‡	**497**	850	(42)%	(39)%
Solvency II return on capital‡	**6.2%**	11.4%	(5.2)pp	(5.0)pp
Solvency II operating capital generation‡#	**172**	867	(80)%	(79)%
Cash remittances‡#	**127**	613	(79)%	(78)%
Operating profit‡#	**1,311**	1,150	14%	14%
Controllable costs‡	**845**	884	(4)%	(4)%
New business – Life Insurance				
VNB‡	**576**	612	(6)%	(5)%
PVNBP‡	**12,834**	15,240	(16)%	(16)%
General Insurance				
NWP	**1,687**	1,610	5%	4%
COR‡	**93.5%**	96.6%	(3.1)pp	

Overview

Manage-for-value comprises our continuing operations in France, Italy, Poland and Other (our joint ventures in Turkey, India, China, and Aviva Singlife) and our discontinued operations in Asia (Friends Provident International, Aviva Singapore, Hong Kong, Indonesia and Vietnam). These businesses are managed for long-term shareholder value. We will build on the good work our teams are doing to grow and optimise their businesses, but where we cannot meet our strategic objectives, we will be decisive and withdraw capital.

During 2020, we completed disposals of Friends Provident International, Aviva Singapore, Hong Kong and Indonesia. We have also announced the disposal of our Italian joint venture, Aviva Vita, and our entire business in Vietnam. In 2021, we announced the disposal of our entire shareholdings in Aviva France, our joint venture in Aviva Turkey and our remaining Life and General Insurance businesses in Aviva Italy. Please see note B5 for further information.

The volatility in financial markets adversely impacted financial performance in the year either directly through reduced trading activity or indirectly as a result of the balance sheet de-risking actions taken in most markets which has reduced investment return. All percentage movements are quoted in constant currency unless otherwise stated.

Operating and financial performance

Solvency II operating own fund generation‡ and Solvency II return on capital‡

Solvency II return on capital has decreased by 5.2pp to 6.2% *(2019: 11.4%)* on a sterling basis and Solvency II operating own funds generation has reduced by £353 million to £497 million *(2019: £850 million)*. This reduction is primarily due to changes made to our French Life model following a management review. This included a mis-applied rule which resulted in a reduction in solvency partly offset by benefits from better modelling in a negative interest rate environment.

Solvency II operating capital generation (OCG)‡#

Solvency II OCG in respect of continuing operations reduced by £799 million to £6 million (*2019: £805 million*) in the year ended 31 December 2020 largely as a result of changes to our French Life model as noted above. This impact was partially offset by diversification benefit at a Group level. Solvency II OCG in respect of discontinued operations increased by £104 million to £166 million *(2019: £62 million)* primarily due to Singapore.

Cash remittances‡#

Cash remitted to Group was £127 million (*2019: £613 million*). The decrease from prior year is mainly driven by regulatory restrictions related to COVID-19 and a 2019 special remittance from Italy of £172 million which was not repeated in 2020.

Operating profit‡#

	2020 £m	2019 £m	Sterling % change	Constant currency %
France	**467**	473	(1)%	(2)%
Italy	**298**	195	53%	52%
Poland	**196**	194	1%	3%
Other[1]	**38**	37	3%	8%
Total from continuing operations	**999**	899	11%	11%
Contribution from discontinued operations[2]	**312**	251	25%	26%
Total	**1,311**	1,150	14%	14%

1 Other includes Turkey, China, India and our 26% shareholding in Aviva SingLife.
2 At 31 December 2020, FPI, Aviva Singapore, Hong Kong, Indonesia and Vietnam are classified as discontinued operations. Aviva Vita is held for sale and classified as a continuing operation.

The operating profit of our Manage-for-value operations increased by 14% to £1,311 million *(2019: £1,150 million)*. Operating profit from continuing operations of £999 million *(2019: £899 million)* includes contribution of £844 million *(2019: £792 million)* from our life operations and £155 million *(2019: 107 million)* from our general insurance operations.

- In France, operating profit decreased by 2% to £467 million *(2019: £473 million)* with improved product mix during the year offsetting adverse protection claims experience. This was supported by lower claims experience in the France General Insurance business during extended periods of lockdown.

6.iv – Manage-for-value continued

Operating and financial performance continued

Operating profit‡# continued

- In Italy, operating profit increased by 52% to £298 million *(2019: £195 million).* This was driven by higher fee income from assets under management that had grown strongly in previous periods with c.£2.2 billion of positive net flows in 2020. We have also seen an improvement in the General Insurance underwriting result driven by volume increases and favourable claims experience as a result of claims management actions and lower motor frequency due to COVID-19.
- In Poland, operating profit increased by 3% to £196 million *(2019: £194 million)* driven by improved underwriting results. Our underlying performance benefitted from a strategic move towards protection offerings in the life business and actions taken to reduce expenses to offset trading disruption arising from lockdown restrictions that particularly affected our bancassurance channels.
- Within Other markets, operating profit increased by 8% to £38 million *(2019: £37 million).*
- Operating profit from discontinued operations increased by 26% to £312 million *(2019: £251 million).* This was driven by a change to long-term care morbidity and mortality assumptions in Singapore.

Controllable costs‡

Controllable costs have reduced by 4% in 2020 to £845 million *(2019: £884 million),* as a result of cost saving initiatives.

New business – Life Insurance

	2020 £m	2019 £m	Sterling % change	Constant currency %	2020 £m	2019 £m	Sterling % change	Constant currency %	2020 %	2019 %
				VNB‡				PVNBP‡	New business margin‡	
France	**164**	168	(3)%	(4)%	**4,477**	5,702	(21)%	(22)%	**3.7%**	2.9%
Italy	**100**	147	(32)%	(32)%	**4,645**	5,537	(16)%	(17)%	**2.2%**	2.7%
Poland	**61**	64	(4)%	(2)%	**548**	624	(12)%	(10)%	**11.1%**	10.3%
Other[1]	**44**	59	(27)%	(20)%	**922**	1,100	(16)%	(11)%	**4.8%**	5.4%
Total from continuing operations	**369**	438	(16)%	(15)%	**10,592**	12,963	(18)%	(18)%	**3.5%**	3.4%
Contribution from discontinued operations[2]	**207**	174	19%	21%	**2,242**	2,277	(2)%	—	**9.2%**	7.6%
Total	**576**	612	(6)%	(5)%	**12,834**	15,240	(16)%	(16)%	**4.5%**	4.0%

1 Other includes Turkey, China, India and our 26% shareholding in Aviva SingLife.
2 At 31 December 2020, FPI, Aviva Singapore, Hong Kong, Indonesia and Vietnam are classified as discontinued operations. Aviva Vita is held for sale and classified as a continuing operation.

PVNBP decreased by 16% to £12,834 million *(2019: £15,240 million)* and VNB decreased by 5% to £576 million *(2019: £612 million)*. New business performance for each market is explained below:

- In France, PVNBP reduced by 22% to £4,477 million *(2019: £5,702 million)* reflecting managed reductions in with-profit volumes and lower volumes due to trading disruptions caused by the lockdown in France from April 2020 onwards, which partially offsets strong growth in our unit-linked pension product. VNB decreased by 4% to £164 million *(2019: £168 million)* with an improvement in margin driven by a higher mix of more profitable unit-linked inflows partly offset by the adverse effect of negative interest rates.
- In Italy, PVNBP reduced by 17% to £4,645 million *(2019: £5,537 million)* due to a managed reduction in standalone with-profits volumes together with lower volume due to trading disruption as a result of COVID-19. VNB margins were lower due to the impact of unfavourable interest rates movements partially offset by the introduction of our higher margin Formula 5 savings product.
- In Poland PVNBP reduced by 10% to £548 million *(2019: £624 million)* driven by a lower volume due to the trading disruption in our distribution channels arising from movement restrictions and the closure of branches by our bancassurance partners. VNB margins improved in 2020 as a result of favourable mix of business.
- Within Other markets, PVNBP decreased by 11% to £922 million *(2019: £1,100 million)* largely driven by lower protection volumes in China resulting from COVID-19. VNB margins have reduced as a result of a less favourable new business mix and investments in distribution.
- PVNBP from discontinued operations reduced by 2% on a sterling basis to £2,242 million *(2019: £2,277 million)* and broadly flat in constant currency terms. VNB increased by 21% to £207 million *(2019: £174 million).*

Assets under management‡ and net flows‡ – Life Insurance

	2020 £m	2019 £m
Assets under management‡ at 1 January	**114,615**	108,287
Premiums and deposits, net of reinsurance	**9,049**	11,314
Claims and redemptions, net of reinsurance	**(7,332)**	(6,852)
Net flows‡	**1,717**	4,462
Market and other movements	**10,516**	1,866
Assets under management‡ at 31 December	**126,848**	114,615

Net flows of £1.7 billion *(2019: £4.5 billion)* decreased mainly due to lower trading volumes as a result of the movement restrictions imposed in all markets from early March and actions taken to reduce with-profit inflows in France and Italy. Assets under management have benefitted from positive market and other movements of £10.5 billion *(2019: £1.9 billion).*

6.iv – Manage-for-value continued

Operating and financial performance continued

General Insurance

	2020 £m	2019 £m	Sterling % change	Constant currency %	2020	2019	Change
				NWP			COR‡
France	**1,229**	1,166	5%	5%	**96.4%**	97.2%	(0.8)pp
Italy	**333**	319	4%	3%	**86.3%**	97.7%	(11.4)pp
Poland	**112**	112	—	2%	**83.7%**	85.9%	(2.2)pp
Total from continuing operations	**1,674**	1,597	5%	4%	**93.5%**	96.5%	(3.0)pp
Contribution from discontinued operations[1]	**13**	13	(1)%	1%	**98.2%**	112.8%	(14.6)pp
Total	**1,687**	1,610	5%	4%	**93.5%**	96.6%	(3.1)pp

1 At 31 December 2020, Aviva Singapore is classified as a discontinued operation.

NWP increased by 4% to £1,687 million *(2019: £1,610 million)* driven by growth in France and Italy, across personal and commercial lines. COR improved by 3.1pp to 93.5% *(2019: 96.6%)*. This was largely due to strong underwriting performance in Italy alongside motor frequency benefits outweighing claims experience in Italy and France.

7 – Profit drivers
7.i – Life business profit drivers

	UK & Ireland Life		Manage-for-value		Total continuing operations	
	2020 £m	2019 £m	2020 £m	2019 £m	2020 £m	2019 £m
New business income	**857**	960	**348**	360	**1,205**	1,320
Underwriting margin‡	**412**	418	**194**	188	**606**	606
Investment return[1]	**1,472**	1,368	**1,370**	1,220	**2,842**	2,588
Total income	**2,741**	2,746	**1,912**	1,768	**4,653**	4,514
Acquisition expenses	**(424)**	(436)	**(365)**	(392)	**(789)**	(828)
Administration expenses[1]	**(946)**	(967)	**(631)**	(558)	**(1,577)**	(1,525)
Total expenses	**(1,370)**	(1,403)	**(996)**	(950)	**(2,366)**	(2,353)
Other[1,2,3]	**493**	596	**(90)**	(47)	**403**	549
Life business operating profit‡#	**1,864**	1,939	**826**	771	**2,690**	2,710
Health business operating profit‡#	**43**	35	**18**	21	**61**	56
Total operating profit‡#	**1,907**	1,974	**844**	792	**2,751**	2,766

1 Following a review of the presentation of claims handling costs, to achieve consistency in our reporting, the comparative amount for administration expenses has been restated by £59 million for the year ended 31 December 2019 to include claims handling costs attributable to the UK & Ireland Life business. Previously these costs were included as a reduction to investment return (£25 million for the year ended 31 December 2019) and other (£34 million for the year ended 31 December 2019). Additionally, as part of this review the comparative amount for administration expenses for the year ended 31 December 2019 has been restated to include £42 million of amortisation of intangible assets, previously included in other.
2 Following a review of the presentation of intercompany loan interest, to achieve consistency in our reporting, the comparative amount for the year ended 31 December 2019 has been restated to reclassify net interest expense of £65 million from UK & Ireland Life (Other) to Group debt costs and other interest as a non-operating item. The change has no impact on the Group's operating profit.
3 Other represents amortisation of deferred acquisition costs (DAC), changes in assumptions and modelling, non-recurring items and non-product specific items.

Income: New business income and underwriting margin‡

	UK & Ireland Life		Manage-for-value		Total continuing operations	
	2020 £m	2019 £m	2020 £m	2019 £m	2020 £m	2019 £m
New business income	**857**	960	**348**	360	**1,205**	1,320
Acquisition expenses	**(424)**	(436)	**(365)**	(392)	**(789)**	(828)
Net contribution	**433**	524	**(17)**	(32)	**416**	492
Annual premium equivalent (APE)‡ (£m)	**4,034**	4,234	**1,222**	1,473	**5,256**	5,707
As margin on APE (%)	**11%**	12%	**(1)%**	(2)%	**8%**	9%
Underwriting margin‡ (£m)	**412**	418	**194**	188	**606**	606
Analysed by:						
Expenses	**96**	109	**86**	81	**182**	190
Mortality and longevity	**313**	287	**96**	98	**409**	385
Persistency	**3**	22	**12**	9	**15**	31

Income: Investment return

	UK & Ireland Life		Manage-for-value		Total continuing operations	
	2020 £m	2019 £m	2020 £m	2019 £m	2020 £m	2019 £m
Unit-linked margin‡ (£m)[1]	**979**	861	**648**	579	**1,627**	1,440
As annual management charge on average reserves (bps)	**59**	56	**170**	156	**80**	76
Average reserves (£bn)[2]	**165**	153	**38**	37	**203**	190
Participating business (£m)[3]	**115**	135	**617**	541	**732**	676
As bonus on average reserves (bps)	**28**	32	**84**	77	**63**	60
Average reserves (£bn)[2]	**41**	42	**74**	70	**115**	112
Spread margin‡ (£m)[1]	**298**	305	**11**	9	**309**	314
As spread margin on average reserves (bps)	**40**	43	**24**	24	**39**	42
Average reserves (£bn)[2]	**75**	70	**4**	4	**79**	74
Expected return on shareholder assets (£m)[4]	**80**	67	**94**	91	**174**	158
Total (£m)	**1,472**	1,368	**1,370**	1,220	**2,842**	2,588
Total average reserves (£bn)[2]	**281**	265	**116**	111	**397**	376

1 Following a review of the presentation of claims handling costs, to achieve consistency in our reporting, comparative amounts have been restated to reclassify all claims handling costs attributable to UK & Ireland Life as administration expenses. For the year ended 31 December 2019, £9 million of these costs were previously included in unit-linked margin and £16 million in spread margin.
2 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.
3 The shareholders' share of the return on with- profits and other participating business.
4 The expected investment return based on opening economic assumptions applied to expected surplus assets over the reporting period that are not backing policyholder liabilities.

7.i – Life business profit drivers continued

Expenses

	UK & Ireland Life		Manage-for-value		Total continuing operations	
	2020 £m	2019 £m	**2020 £m**	2019 £m	**2020 £m**	2019 £m
Acquisition expenses (£m)	**(424)**	(436)	**(365)**	(392)	**(789)**	(828)
APE‡ (£m)	**4,034**	4,234	**1,222**	1,473	**5,256**	5,707
As acquisition expense ratio on APE (%)	**11%**	10%	**30%**	27%	**15%**	15%
Administration expenses (£m)[1]	**(946)**	(967)	**(631)**	(558)	**(1,577)**	(1,525)
As existing business expense ratio on average reserves (bps)	**34**	36	**54**	50	**40**	40
Total average reserves (£bn)[2]	**281**	265	**116**	111	**397**	376

1 Following a review of the presentation of claims handling costs, to achieve consistency in our reporting, the comparative amount for administration expenses has been restated by £59 million for the year ended 31 December 2019 to include claims handling costs attributable to the UK & Ireland Life business. These amounts were previously included in investment return and other. Additionally, as part of this review the comparative amount for administration expenses for the year ended 31 December 2019 has been restated to include £42 million of amortisation of intangible assets, previously included in other.
2 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.

Profit drivers continued

7.ii – General insurance profit drivers

2020	UK Personal £m	UK Commercial £m	Total UK £m	Ireland £m	Total UK & Ireland £m	Canada Personal £m	Canada Commercial £m	Total Canada £m	Total core markets £m	Manage-for-value £m	Total continuing operation £m
General insurance											
Gross written premiums	2,301	2,338	4,639	412	5,051	2,118	1,153	3,271	8,322	1,768	10,090
Net written premiums	2,232	2,008	4,240	390	4,630	2,075	1,021	3,096	7,726	1,674	9,400
Net earned premiums	2,277	1,908	4,185	407	4,592	2,055	985	3,040	7,632	1,644	9,276
Net claims incurred	(1,195)	(1,388)	(2,583)	(243)	(2,826)	(1,154)	(699)	(1,853)	(4,679)	(1,058)	(5,737)
Of which claims handling costs			(139)	(14)	(153)			(122)	(275)	(51)	(326)
Earned commission	(618)	(381)	(999)	(57)	(1,056)	(411)	(236)	(647)	(1,703)	(328)	(2,031)
Earned expenses	(292)	(248)	(540)	(88)	(628)	(228)	(150)	(378)	(1,006)	(151)	(1,157)
Underwriting result	172	(109)	63	19	82	262	(100)	162	244	107	351
Long-term investment return (LTIR)			132	12	144			130	274	57	331
Other[1]			(13)	—	(13)			(5)	(18)	(9)	(27)
Operating profit‡#			182	31	213			287	500	155	655
General insurance combined operating ratio‡											
Claims ratio‡	52.5%	72.7%	61.7%	59.6%	61.5%	56.1%	71.0%	61.0%	61.3%	64.4%	61.8%
Of which:											
Prior year reserve development (%)			1.0%	(2.5)%	0.7%			0.8%	0.7%	1.0%	0.8%
Weather claims (under)/over long-term average (%)			(0.8)%	(2.3)%	(0.9)%			(0.2)%	(0.6)%	0.0%	(0.5)%
Commission ratio‡	27.1%	20.0%	23.9%	14.0%	23.0%	20.0%	24.0%	21.3%	22.3%	19.9%	21.9%
Expense ratio‡	12.8%	13.0%	12.9%	21.6%	13.7%	11.1%	15.2%	12.4%	13.2%	9.2%	12.5%
Combined operating ratio‡	92.4%	105.7%	98.5%	95.2%	98.2%	87.2%	110.2%	94.7%	96.8%	93.5%	96.2%
Assets supporting general insurance business											
Debt securities					2,402			4,773	7,175	2,350	9,525
Equity securities					2			238	240	25	265
Investment property					352			—	352	183	535
Cash and cash equivalents					2,666			217	2,883	131	3,014
Other[2]					1,497			396	1,893	461	2,354
Assets at 31 December 2020					6,919			5,624	12,543	3,150	15,693
Debt securities					2,483			4,633	7,116	2,049	9,165
Equity securities					744			231	975	161	1,136
Investment property					414			—	414	170	584
Cash and cash equivalents					658			158	816	111	927
Other[2]					1,893			150	2,043	376	2,419
Assets at 31 December 2019					6,192			5,172	11,364	2,867	14,231
Average assets					6,556			5,398	11,954	3,008	14,962
LTIR as % of average assets					2.2%			2.4%	2.3%	1.9%	2.2%

1 Includes the result of non-insurance operations, unwind of discount rate and pension scheme net finance costs.
2 Includes loans and other financial investments.

Profit drivers continued

7.ii – General insurance profit drivers continued

2019	UK Personal £m	UK Commercial £m	Total UK £m	Ireland £m	Total UK & Ireland £m	Canada Personal £m	Canada Commercial £m	Total Canada £m	Total core markets £m	Manage-for-value £m	Total continuing operations £m
General insurance											
Gross written premiums	2,470	2,154	4,624	442	5,066	2,134	1,070	3,204	8,270	1,679	9,949
Net written premiums	2,399	1,819	4,218	420	4,638	2,100	961	3,061	7,699	1,597	9,296
Net earned premiums	2,440	1,721	4,161	422	4,583	2,078	884	2,962	7,545	1,560	9,105
Net claims incurred	(1,545)	(1,049)	(2,594)	(257)	(2,851)	(1,421)	(531)	(1,952)	(4,803)	(1,049)	(5,852)
Of which claims handling costs			(155)	(12)	(167)			(116)	(283)	(52)	(335)
Earned commission	(599)	(364)	(963)	(56)	(1,019)	(378)	(194)	(572)	(1,591)	(309)	(1,900)
Earned expenses	(279)	(239)	(518)	(77)	(595)	(233)	(140)	(373)	(968)	(148)	(1,116)
Underwriting result	17	69	86	32	118	46	19	65	183	54	237
Long-term investment return (LTIR)			166	15	181			133	314	61	375
Other[1]			(2)	—	(2)			(7)	(9)	(8)	(17)
Operating profit‡#			250	47	297			191	488	107	595
General insurance combined operating ratio‡											
Claims ratio‡	63.3%	60.9%	62.3%	61.0%	62.2%	68.4%	60.0%	65.9%	63.7%	67.2%	64.4%
Of which:											
Prior year reserve development (%)			(2.6)%	0.6%	(2.3)%			(0.6)%	(1.6)%	(2.5)%	(1.7)%
Weather claims (under)/over long-term average (%)			(2.4)%	(2.0)%	(2.3)%			(0.7)%	(1.7)%	2.0%	(1.0)%
Commission ratio‡	24.6%	21.2%	23.1%	13.3%	22.2%	18.2%	22.0%	19.3%	21.1%	19.8%	20.8%
Expense ratio‡	11.4%	13.9%	12.5%	18.3%	13.1%	11.2%	15.8%	12.6%	12.9%	9.5%	12.3%
Combined operating ratio‡	99.3%	96.0%	97.9%	92.6%	97.5%	97.8%	97.8%	97.8%	97.7%	96.5%	97.5%
Assets supporting general insurance business											
Debt securities					2,483			4,633	7,116	2,049	9,165
Equity securities					744			231	975	161	1,136
Investment property					414			—	414	170	584
Cash and cash equivalents					658			158	816	111	927
Other[2]					1,893			150	2,043	376	2,419
Assets at 31 December 2019					6,192			5,172	11,364	2,867	14,231
Debt securities					2,539			4,445	6,984	2,007	8,991
Equity securities					634			208	842	24	866
Investment property					380			—	380	148	528
Cash and cash equivalents					742			130	872	323	1,195
Other[2]					1,872			207	2,079	525	2,604
Assets at 31 December 2018					6,167			4,990	11,157	3,027	14,184
Average assets					6,180			5,081	11,261	2,947	14,208
LTIR as % of average assets					2.9%			2.6%	2.8%	2.1%	2.6%

1 Includes the result of non-insurance operations, unwind of discount rate and pension scheme net finance costs.
2 Includes loans and other financial investments.

Financial supplement

Income & expenses and IFRS capital

A1 – Group adjusted operating profit‡#

The table below reconciles operating profit as presented in Overview section 6 Our Market performance to operating profit as presented in note B6(a) Segmental information.

2020	UK & Ireland Life £m	General Insurance: UK & Ireland GI £m	General Insurance: Canada £m	Aviva Investors £m	Manage-for-value: France £m	Manage-for-value: Italy £m	Manage-for-value: Poland £m	Manage-for-value: Other £m	Total £m
UK & Ireland Life	**1,907**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**1,907**
General Insurance	**—**	**213**	**287**	**—**	**—**	**—**	**—**	**—**	**500**
Aviva Investors	**—**	**—**	**—**	**85**	**—**	**—**	**—**	**—**	**85**
Manage-for-value	**—**	**—**	**—**	**—**	**467**	**298**	**196**	**38**	**999**
	1,907	**213**	**287**	**85**	**467**	**298**	**196**	**38**	**3,491**
Other Group operations (note A3)									**(22)**
Corporate centre (note A4)									**(250)**
Group debt costs and other interest (note A5)									**(370)**
Group adjusted operating profit from continuing operations									**2,849**
Group adjusted operating profit from discontinued operations									**312**
Group adjusted operating profit before tax attributable to shareholders' profits									**3,161**

Restated[1] 2019	UK & Ireland Life[2] £m	General Insurance: UK & Ireland GI £m	General Insurance: Canada £m	Aviva Investors £m	Manage-for-value: France £m	Manage-for-value: Italy £m	Manage-for-value: Poland £m	Manage-for-value: Other £m	Total £m
UK & Ireland Life	1,974	—	—	—	—	—	—	—	1,974
General Insurance	—	297	191	—	—	—	—	—	488
Aviva Investors	—	—	—	96	—	—	—	—	96
Manage-for-value	—	—	—	—	473	195	194	37	899
	1,974	297	191	96	473	195	194	37	3,457
Other Group operations (note A3)									(21)
Corporate centre (note A4)									(183)
Group debt costs and other interest (note A5)									(320)
Group adjusted operating profit from continuing operations									2,933
Group adjusted operating profit from discontinued operations									251
Group adjusted operating profit before tax attributable to shareholders' profits									3,184

1 The 2019 comparative results have been restated from those previously published due to a change in the presentation of segmental information and to reclassify certain operations in Asia as discontinued operations as described in section B2.
2 The comparative amounts for the year ended 31 December 2019 have been amended to reclassify net interest expense from UK & Ireland Life to Group debt costs and other interest. The change has no impact on the Group's profit before tax attributable to shareholder's profits or operating profit before tax attributable to shareholders' profits.

A2 – Reconciliation of Group adjusted operating profit‡# to profit for the year

	2020 £m	2019 £m
Group adjusted operating profit before tax attributable to shareholders' profits	**3,161**	3,184
Adjusted for the following:		
Life business: Investment variances and economic assumption changes (note A6)	**174**	654
Non-life business: Short-term fluctuation in return on investments (note A7)	**(64)**	167
General insurance and health business: Economic assumption changes (note A8)	**(104)**	(54)
Impairment of goodwill, joint ventures, associates and other amounts expensed (note A9)	**(30)**	(15)
Amortisation and impairment of intangibles acquired in business combinations (note A10)	**(76)**	(87)
Amortisation and impairment of acquired value of in-force business (note A11)	**(278)**	(406)
Profit/(loss) on the disposal and remeasurement of subsidiaries, joint ventures and associates (note A12)	**725**	(22)
Other (note A13)	**(34)**	(47)
Adjusting items before tax	**313**	190
Profit before tax attributable to shareholders' profits from continuing operations and discontinued operations	**3,474**	3,374
Tax on group adjusted operating profit	**(634)**	(668)
Tax on other activities	**70**	(43)
	(564)	(711)
Profit for the year	**2,910**	2,663

Other Group adjusted operating profit items
A3 – Other Group operations

	2020 £m	Restated[1] 2019 £m
Other Group operations	**(22)**	(21)
Total	**(22)**	(21)

1 The 2019 comparative results have been restated from those previously published due to a change in the presentation of segmental information.

Other Group operations loss of £22 million *(2019 restated: £21 million loss)* includes investment return on centrally held assets, the results of our internal reinsurance businesses and the results of other operations.

A4 – Corporate centre costs

	2020 £m	2019 £m
Project spend	**(42)**	(30)
Central spend and share award costs	**(208)**	(153)
Total	**(250)**	(183)

Corporate centre costs of £250 million *(2019: £183 million)* increased by £67 million mainly due to the centre share of Aviva's charitable donations to help those most affected by COVID-19 of £34 million and the centre share of accelerated onerous contract costs arising from the reduction in our UK property footprint of £12 million. The increase in project spend relates to continued targeted investment in IT.

A5 – Group debt costs and other interest

	2020 £m	2019 £m
External debt		
Subordinated debt	**(352)**	(336)
Other	**(15)**	(15)
Total external debt	**(367)**	(351)
Internal lending arrangements[1]	**(48)**	(49)
Net finance income on main UK pension scheme	**45**	80
Total	**(370)**	(320)

1 Following a review of the presentation of intercompany loan interest, to achieve consistency in our reporting, comparative amounts have been amended to reclassify net interest expense from UK & Ireland Life to Group debt costs and other interest, of £65 million for the year ended 31 December 2019 as a non-operating item. The change has no impact on the Group's operating profit.

The increase in subordinated debt costs is due to the issue of new subordinated debt in the year (see note B17). The reduction in net finance income on the main UK pension scheme is driven by the lower opening scheme surplus arising from the bulk annuity buy-in transaction in 2019 which was recognised as an actuarial loss (see note B19).

Non-operating profit items
A6 – Life business: Investment variances and economic assumption changes
(a) Definitions
Group adjusted operating profit for life business is based on expected long-term investment returns on financial investments backing shareholder funds over the period, with consistent allowance for the corresponding expected movements in liabilities. Group adjusted operating profit includes the effect of variance in experience for operating items, such as mortality, persistency and expenses, and the effect of changes in operating assumptions. 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 Group adjusted operating profit, in investment variances and economic assumption changes.

(b) Methodology
The expected investment returns and corresponding expected movements in life business liabilities are calculated separately for each principal life business unit.

The expected return on investments for both policyholders' and shareholders' funds is based on opening economic assumptions applied to the expected funds under management over the reporting period. Expected investment return assumptions are derived actively, based on market yields on risk-free fixed interest assets at the end of each financial year. The same margins are applied on a consistent basis across the Group to gross risk-free yields, to obtain investment return assumptions for equity and property. Expected funds under management are equal to the opening value of funds under management, adjusted for sales and purchases during the period arising from expected operating experience.

The actual investment return is affected by differences between the actual and expected funds under management and changes in asset mix, as well as movements in interest rates. To the extent that these differences arise from the operating experience of the life business, or management decisions to change asset mix, the effect is included in the Group adjusted operating profit. The residual difference between actual and expected investment return is included in investment variances, outside Group adjusted operating profit but included in profit before tax.

A6 – Life business: Investment variances and economic assumption changes continued

(b) Methodology continued

The movement in liabilities included in Group adjusted operating profit reflects both the change in liabilities due to the expected return on investments and the impact of experience variances and assumption changes for non-economic items. This would include movements in liabilities due to changes in the discount rate arising from discretionary management decisions that impact on product profitability over the lifetime of products.

The effect of differences between actual and expected economic experience on liabilities, and changes to economic assumptions used to value liabilities, are taken outside Group adjusted operating profit. For many types of life business, including unit-linked and with-profits funds, movements in asset values are offset by corresponding changes in liabilities, limiting the net impact on profit. The profit impact of economic volatility on other life business depends on the degree of matching of assets and liabilities, and exposure to financial options and guarantees.

(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 equity and property are:

	Equity		Property	
	2020	2019	**2020**	2019
United Kingdom	**4.5%**	4.9%	**3.0%**	3.4%
France[1]	**4.5%**	4.3%	**3.5%**	2.8%
Other Eurozone	**3.7%**	4.3%	**2.2%**	2.8%

1 In light of the current unprecedented low interest rates, the expected investment return on equity and property in France have been determined taking into account local economic and market forecasts of the long-term return. The impact of this change is an increase of £12 million to the expected return on the life business over 2020.

The expected return on equity and property has been calculated by reference to the ten-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	2020	2019
Equity risk premium	**3.5%**	3.5%
Property risk premium	**2.0%**	2.0%

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

Territories	2020	2019
United Kingdom	**1.0%**	1.4%
Eurozone	**0.2%**	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.

(d) Investment variances and economic assumption changes

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

Life business	2020 £m	2019 £m
Investment variances and economic assumptions	**174**	654

Investment variances and economic assumption changes were £174 million positive *(2019: £654 million positive)*, mainly due to a reduction in yields, partially offset by a reduction in equities in the UK and France.

At 31 December 2019 we included a specific allowance for the possible adverse impacts of the UK's exit from the European Union on UK commercial and residential property, which we have now removed. Our future property growth assumptions are reviewed on a quarterly basis and as at 31 December 2020 they include a cumulative 5-year growth assumption, from 2021-25, of -1% for UK commercial property (with variation by sector) and 4% for UK residential property.

Investment variance and economic assumption changes in 2019 was primarily due to the UK where there was a positive variance as a result of a reduction in yields, a narrowing of fixed income spreads and a consequent impact from economic assumption changes, including an alignment of methodology across the UK, partially offset by the impact of increases in equities. The impact of yields and equities reflect that we hedge on an economic rather than on an IFRS basis.

A7 – Non-life business: Short-term fluctuation in return on investments

(a) Definitions

Group adjusted operating profit for non-life business is based on an expected long-term investment return over the period. Any variance between the total investment return (including realised and unrealised gains) and the expected return over the period is disclosed separately outside Group adjusted operating profit, in short-term fluctuations.

(b) Methodology

The long-term investment return is calculated separately for each principal non-life market. In respect of equities and investment properties, the return is calculated by multiplying the opening market value of the investments, adjusted for sales and purchases during the year, by the long-term rate of investment return.

The long-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 long-term return for other investments (including debt securities) is the actual income receivable for the year. Actual income and long-term investment return both contain the amortisation of the discounts/premium arising on the acquisition of fixed income securities. For other operations, the long-term return reflects assets backing non-life business held in Group centre investments.

Market value movements which give rise to variances between actual and long-term investment returns are disclosed separately in short-term fluctuations outside Group adjusted 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.

(c) Assumptions

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

	Long-term rate of return on equities		Long-term rate of return on property	
	2020	2019	**2020**	2019
United Kingdom	**4.5%**	4.9%	**3.0%**	3.4%
France[1]	**4.5%**	4.3%	**3.5%**	2.8%
Other Eurozone	**3.7%**	4.3%	**2.2%**	2.8%
Canada	**5.7%**	6.0%	**4.2%**	4.5%

1 In light of the current unprecedented low interest rates, the expected investment return on equity and property in France have been determined taking into account local economic and market forecasts of the long-term return. The impact of this change is an increase of £5 million to the expected return on the general insurance business over 2020.

The long-term rates of return on equities and properties have been calculated by reference to the ten-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 for the United Kingdom and eurozone are shown in note A6(c).

(d) Analysis of investment return

The total investment income on our non-life business, including short-term fluctuations, are as follows:

General Insurance and health	**2020 £m**	2019 £m
Analysis of investment income:		
– Net investment income	**365**	622
– Foreign exchange (losses)/gains and other charges	**(45)**	55
	320	677
Analysed between:		
– Long-term investment return, reported within Group adjusted operating profit	**335**	381
– Short-term fluctuations in investment return, reported outside Group adjusted operating profit	**(15)**	296
	320	677
Short-term fluctuations:		
– General insurance and health	**(15)**	296
– Other operations[1]	**(49)**	(129)
Total short-term fluctuations	**(64)**	167

1 Other operations represents short-term fluctuations on assets backing non-life business in Group centre investments, including the centre hedging programme.

The short-term fluctuations during 2020 of £64 million adverse is primarily due to falling equity markets and foreign exchange losses. These losses are partly offset by an increase in the value of fixed income securities as a result of falls in interest rates.

The short-term fluctuations during 2019 of £167 million favourable is primarily due to strong market conditions across all our major markets. This resulted in significant gains on equities plus gains on fixed income securities driven by interest rates falling and a narrowing of credit spreads. These gains are partly offset by losses on hedges held by the Group, including the Group centre hedging programme, and other adverse movements on centre holdings.

A8 – General insurance and health business: Economic assumption changes

In the general insurance and health business, there is a negative impact of £104 million *(2019: £54 million negative)* primarily as a result of a decrease in the interest rates used to discount claims reserves for both periodic payment orders (PPOs) and latent claims.

A9 – Impairment of goodwill, joint ventures, associates and other amounts expensed

Impairment of goodwill, associates and joint ventures and other amounts expensed in the year is a charge of £30 million *(2019: £15 million charge)*.

A10 – Amortisation and impairment of intangibles acquired in business combinations

The amortisation and impairment of intangible assets acquired in business combinations decreased to a charge of £76 million *(2019: £87 million charge)* mainly due to intangible assets which were amortised in full in 2020.

A11 – Amortisation and impairment of acquired value of in-force business

Amortisation of acquired value of in-force business (AVIF) is a charge of £278 million *(2019: £406 million charge)*, which relates solely to amortisation in respect of the Group's subsidiaries and joint ventures. Impairment charges of £19 million *(2019: £28 million charge)* in relation to Friends Provident International Limited (FPI) remeasurement losses are recorded within profit/loss on disposal and remeasurement of subsidiaries, joint ventures and associates. See note A12.

A12 – Profit/loss on the disposal and remeasurement of subsidiaries, joint ventures and associates

The total Group profit on disposal and remeasurement of subsidiaries, joint ventures and associates is £725 million *(2019: £22 million loss)*. This comprises of net gains arising on the disposals of FPI, Singapore, Indonesia and Hong Kong. Further details of these items are provided in note B5.

A13 – 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. At 31 December 2020, other items is a charge of £34 million *(2019: £47 million charge)*, which comprises the following:

- A charge of £16 million in relation to costs from contracts that have become onerous following the disposals of FPI, Singapore, Indonesia and Hong Kong; and
- A charge of £18 million in relation to the estimated additional liability arising in the UK defined benefit pension schemes as a result of the requirement to equalise members' benefits for the effects of Guaranteed Minimum Pension (GMP) for former members.

At 31 December 2019, other items comprised the following:

- A charge of £45 million in relation to a change in the discount rate used for estimating lump sum payments in settlement of bodily injury claims; and
- A charge of £2 million relating to the negative goodwill which arose on the acquisition of Friends First in 2018.

IFRS capital
A14 – IFRS net asset value

	2020 £m	2020 pence per share[2]	2019 £m	2019 pence per share[2]
Equity attributable to shareholders of Aviva plc at 1 January[1]	**17,008**	**434p**	16,558	424p
Adjustment at 1 January 2019 for adoption of IFRS 16[3]	**—**	**—**	(110)	(3)p
Equity attributable to shareholders of Aviva plc at 1 January restated[1]	**17,008**	**434p**	16,448	421p
Group adjusted operating profit	**3,161**	**80p**	3,184	80p
Investment return variances and economic assumption changes on life and non-life business	**6**	**—**	767	19p
Amortisation and impairment of intangibles, joint ventures, associates and other amounts expensed	**(106)**	**(3)p**	(102)	(3)p
Amortisation and impairment of acquired value of in-force business	**(278)**	**(7)p**	(406)	(10)p
Profit/(loss) on the disposal and remeasurements of subsidiaries, joint ventures and associates	**725**	**18p**	(22)	(1)p
Other[4]	**(34)**	**(1)p**	(47)	(1)p
Tax on operating profit and on other activities	**(564)**	**(14)p**	(711)	(18)p
Non-controlling interests	**(112)**	**(3)p**	(115)	(3)p
Profit after tax attributable to shareholders of Aviva plc	**2,798**	**70p**	2,548	63p
Available for sale (AFS) securities fair value and other reserve movements	**32**	**1p**	41	1p
Ordinary dividends	**(236)**	**(6)p**	(1,184)	(30)p
Direct capital instrument and tier 1 notes interest and preference share dividend	**(44)**	**(1)p**	(51)	(1)p
Foreign exchange rate movements	**(81)**	**(2)p**	(170)	(4)p
Remeasurements of pension schemes (net of tax)	**(171)**	**(4)p**	(763)	(19)p
Other net equity movements	**48**	**1p**	139	3p
Equity attributable to shareholders of Aviva plc at 31 December[1]	**19,354**	**493p**	17,008	434p

1 Excluding preference shares of £200 million *(2019: £200 million)*.
2 Number of shares as at 31 December 2020: 3,928 million *(2019: 3,921 million)*.
3 The Group adopted IFRS 16 Leases from 1 January 2019. In line with the transition options available, impact of the adoption was shown as an adjustment to opening retained earnings.
4 Other in 2020 includes a charge of £16 million relating to costs on contracts that have become onerous following the disposals of FPI, Singapore, Indonesia and Hong Kong and a charge of £18 million relating to the estimated additional liability arising in the UK defined benefit pension schemes as a result of the requirement to equalise members' benefits for the effects of Guaranteed Minimum Pension (GMP). Other in 2019 relates to a charge of £45 million in relation to a change in the discount rate used for estimating lump sum payments in settlement of bodily injury claims and a charge of £2 million relating to negative goodwill which arose on the acquisition of Friends First.

At 31 December 2020, IFRS net asset value per share was 493 pence *(2019: 434 pence)*. The increase of 59.0p, compared to 2019, reflects the increase in profit before tax combined with the net actuarial loss on remeasurement of pension schemes and the dividend payments in the year.

Income & expenses and IFRS capital continued

A15 – IFRS return on equity‡#

2020	Operating profit: Before tax attributable to shareholders' profits £m	Operating profit: After tax attributable to shareholders' profits £m	Weighted average shareholders' funds including non-controlling interests £m	Return on equity %
UK & Ireland Life	**1,907**	**1,570**	**11,953**	**13.1%**
UK & Ireland General Insurance	**213**	**190**	**1,287**	**14.8%**
Canada	**287**	**224**	**1,479**	**15.1%**
Aviva Investors	**85**	**66**	**508**	**13.0%**
Manage-for-value[1]	**1,311**	**1,018**	**5,834**	**17.4%**
Other Group activities[2]	**(275)**	**(245)**	**6,994**	**N/A**
Return on total capital employed	**3,528**	**2,823**	**28,055**	**10.1%**
Subordinated debt	**(352)**	**(284)**	**(6,974)**	**4.1%**
Senior debt	**(15)**	**(12)**	**(1,375)**	**0.9%**
Return on total equity	**3,161**	**2,527**	**19,706**	**12.8%**
Less: Non-controlling interests		**(98)**	**(1,002)**	**9.8%**
Direct capital instrument		**(27)**	**(125)**	**21.6%**
Preference shares		**(17)**	**(200)**	**8.5%**
Return on equity shareholders' funds		**2,385**	**18,379**	**13.0%**

1 The Manage-for-value operating profit before tax attributable to shareholders' profits of £1,311 million includes £312 million discontinued operations as described in note B2.
2 The other Group activities operating loss before tax of £275 million comprises corporate centre costs of £250 million, other business operating loss of £22 million, partly increased by interest on internal lending arrangements of £48 million and finance income on the main UK pension scheme of £45 million.

Restated[1] 2019	Operating profit: Before tax attributable to shareholders' profits £m	Operating profit: After tax attributable to shareholders' profits £m	Weighted average shareholders' funds including non-controlling interests £m	Return on equity %
UK & Ireland Life[2]	1,974	1,644	10,457	15.7%
UK & Ireland General Insurance	297	243	1,477	16.5%
Canada	191	140	1,406	10.0%
Aviva Investors	96	66	515	12.8%
Manage-for-value[3]	1,150	834	5,893	14.2%
Other Group activities[2,4]	(173)	(127)	6,611	N/A
Return on total capital employed	3,535	2,800	26,359	10.6%
Subordinated debt	(336)	(272)	(6,303)	4.3%
Senior debt	(15)	(12)	(1,345)	0.9%
Return on total equity	3,184	2,516	18,711	13.4%
Less: Non-controlling interests		(98)	(975)	10.1%
Direct capital instrument and tier 1 notes		(34)	(674)	5.0%
Preference shares		(17)	(200)	8.5%
Return on equity shareholders' funds		2,367	16,862	14.0%

1 The 2019 comparative results have been restated from those previously published relating to the change in presentation of segmental information. See note B2.
2 Following a review of the presentation of intercompany loan interest, comparative amounts for the year ended 31 December 2019 have been amended to reclassify net interest expense from UK & Ireland Life to Other Group activities, of before tax £65 million (after tax £53 million) as a non-operating item. The change has no impact on the Group's operating profit.
3 The Manage-for-value operating profit before tax attributable to shareholders' profits of £1,150 million includes £251 million discontinued operations as described in note B2.
4 The other Group activities operating loss before tax of £173 million comprises corporate centre costs of £183 million, other business operating loss of £21 million (restated), partly offset by interest expense on internal lending arrangements of £49 million (restated) and finance income on the main UK pension scheme of £80 million.

A16 – Group capital under IFRS basis

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

	2020 £m	Restated[1] 2019 £m
UK & Ireland Life	**12,654**	10,962
UK & Ireland General Insurance[2]	**1,415**	1,460
Canada	**1,501**	1,376
Aviva Investors	**498**	511
Manage-for-value	**5,417**	5,752
Other Group activities[2,3]	**7,328**	6,120
Total capital employed	**28,813**	26,181
Financed by		
Equity shareholders' funds	**19,354**	17,008
Non-controlling interests	**1,006**	977
Direct capital instrument	**—**	500
Preference shares	**200**	200
Subordinated debt	**7,033**	6,206
Senior debt	**1,220**	1,290
Total capital employed[4]	**28,813**	26,181

1 The 2019 comparative results have been restated from those previously published relating to the change in presentation of segmental information. See note B2.
2 Capital employed for United Kingdom General Insurance excludes £0.9 billion *(2019: £0.9 billion)* of goodwill which does not support the general insurance business for capital purposes and is included in other Group activities.
3 Other Group activities include centrally held tangible net assets, the main UK staff pension scheme surplus and also reflect 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.
4 Goodwill, AVIF and other intangibles are maintained within the capital base. Goodwill includes goodwill in subsidiaries of £1,799 million *(2019: £1,855 million)* and goodwill in joint ventures of £9 million *(2019: £11 million)*. AVIF and other intangibles comprise £2,434 million *(2019: £2,800 million)* of intangibles in subsidiaries and £3 million *(2019: £27 million)* of intangibles in joint ventures, net of deferred tax liabilities of £(397) million *(2019: £(413) million)* and the non-controlling interest share of intangibles of £(25) million *(2019: £(28) million)*.

Total capital employed is financed by a combination of equity shareholders' funds, preference capital, subordinated debt and other borrowings.

On 27 July 2020, Group redeemed its 5.9021% £500 million direct capital instrument in full.

At 31 December 2020 the market value of our external debt (subordinated debt and senior debt) and preference shares (including both Aviva plc preference shares of £200 million and General Accident plc preference shares, within non-controlling interests, of £250 million) was £10,233 million. At 31 December 2019 the market value of our external debt (subordinated debt and senior debt), preference shares (including both Aviva plc preference shares of £200 million and General Accident plc preference shares, with non-controlling interests, of £250 million), and direct capital instrument was £9,764 million.

IFRS financial statements

Consolidated financial statements

Consolidated income statement

For the year ended 31 December 2020

	Note	2020 £m	2019[1] £m
Continuing operations			
Income			
Gross written premiums		**29,015**	29,711
Premiums ceded to reinsurers		**(3,638)**	(3,184)
Premiums written net of reinsurance		**25,377**	26,527
Net change in provision for unearned premiums		**(123)**	(193)
Net earned premiums		**25,254**	26,334
Fee and commission income		**1,946**	1,936
Net investment income		**19,330**	39,611
Share of profit after tax of joint ventures and associates		**27**	94
Profit on the disposal and remeasurement of subsidiaries, joint ventures and associates		**12**	6
		46,569	67,981
Expenses			
Claims and benefits paid, net of recoveries from reinsurers		**(21,045)**	(22,092)
Change in insurance liabilities, net of reinsurance	B10(b)	**(6,640)**	(5,670)
Change in investment contract provisions		**(6,413)**	(23,878)
Change in unallocated divisible surplus		**(1,528)**	(3,616)
Fee and commission expense		**(4,161)**	(3,924)
Investment expense attributable to unitholders		**(579)**	(1,355)
Other expenses		**(3,037)**	(3,057)
Finance costs		**(553)**	(568)
		(43,956)	(64,160)
Profit before tax		**2,613**	3,821
Tax attributable to policyholders' returns	B7(d)	**(43)**	(501)
Profit before tax attributable to shareholders' profits		**2,570**	3,320
Tax expense	B7(a)	**(571)**	(1,201)
Less: tax attributable to policyholders' returns	B7(d)	**43**	501
Tax attributable to shareholders' profits		**(528)**	(700)
Profit from continuing operations		**2,042**	2,620
Profit from discontinued operations	B5(d)	**868**	43
Profit for the year		**2,910**	2,663
Attributable to:			
Equity holders of Aviva plc		**2,798**	2,548
Non-controlling interests		**112**	115
Profit for the year		**2,910**	2,663
Earnings per share	B8		
Basic (pence per share)		**70.2**	63.8
Diluted (pence per share)[2]		**69.8**	63.6
Continuing operations – basic (pence per share)		**48.1**	62.7
Continuing operations – diluted (pence per share)[2]		**47.8**	62.5

1 The 2019 comparative results have been re-presented from those previously published to reclassify certain operations in Asia as discontinued operations as described in note B2.
2 Following a revision to the methodology to calculate the dilutive effect of share awards, the 2019 comparative amounts have been amended from those previously reported. See note B8 for more information.

Consolidated statement of comprehensive income

For the year ended 31 December 2020

	Note	2020 £m	2019[1] £m
Profit for the year from continuing operations		**2,042**	2,620
Other comprehensive income from continuing operations:			
Items that may be reclassified subsequently to income statement			
Investments classified as available for sale			
Fair value gains		**22**	39
Fair value gains transferred to profit on disposals		**(7)**	(19)
Share of other comprehensive income of joint ventures and associates		**17**	22
Foreign exchange rate movements		**131**	(193)
Aggregate tax effect – shareholder tax on items that may be reclassified subsequently to income statement	B7(b)	**(11)**	6
Items that will not be reclassified to income statement			
Owner-occupied properties – fair value gains		**3**	3
Remeasurements of pension schemes		**(150)**	(867)
Aggregate tax effect – shareholder tax on items that will not be reclassified subsequently to income statement	B7(b)	**(22)**	103
Total other comprehensive income, net of tax from continuing operations		**(17)**	(906)
Total comprehensive income for the year from continuing operations		**2,025**	1,714
Profit for the year from discontinued operations	B5(d)	**868**	43
Other comprehensive income, net of tax from discontinued operations	B5(d)	**4**	(26)
Total comprehensive income for the year from discontinued operations		**872**	17
Total comprehensive income for the year		**2,897**	1,731
Attributable to:			
Equity holders of Aviva plc			
From continuing operations		**1,880**	1,637
From discontinued operations		**871**	18
Non-controlling interests			
From continuing operations		**145**	77
From discontinued operations		**1**	(1)
		2,897	1,731

1 The 2019 comparative results have been re-presented from those previously published to reclassify certain operations in Asia as discontinued operations as described in note B2.

Consolidated financial statements continued

Consolidated statement of changes in equity

For the year ended 31 December 2020

	Ordinary share capital £m	Preference share capital £m	Capital reserves[1] £m	Treasury shares £m	Currency translation reserve £m	Other reserves £m	Retained earnings £m	DCI £m	Total equity excluding non-controlling interests £m	Non-controlling interests £m	Total equity £m
Balance at 1 January	**980**	**200**	**10,257**	**(7)**	**814**	**(101)**	**5,065**	**500**	**17,708**	**977**	**18,685**
Profit for the year	—	—	—	—	—	—	2,798	—	2,798	112	2,910
Other comprehensive income	—	—	—	—	221	(97)	(171)	—	(47)	34	(13)
Total comprehensive income for the year	—	—	—	—	221	(97)	2,627	—	2,751	146	2,897
Dividends and appropriations	—	—	—	—	—	—	(280)	—	(280)	—	(280)
Non-controlling interests share of dividends declared in the year	—	—	—	—	—	—	—	—	—	(30)	(30)
Reclassification of DCI to financial liabilities[2]	—	—	—	—	—	—	1	(500)	(499)	—	(499)
Reserves credit for equity compensation plans	—	—	—	—	—	37	—	—	37	—	37
Shares issued under equity compensation plans	2	—	3	1	—	(51)	46	—	1	—	1
Treasury shares held by subsidiary companies	—	—	—	—	—	—	—	—	—	—	—
Forfeited dividend income	—	—	—	—	—	—	2	—	2	—	2
Changes in non-controlling interests in subsidiaries	—	—	—	—	—	—	7	—	7	(61)	(54)
Change in equity accounted option	—	—	—	—	—	—	—	—	—	—	—
Transfer to profit on disposal of subsidiaries, joint ventures and associates	—	—	—	—	(173)	—	—	—	(173)	(26)	(199)
Aggregate tax effect – shareholder tax	—	—	—	—	—	—	—	—	—	—	—
Balance at 31 December	**982**	**200**	**10,260**	**(6)**	**862**	**(212)**	**7,468**	**—**	**19,554**	**1,006**	**20,560**

1 Capital reserves consist of share premium of £1,242 million, a capital redemption reserve of £44 million and a merger reserve of £8,974 million.
2 On 23 June 2020, notification was given that the Group would redeem the 5.9021% £500 million DCI. The instrument was reclassified as a financial liability of £499 million, representing its fair value, and the difference of £1 million charged to retained earnings. On 27 July 2020, the instrument was redeemed in full. See note B21 for further information.

For the year ended 31 December 2019

	Ordinary share capital £m	Preference share capital £m	Capital reserves[1] £m	Treasury shares £m	Currency translation reserve £m	Other reserves £m	Retained earnings £m	DCI & Tier 1 notes £m	Total equity excluding non-controlling interests £m	Non-controlling interests £m	Total equity £m
Balance at 1 January	975	200	10,232	(15)	1,122	(279)	4,523	731	17,489	966	18,455
Adjustment at 1 January 2019 for adoption of IFRS 16[2]	—	—	—	—	—	—	(110)	—	(110)	—	(110)
Balance at 1 January restated[2]	975	200	10,232	(15)	1,122	(279)	4,413	731	17,379	966	18,345
Profit for the year	—	—	—	—	—	—	2,548	—	2,548	115	2,663
Other comprehensive income	—	—	—	—	(308)	178	(763)	—	(893)	(39)	(932)
Total comprehensive income for the year	—	—	—	—	(308)	178	1,785	—	1,655	76	1,731
Dividends and appropriations	—	—	—	—	—	—	(1,244)	—	(1,244)	—	(1,244)
Non-controlling interests share of dividends declared in the year	—	—	—	—	—	—	—	—	—	(63)	(63)
Reclassification of tier 1 notes to financial liabilities[3]	—	—	—	—	—	—	21	(231)	(210)	—	(210)
Reserves credit for equity compensation plans	—	—	—	—	—	62	—	—	62	—	62
Shares issued under equity compensation plans	5	—	25	(5)	—	(62)	55	—	18	—	18
Treasury shares held by subsidiary companies	—	—	—	13	—	—	—	—	13	—	13
Forfeited dividend income	—	—	—	—	—	—	4	—	4	—	4
Changes in non-controlling interests in subsidiaries	—	—	—	—	—	—	—	—	—	(2)	(2)
Change in equity accounted option	—	—	—	—	—	—	22	—	22	—	22
Transfer to profit on disposal of subsidiaries, joint ventures and associates	—	—	—	—	—	—	—	—	—	—	—
Aggregate tax effect – shareholder tax	—	—	—	—	—	—	9	—	9	—	9
Balance at 31 December	980	200	10,257	(7)	814	(101)	5,065	500	17,708	977	18,685

1 Capital reserves consist of share premium of £1,239 million, a capital redemption reserve of £44 million and a merger reserve of £8,974 million.
2 The Group adopted IFRS 16 *Leases* from 1 January 2019. In line with the transition options available, prior period comparatives were not restated and the impact of the adoption was shown as an adjustment to opening retained earnings.
3 On 17 October 2019, notification was given that the Group would redeem the 6.875% £230 million tier 1 notes. The instrument was reclassified as a financial liability of £210 million, representing its fair value, and the difference of £21 million charged to retained earnings. On 21 November 2019, the instrument was redeemed in full.

Consolidated financial statements continued

Consolidated statement of financial position

As at 31 December 2020

	Note	2020 £m	2019 £m
Assets			
Goodwill		**1,799**	1,855
Acquired value of in-force business and intangible assets	B24	**2,434**	2,800
Interests in, and loans to, joint ventures		**1,702**	1,227
Interests in, and loans to, associates		**263**	304
Property and equipment		**768**	889
Investment property		**11,369**	11,203
Loans		**43,679**	38,579
Financial investments		**351,378**	343,418
Reinsurance assets	B14	**13,338**	12,356
Deferred tax assets		**119**	151
Current tax assets		**183**	132
Receivables		**9,352**	8,995
Deferred acquisition costs		**3,264**	3,156
Pension surpluses and other assets		**2,834**	2,799
Prepayments and accrued income		**2,742**	3,143
Cash and cash equivalents		**16,900**	19,524
Assets of operations classified as held for sale	B5(c)	**17,733**	9,512
Total assets		**479,857**	460,043
Equity			
Capital			
Ordinary share capital		**982**	980
Preference share capital		**200**	200
		1,182	1,180
Capital reserves			
Share premium		**1,242**	1,239
Capital redemption reserve		**44**	44
Merger reserve		**8,974**	8,974
		10,260	10,257
Treasury shares		**(6)**	(7)
Currency translation reserve		**862**	814
Other reserves		**(212)**	(101)
Retained earnings		**7,468**	5,065
Equity attributable to shareholders of Aviva plc		**19,554**	17,208
Direct capital instrument and tier 1 notes	B21	**—**	500
Equity excluding non-controlling interests		**19,554**	17,708
Non-controlling interests		**1,006**	977
Total equity		**20,560**	18,685
Liabilities			
Gross insurance liabilities	B11	**152,482**	149,338
Gross liabilities for investment contracts	B13	**222,831**	222,127
Unallocated divisible surplus	B16	**9,736**	9,597
Net asset value attributable to unitholders		**20,301**	16,610
Pension deficits and other provisions		**1,435**	1,565
Deferred tax liabilities		**1,828**	2,155
Current tax liabilities		**114**	569
Borrowings	B17	**9,684**	9,039
Payables and other financial liabilities		**20,667**	18,138
Other liabilities		**3,043**	3,094
Liabilities of operations classified as held for sale	B5(c)	**17,176**	9,126
Total liabilities		**459,297**	441,358
Total equity and liabilities		**479,857**	460,043

Consolidated financial statements continued

Consolidated statement of cash flows

For the year ended 31 December 2020

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	2020 £m	2019[1] £m
Continuing operations			
Cash flows from operating activities[2]			
Cash (used in)/generated from operating activities		**(1,644)**	6,392
Tax paid		**(1,040)**	(543)
Total net cash (used in)/from operating activities		**(2,684)**	5,849
Cash flows from investing activities			
Acquisitions of, and additions to, subsidiaries, joint ventures and associates, net of cash acquired		**(11)**	(19)
Disposals of subsidiaries, joint ventures and associates, net of cash transferred		**12**	12
Purchases of property and equipment		**(97)**	(63)
Proceeds on sale of property and equipment		**3**	4
Purchases of intangible assets		**(72)**	(57)
Total net cash used in investing activities		**(165)**	(123)
Cash flows from financing activities			
Proceeds from issue of ordinary shares		**3**	27
Treasury shares purchased for employee trusts		**(2)**	(9)
New borrowings drawn down, net of expenses		**966**	552
Repayment of borrowings[3]		**(1,005)**	(927)
Net repayment of borrowings		**(39)**	(375)
Interest paid on borrowings		**(536)**	(545)
Preference dividends paid	B9	**(17)**	(17)
Ordinary dividends paid	B9	**(236)**	(1,184)
Forfeited dividend income		**2**	4
Coupon payments on direct capital instrument and tier 1 notes	B9	**(27)**	(43)
Dividends paid to non-controlling interests of subsidiaries		**(30)**	(63)
Other		**(2)**	(5)
Total net cash used in financing activities		**(884)**	(2,210)
Total net (decrease)/increase in cash and cash equivalents from continuing operations		**(3,733)**	3,516
Net cash flows from discontinued operations	B5(d)	**245**	112
Cash and cash equivalents at 1 January		**19,434**	16,051
Effect of exchange rate changes on cash and cash equivalents		**236**	(245)
Cash and cash equivalents at 31 December	B22	**16,182**	19,434

1 The 2019 comparative results have been re-presented from those previously published to reclassify certain operations in Asia as discontinued operations as described in note B2.
2 Cash flows from operating activities include interest received of £5,705 million *(2019: £5,693 million)* and dividends received of £3,434 million *(2019: £5,568 million)*.
3 2020 includes the redemption of 5.902% £500 million direct capital instrument and lease payments of £76 million. 2019 includes the redemption of 6.875% £210 million tier 1 notes.

B1 – Basis of preparation

(a) The results in this preliminary announcement have been taken from the Group's 2020 Annual Report and Accounts which will be available on the Company's website on 9 March 2021. The consolidated financial statements have been prepared and approved by the directors in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006 (IFRS) and the legal requirements of the Companies Act 2006. In addition to complying with international accounting standards in conformity with the requirements of the Companies Act 2006, the consolidated financial statements also comply with international financial reporting standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union (EU).

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 2020 Annual Report and Accounts. The comparative figures have been restated for the adjustments detailed in note B2. The Group has adopted new amendments to published standards as described below.

The preliminary announcement for the year ended 31 December 2020 does not constitute statutory accounts as defined in Section 434 of the Companies Act 2006. The results on an IFRS basis for full year 2020 and 2019 have been audited by PricewaterhouseCoopers LLP (PwC). PwC have reported on the 2020 and 2019 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 2019 Annual Report and Accounts have been filed with the Registrar of Companies.

Going concern

A detailed going concern review has been undertaken as part of the 2020 reporting process. This review includes consideration of the Group's current and forecast solvency and liquidity positions over a three-year period through management's 2021-2023 business plan and evaluates the results of stress and scenario testing. The Group's stress and scenario testing considers the Group's capacity to respond to a series of relevant financial, insurance or operational shocks should future circumstances or events differ from the current assumptions in the business plan, focusing on the impacts on Group solvency, cash remittances and liquidity. The range of scenarios allow for the potential impacts of COVID-19 both directly on the claims and operations of the Group and also on the wider macroeconomic environment, and considers the potential risks associated with the UK's negotiations with the European Union on their future relationship.

Even in severe downside scenarios, no material uncertainty in relation to going concern has been identified, due to the Group's strong solvency and liquidity positions providing considerable resilience to external shocks, underpinned by the Group's approach to risk management (see note B20).

In response to the COVID-19 pandemic, the Group has reduced exposure to equity and interest rate risk, credit spread and counterparty default risk across all our major markets and actions are being taken to further reduce the sensitivity to economic shocks. In the event of major new risks emerging, the Group has a number of actions available to ensure that solvency and liquidity are maintained in line with the Group's risk-appetite levels.

After making enquiries, the directors have a reasonable expectation that the Group has adequate resources to continue in operational existence for a period of at least twelve months from the date of approval of the financial statements. For this reason, the Group continues 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 of our operating segments, the Group focuses on Group adjusted operating profit, a non-GAAP alternative performance measure (APM), that incorporates an expected return on investments supporting its long-term and non-long-term businesses.

Group adjusted 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 Group adjusted 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. The exclusion of short-term realised and unrealised investment gains and losses from the Group adjusted operating profit APM reflects the long-term nature of much of our business and presents separately the operating profit APM which is used in managing the performance of our operating segments from the impact of economic factors.

Group adjusted operating profit excludes impairment of goodwill, associates and joint ventures; amortisation and impairment of intangible assets acquired in business combinations; amortisation and impairment of acquired value of in-force business; and the profit or loss on disposal and remeasurement of subsidiaries, joint ventures and associates. These items principally relate to merger, acquisition and disposal activity which we view as strategic in nature, hence they are excluded from the Group adjusted operating profit APM as this is principally used to manage the performance of our operating segments when reporting to the Group's chief decision maker.

Group adjusted operating profit also excludes Other items, which 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. Details of these items, including an explanation of the rationale for their exclusion, are provided in the relevant notes.

The Group adjusted operating profit APM should be viewed as complementary to IFRS GAAP measures. It is important to consider Group adjusted operating profit and profit for the year together to understand the performance of the business in the year.

B1 – Basis of preparation continued

New standards, interpretations and amendments to published standards that have been adopted by the Group

The following amendments to existing standards and IFRIC interpretations have been issued and endorsed by the EU, are effective from 1 January 2020 or earlier, and do not have a significant impact on the Group's consolidated financial statements.

(i) Amendments to References to the Conceptual Framework in IFRS Standards (published by the IASB in March 2018)

(ii) Amendment to IFRS 3 Business Combinations (published by the IASB in October 2018)

(iii) Amendment to IAS 1 and IAS 8: Definition of material (published by the IASB in October 2018)

(iv) Interest Rate Benchmark Reform: Amendments to IFRS 9, IAS 39 and IFRS 7 (published by the IASB in October 2019)

B2 – Changes to comparative amounts

(a) Discontinued operations

In the second half of 2020, Aviva has announced the completion of the disposal of its controlling interest in Friends Provident International Limited (FPI), its entire shareholdings in the Hong Kong and Indonesia joint ventures and its majority shareholding in Aviva Singapore. The sale of its entire shareholding in Aviva Vietnam Life Insurance Limited has been agreed and is subject to regulatory approval, expected in 2021.

In accordance with IFRS 5 '*Non-current assets held for sale and discontinued operations*', the results of these operations have been reclassified as discontinued operations in these consolidated financial statements, as they represent an exit from a single geographical area of business. Profit from discontinued operations for the year ended 31 December 2020 has been shown as a single line in the consolidated income statement and net cash flows from discontinued operations have been shown as a single line in the consolidated statement of cash flows, with 2019 comparatives re-presented accordingly. Further analysis of the results from discontinued operations is provided in note B5(d).

(b) Amendment to segmental analysis

At our interim results announcement on 6 August 2020, we announced our strategic priorities to focus on building and extending leadership in the UK, Ireland and Canada (Core markets), and managing our other international businesses for long-term shareholder value (Manage- for-value markets). As a result, the financial performance of our 'Core markets' are presented as UK & Ireland Life, General Insurance (which brings together our UK & Ireland General Insurance businesses and Canada) and Aviva Investors. Our 'Manage-for-value markets' consist of our other international businesses: France, Italy, Poland and Other. The 2019 comparative results have been restated from those previously published to reclassify operations on this basis. See note B6 for further information.

B3 – Significant events in the current reporting period

On 11 March 2020, the World Health Organization declared the outbreak of a strain of novel coronavirus disease, COVID-19, a global pandemic. Governments in affected areas have imposed a number of measures designed to contain the outbreak, including business closures, travel restrictions, stay at home orders and prohibition of gatherings and events. The spread of COVID-19 has had a significant impact on the global economy, causing volatile equity markets and falls in interest rates.

In our interim results announcement on 6 August 2020, we assessed the emerging situation and provided details of the significant impacts of COVID-19 on the Group's results for the first half of 2020. The Group has been impacted by the COVID-19 pandemic through its operations, insurance products and assets holdings as well as ongoing difficult conditions in the global financial markets and the wider macroeconomic environment. The effects of COVID-19 continue to present unprecedented uncertainty that may adversely impact the results of the Group. However, the strength of the Group's capital and liquidity means it is well positioned to manage this crisis and continue to support customers.

This note sets out key considerations in relation to the impact of COVID-19 on the Group's results.

Business and performance

(i) Long-term business

The Group's life insurance business is long-term in nature. As such the ultimate impact of COVID-19 has a high degree of uncertainty and will emerge over a long period of time. The reported results include a net £16 million increase in long-term insurance contract liabilities as a result of the changes in non-economic assumptions for COVID-19, noting that this includes the offsetting impacts of an increase attributable to mortality and a decrease attributable to longevity assumptions. The valuation of the Group's long-term insurance liabilities is closely linked to market movements and therefore the impact of COVID-19 on global markets has had a consequential impact on the valuation of the Group's long-term business. It is not possible however to disaggregate the impact of the pandemic from wider economic movements in the period, and as such quantification of the economic impact of COVID-19 on long term insurance contract liabilities is not possible. The effect of COVID-19 on assumptions and estimates for the long-term business is set out in note B15.

(ii) General insurance

The estimated impact of COVID-19 on the general insurance results in the period is £(17) million, principally reflecting business interruption claims net of reinsurance, which were partly offset by favourable impacts of reduced economic activity in other product lines tempered by higher profit-contingent commission payments to distributors. Further information on the impact of COVID-19 on general insurance liabilities can be found within note B11(c) and note B20(f).

(iii) Fund management

The widespread economic disruption caused by COVID-19 has led to significant volatility in financial markets and elevated levels of investor activity throughout 2020. Information on the revenue earned by the Group's fund management segment can be found within note B6(b).

B3 – Significant events in the current reporting period continued

Risk profile

Note B20 has been updated to reflect the impact of COVID-19 on the risk environment within which the Group operates and the way in which the pandemic has had an impact on the Group's material risk exposures. This includes descriptions of key actions taken to mitigate these changes in risk exposures during 2020.

Fair value measurement

In addition to the increased volatility in financial markets, the economic disruption caused by COVID-19 has led to declines in the level of trading in some asset classes giving rise to additional valuation uncertainty. In particular, certain assets relying on comparable market transactions for valuation, such as investment properties within the leisure and hospitality sectors, have been more difficult to value due to a reduction in the level of available market evidence. A number of property valuers have included 'material uncertainty declarations' in their valuation reports on these assets to reflect this. There is also increased uncertainty in relation to long term economic assumptions such as residential and commercial property growth rate assumptions which are inputs to the valuation models for equity release mortgage loans and commercial mortgage loans held by our UK Life business.

Capital management

The Group's balance sheet exposure and solvency position has been reviewed and actions taken to protect the solvency position and further reduce the sensitivity to economic shocks. The estimated Solvency II regulatory own funds is £29.3 billion at 31 December 2020 *(2019: £28.3 billion)* and the estimated Solvency II shareholder own funds is £25.8 billion *(2019: £24.5 billion)*.

Other

(i) Dividend

On 26 November 2020, the Group announced a new dividend policy and capital framework. Information on dividends paid during the year and the proposed final dividend for 2020 can be found within note B9.

B4 – 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:

	2020	2019
Eurozone		
Average rate (€1 equals)	**£0.88**	£0.88
Year end rate (€1 equals)	**£0.90**	£0.85
Canada		
Average rate ($CAD1 equals)	**£0.58**	£0.59
Year end rate ($CAD1 equals)	**£0.57**	£0.58
Poland		
Average rate (PLN1 equals)	**£0.20**	£0.20
Year end rate (PLN1 equals)	**£0.20**	£0.20

B5 – Strategic transactions

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 the details of business held for sale at 31 December 2020 and discontinued operations.

(a) Acquisitions

On 5 June 2020, the Group completed the acquisition of a further 40% shareholding in Wealthify, a Group subsidiary, for a consideration of £11 million. Following the transaction, Wealthify is now a wholly owned subsidiary.

(b) Disposals and remeasurements

The profit on the disposal and remeasurement of subsidiaries, joint ventures and associates comprises:

	2020 £m	2019 £m
Disposals	**744**	6
Held for sale remeasurements	**(19)**	(28)
Total gain/(loss) on disposals and remeasurements	**725**	(22)

The net gain on the disposal and remeasurement of subsidiaries, joint ventures and associates during the year of £725 million predominantly relates to the disposals of Friends Provident International Limited (FPI), Singapore, Indonesia and Hong Kong. In 2019, the loss on disposal of £22 million comprised of £6 million of gains relating to small disposals and a £28 million remeasurement loss relating to FPI.

B5 – Strategic transactions continued

(b) Disposals and remeasurements continued

Disposals of subsidiaries, joint ventures and associates

The following businesses were disposed of in 2020:

	FPI[i] £m	Singapore[ii] £m	Total £m
Assets			
Goodwill, acquired value of in-force business and intangible assets	442	44	486
Interests in, and loans to, associates and joint ventures	—	38	38
Property and equipment	5	4	9
Financial investments	6,981	5,573	12,554
Reinsurance assets	15	734	749
Receivables and other financial assets	36	87	123
Deferred acquisition costs	205	10	215
Prepayments and accrued income	6	40	46
Cash and cash equivalents	851	186	1,037
Total assets	**8,541**	**6,716**	**15,257**
Liabilities			
Gross insurance liabilities	103	4,276	4,379
Gross liabilities for investment contracts	8,033	—	8,033
Unallocated divisible surplus	—	693	693
Tax liabilities	—	388	388
Other liabilities	104	367	471
Total liabilities	**8,240**	**5,724**	**13,964**
Net assets	**301**	**992**	**1,293**
Total consideration	309	1,540	1,849
Less: transaction costs	(11)	(34)	(45)
Net consideration	**298**	**1,506**	**1,804**
Reserves recycled to the income statement	—	160	160
(Loss)/profit on disposal	**(3)**	**674**	**671**
Other small disposals (iii)			73
Total profit on disposal			**744**

(i) FPI

On 19 July 2017, Aviva announced the sale of FPI to RL360 Holding Company Limited, a subsidiary of International Financial Group Limited and FPI has been reported as held for sale by the Group since 31 December 2017. In 2020, a revised structure was agreed for Aviva to sell a 76% shareholding in FPI for a consideration of £259 million, including £50 million of deferred consideration.

The classification as held for sale has resulted in a loss on remeasurement of £118 million in 2017, £13 million in 2018, £28 million in 2019 and an additional remeasurement loss of £19 million at 30 June 2020. The transaction completed on 16 July 2020.

On 11 December 2020, an option was exercised by RL360 requiring Aviva to recapture a book of business from FPI, subject to regulatory approval, resulting in Aviva forgoing both the deferred consideration and its remaining shareholding in FPI. The estimated value of the book of business matches the total value of the deferred consideration and the shareholding, therefore there is no impact on the value of consideration received.

(ii) Singapore

On 11 September 2020, Aviva announced the sale of a majority shareholding in Aviva Singapore to a consortium led by Singapore Life Ltd (Singlife) for a consideration of SGD 2.7 billion (approximately £1.5 billion), which is comprised of SGD 2.0 billion in cash and marketable securities, SGD 250 million in vendor finance notes and a 26% equity shareholding in the new group (Aviva Singlife Holdings Pte. Ltd). The transaction completed on 30 November 2020.

(iii) Other

On 6 March 2020, Aviva announced the sale of its entire shareholding in its joint venture in Indonesia, PT Astra Aviva Life, to the joint venture partner, PT Astra International Tbk. The consideration received was INR 1,389 billion (approximately £72 million). The transaction completed on 16 November 2020.

On 20 November 2019, Aviva announced the sale of its entire 40% shareholding in its Hong Kong joint venture (Blue) to Hillhouse AV Holdings Limited for HKD 450 million (approximately £44 million). The transaction completed on 10 December 2020.

B5 – Strategic transactions continued

(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 2020 are as follows:

	2020 £m	2019 £m
Assets		
Acquired value of in-force business and intangible assets	**18**	526
Interests in, and loans to, joint ventures and associates	**—**	8
Property and equipment	**69**	8
Loans	**—**	1
Financial investments	**16,907**	7,824
Reinsurance assets	**18**	75
Other assets	**531**	290
Cash and cash equivalents	**190**	780
Total assets	**17,733**	9,512
Liabilities		
Gross insurance liabilities	**3,166**	687
Gross liabilities for investment contracts	**12,425**	8,324
Unallocated divisible surplus	**1,234**	—
Borrowings	**43**	28
Other liabilities	**308**	87
Total liabilities	**17,176**	9,126
Net assets	**557**	386

Assets and liabilities of operations classified as held for sale as at 31 December 2020 relate to the expected disposal of the Group's operations in Vietnam and of Aviva Vita S.p.A. (Aviva Vita). See below for further details. Assets and liabilities classified as held for sale at 31 December 2019 related primarily to FPI and Hong Kong.

(i) Vietnam

On 14 December 2020, Aviva announced the sale of its entire shareholding in Aviva Vietnam Life Insurance Limited to Manulife Financial Asia Limited. The transaction is expected to complete in the second half of 2021, subject to regulatory approvals.

(ii) Aviva Vita (Italy)

On 23 November 2020, Aviva announced the sale of its entire 80% shareholding in the Italian life insurance joint venture, Aviva Vita to its partner UBI Banca. The transaction is subject to customary closing conditions, including regulatory approval, and is expected to complete in the first half of 2021.

(d) Discontinued operations

In the second half of 2020, Aviva has announced the completion of the disposal of its controlling interest in FPI, its entire shareholdings in the Hong Kong and Indonesia joint ventures and its majority shareholding in Aviva Singapore. The sale of its entire shareholding in Aviva Vietnam Life Insurance Limited has been agreed and is subject to regulatory approval, expected in 2021.

In accordance with IFRS 5 *Non-current assets held for sale and discontinued operations*, the results of these operations have been reclassified as discontinued operations in these consolidated financial statements. Profit from discontinued operations for the year ended 31 December 2020 has been shown as a single line in the consolidated income statement and net cash flows from discontinued operations have been shown as a single line in the consolidated statement of cash flows, with 2019 comparatives being re-presented accordingly. Notes to the consolidated statement of financial position are presented on a total group basis and, as a result, income statement and cash flow movements included within these notes may not reconcile to those presented in the consolidated income statement and the consolidated statement of cash flows.

B5 – Strategic transactions continued

(d) Discontinued operations continued

Further analysis of the results and cash flows for the discontinued operations presented in the consolidated financial statements are analysed below.

Income Statement

Discontinued operations	2020 £m	2019 £m
Net written premiums	**1,284**	1,153
Net change in provision for unearned premiums	**3**	(16)
Net earned premiums	**1,287**	1,137
Net investment income	**119**	966
Other income	**119**	205
Share of loss after tax of joint ventures and associates	**(12)**	(9)
Profit/(loss) on the disposal and remeasurement of subsidiaries, joint ventures and associates	**713**	(28)
Total income	**2,226**	2,271
Claims and benefits paid, net of recoveries from reinsurers	**(749)**	(1,004)
Change in insurance liabilities, net of reinsurance	**(265)**	(32)
Change in investment contract provisions	**342**	(217)
Change in unallocated divisible surplus	**(161)**	(369)
Other expenses	**(445)**	(537)
Total expenses	**(1,278)**	(2,159)
Profit before tax from discontinued operations	**948**	112
Tax attributable to policyholders' returns	**(44)**	(58)
Profit before tax attributable to shareholders' profits from discontinued operations	**904**	54
Tax expense	**(36)**	(11)
Profit for the year from discontinued operations	**868**	43

Other Comprehensive Income

Discontinued operations	2020 £m	2019 £m
Other comprehensive income from discontinued operations:		
Items that may be reclassified subsequently to income statement		
Foreign exchange rate movements	**4**	(26)
Total other comprehensive income for the year from discontinued operations	**4**	(26)

Cash flows

Discontinued operations	2020 £m	2019 £m
Total net cash from operating activities	**102**	119
Cash proceeds from disposal of subsidiaries, joint ventures and associates	**1,208**	—
Less: Net cash and cash equivalents divested with subsidiaries	**(1,065)**	—
Other investing activities	**4**	(27)
Total net cash from investing activities	**147**	(27)
Total net cash (used in)/from financing activities	**(4)**	20
Net cash flows from discontinued operations	**245**	112

(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.

(f) Subsequent events

For the following subsequent events, management undertook an assessment of the facts and circumstances at 31 December 2020 and concluded that for each of the transactions, the IFRS 5 criteria for reclassification as held for sale were not met at that date.

(i) Aviva France

On 23 February 2021, Aviva announced it had approved the sale of its entire shareholding in Aviva France to Aéma Groupe for cash consideration of €3.2 billion (approximately £2.9 billion), including €1.1 billion (approximately £1.0 billion) in respect of Aviva France's intra-group debt. The transaction will significantly strengthen the Group's capital and liquidity on completion, and covers the French life, general insurance, and asset management businesses and the 75% shareholding in L'Union Financière de France, a wealth manager listed on the Paris Bourse. The transaction is subject to consultation and customary closing conditions, including regulatory approval, and is expected to complete in the second half of 2021. The transaction would have decreased the Group's IFRS net asset value by approximately £0.5 billion, increased Solvency II surplus on a shareholder basis by approximately £0.8 billion and strengthened the Solvency II cover ratio on a shareholder basis by approximately 22 percentage points as at 31 December 2020.

(ii) AvivaSA (Turkey)

On 24 February 2021, Aviva announced the sale of its entire 40% shareholding in its joint venture in Turkey, AvivaSA Emeklilik ve Hayat AS (AvivaSA), to Ageas Insurance International N.V. for cash consideration of £122 million. The transaction is subject to customary closing conditions, including regulatory approval, and is expected to complete in 2021.

B5 – Strategic transactions continued

(d) Strategic transactions continued

(iii) Aviva Italy

On 3 March 2021, the Group entered into agreements to sell its remaining Italian Life and General Insurance businesses (Aviva Italy). The sale of the remaining Life business primarily comprises the entire 100% shareholding in Aviva Life S.p.A. and the 51% shareholding in Aviva S.p.A. to CNP Assurances for cash consideration of €543 million (approximately £486 million). The sale of the General Insurance business comprises the entire 100% shareholding in Aviva Italia S.p.A. to Allianz for cash consideration of €330 million (approximately £295 million). The transactions are subject to customary closing conditions, including regulatory and anti-trust approvals, and are expected to complete in the second half of 2021. The transactions would have increased the Group's IFRS net asset value by approximately £0.2 billion, increased Solvency II surplus on a shareholder basis by approximately £0.2 billion and strengthened the Solvency II cover ratio on a shareholder basis by approximately 7 percentage points as at 31 December 2020. Following completion of these transactions, Aviva will retain Aviva Italia Holdings S.p.A, which will have no underlying operating insurance entities.

B6 – Segmental information

The Group's results can be segmented either by activity or by geography. Our primary reporting format is along market reporting lines, with supplementary information being given by business activity. This note provides segmental information on the consolidated income statement. At our 2020 interim results announcement on 6 August 2020, we announced our strategic priorities to focus on building and extending our leadership in the UK, Ireland and Canada (Core markets), and managing International businesses for long-term shareholder value (Manage-for-value markets). As a result, the financial performance of our 'Core markets' is presented as UK & Ireland Life, General Insurance (which brings together our UK & Ireland businesses and Canada) and Aviva Investors. Our 'Manage-for-value markets' consists of our other international businesses: France, Italy, Poland and Other. The 2019 comparative results have been restated (see note B2) from those previously published to reclassify operations to reflect these changes. Segmental information is presented for continuing operations only, an analysis of results from discontinued operations is presented in note B5(d).

(a) Operating segments

UK & Ireland Life

The principal activities of our UK & Ireland Life operations are life insurance, long-term health and accident insurance, savings, pensions and annuity business.

General Insurance

UK & Ireland

The principal activities of our UK & Ireland General Insurance operations are the provision of 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.

Canada

The principal activity of our Canada General Insurance operation is the provision of personal and commercial lines insurance products principally distributed through insurance brokers.

Aviva Investors

Aviva Investors operates in most of the markets in which the Group operates, in particular the UK, France, North America and Asia Pacific. Aviva Investors manages policyholders' and shareholders' invested funds, provides investment management services for institutional pension fund mandates and manages a range of retail investment products. These include investment funds, unit trusts, open-ended investment companies and individual savings accounts.

Manage-for-value

France

The principal activities of our operations in France 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.

Italy

The principal activities of our operations in Italy are in the life and non-domestic insurance markets. We offer savings, investments, pension and protection products with distribution through a major bancassurance partnership with Unione di Banche Italiane S.p.A. and also through independent financial advisor networks.

Poland

Activities in Poland comprise long-term business and general insurance and includes our long-term business in Lithuania.

Other

Our other continuing activities principally comprise our long-term business operations in China, India and Singapore and our life operations in Turkey. These have been aggregated into a single reporting segment in line with IFRS 8 '*Operating Segments*'.

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'. The results of our internal reinsurance operations are also included in this segment, as are the elimination entries for certain inter-segment transactions and group consolidation adjustments.

B6 – 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, including investment market performance.

(a) (i) Segmental income statement for the year ended 31 December 2020

		General Insurance			Manage-for-value					
Continuing operations	**UK & Ireland Life £m**	**UK & Ireland GI £m**	**Canada £m**	**Aviva Investors £m**	**France £m**	**Italy £m**	**Poland £m**	**Other £m**	**Other Group activities £m**	**Total continuing operations £m**
Gross written premiums	10,268	5,051	3,271	—	5,326	4,473	626	—	—	29,015
Premiums ceded to reinsurers	(2,904)	(421)	(175)	—	(78)	(44)	(16)	—	—	(3,638)
Internal reinsurance revenue	—	—	—	—	—	—	—	—	—	—
Premiums written net of reinsurance	7,364	4,630	3,096	—	5,248	4,429	610	—	—	25,377
Net change in provision for unearned premiums	(1)	(38)	(56)	—	(28)	(1)	1	—	—	(123)
Net earned premiums	7,363	4,592	3,040	—	5,220	4,428	611	—	—	25,254
Fee and commission income	989	101	25	325	327	80	95	—	4	1,946
	8,352	4,693	3,065	325	5,547	4,508	706	—	4	27,200
Net investment income	13,842	123	227	31	1,881	2,318	157	—	751	19,330
Inter-segment revenue	—	—	—	217	—	—	—	—	—	217
Share of profit/(loss) after tax of joint ventures and associates	(58)	—	—	—	15	—	—	54	16	27
Profit on the disposal and remeasurement of subsidiaries, joint ventures and associates	—	—	12	—	—	—	—	—	—	12
Segmental income[1]	22,136	4,816	3,304	573	7,443	6,826	863	54	771	46,786
Claims and benefits paid, net of recoveries from reinsurers	(8,748)	(2,559)	(1,712)	—	(5,418)	(2,260)	(339)	—	(9)	(21,045)
Change in insurance liabilities, net of reinsurance	(4,505)	(345)	(148)	—	(670)	(925)	(54)	—	7	(6,640)
Change in investment contract provisions	(5,221)	—	—	(30)	631	(1,793)	—	—	—	(6,413)
Change in unallocated divisible surplus	505	—	—	—	(844)	(1,179)	(10)	—	—	(1,528)
Fee and commission expense	(730)	(1,372)	(914)	(27)	(698)	(257)	(159)	—	(4)	(4,161)
Investment expense attributable to unitholders	—	—	—	—	9	—	—	—	(588)	(579)
Other expenses	(1,112)	(474)	(168)	(432)	(245)	(90)	(103)	(3)	(410)	(3,037)
Inter-segment expenses	(201)	(5)	(7)	—	(1)	—	(3)	—	—	(217)
Finance costs	(166)	(4)	(6)	—	(1)	(2)	(1)	—	(373)	(553)
Segmental expenses	(20,178)	(4,759)	(2,955)	(489)	(7,237)	(6,506)	(669)	(3)	(1,377)	(44,173)
Profit/(loss) before tax	1,958	57	349	84	206	320	194	51	(606)	2,613
Tax attributable to policyholders' returns	(43)	—	—	—	—	—	—	—	—	(43)
Profit/(loss) before tax attributable to shareholders' profits	1,915	57	349	84	206	320	194	51	(606)	2,570
Adjusting items:										
Reclassification of unallocated interest	48	(13)	29	1	53	—	—	—	(118)	—
Life business: Investment variances and economic assumption changes	(314)	—	—	—	145	(31)	2	(26)	—	(224)
Non-life business: Short-term fluctuation in return on investments	—	92	(118)	—	40	8	(5)	—	47	64
General insurance and health business: Economic assumption changes	—	77	7	—	19	—	—	—	1	104
Impairment of goodwill, joint ventures, associates and other amounts expensed	—	—	16	—	—	—	—	13	—	29
Amortisation and impairment of intangibles acquired in business combinations	46	—	16	—	2	1	5	—	—	70
Amortisation and impairment of acquired value of in-force business	212	—	—	—	2	—	—	—	—	214
Profit on the disposal and remeasurement of subsidiaries, joint ventures and associates	—	—	(12)	—	—	—	—	—	—	(12)
Other[2]	—	—	—	—	—	—	—	—	34	34
Group adjusted operating profit/(loss) before tax attributable to shareholders' profits	1,907	213	287	85	467	298	196	38	(642)	2,849

1 Total reported income, excluding inter-segment revenue, includes £26,051 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 Other includes a charge of £16 million relating to costs on contracts that have become onerous following the disposals of FPI, Singapore, Indonesia and Hong Kong and a charge of £18 million relating to the estimated additional liability arising in the UK defined benefit pension schemes as a result of the requirement to equalise members' benefits for the effects of Guaranteed Minimum Pension (GMP).

Notes to the consolidated financial statements continued

B6 – Segmental information continued

(a) (ii) Segmental income statement for the year ended 31 December 2019 – restated[1]

		General Insurance			Manage-for-value					
Continuing operations	UK & Ireland Life £m	UK & Ireland GI £m	Canada £m	Aviva Investors £m	France £m	Italy £m	Poland £m	Other £m	Other Group activities £m	Total continuing operations £m
Gross written premiums	8,921	5,066	3,204	—	6,883	4,994	643	—	—	29,711
Premiums ceded to reinsurers	(2,477)	(428)	(143)	—	(86)	(36)	(12)	(2)	—	(3,184)
Internal reinsurance revenue	—	—	—	—	—	—	—	1	(1)	—
Premiums written net of reinsurance	6,444	4,638	3,061	—	6,797	4,958	631	(1)	(1)	26,527
Net change in provision for unearned premiums	(2)	(55)	(99)	—	(28)	(11)	2	—	—	(193)
Net earned premiums	6,442	4,583	2,962	—	6,769	4,947	633	(1)	(1)	26,334
Fee and commission income	984	114	24	320	305	89	99	—	1	1,936
	7,426	4,697	2,986	320	7,074	5,036	732	(1)	—	28,270
Net investment income	28,247	252	171	61	6,267	3,218	155	1	1,239	39,611
Inter-segment revenue	—	—	—	247	—	—	—	—	—	247
Share of profit/(loss) after tax of joint ventures and associates	20	—	—	—	48	—	—	55	(29)	94
Profit on the disposal and remeasurement of subsidiaries, joint ventures and associates	—	—	6	—	—	—	—	—	—	6
Segmental income[2]	35,693	4,949	3,163	628	13,389	8,254	887	55	1,210	68,228
Claims and benefits paid, net of recoveries from reinsurers	(9,878)	(2,844)	(1,938)	—	(4,751)	(2,280)	(380)	—	(21)	(22,092)
Change in insurance liabilities, net of reinsurance	(3,431)	(80)	(16)	—	(1,112)	(1,032)	(49)	—	50	(5,670)
Change in investment contract provisions	(17,186)	—	—	(63)	(4,041)	(2,589)	1	—	—	(23,878)
Change in unallocated divisible surplus	174	—	—	—	(2,010)	(1,776)	(4)	—	—	(3,616)
Fee and commission expense	(711)	(1,337)	(823)	(27)	(659)	(238)	(156)	—	27	(3,924)
Investment expense attributable to unitholders	—	—	—	—	(157)	—	—	—	(1,198)	(1,355)
Other expenses	(1,416)	(340)	(162)	(447)	(246)	(109)	(95)	(11)	(231)	(3,057)
Inter-segment expenses	(228)	(6)	(6)	—	(2)	—	(5)	—	—	(247)
Finance costs	(192)	(4)	(7)	—	(1)	(3)	(1)	—	(360)	(568)
Segmental expenses	(32,868)	(4,611)	(2,952)	(537)	(12,979)	(8,027)	(689)	(11)	(1,733)	(64,407)
Profit/(loss) before tax	2,825	338	211	91	410	227	198	44	(523)	3,821
Tax attributable to policyholders' returns	(501)	—	—	—	—	—	—	—	—	(501)
Profit/(loss) before tax attributable to shareholders' profits	2,324	338	211	91	410	227	198	44	(523)	3,320
Adjusting items:										
Reclassification of unallocated interest	54	(8)	33	5	46	—	—	—	(130)	—
Life business: Investment variances and economic assumption changes	(735)	—	—	—	84	(3)	(4)	(17)	(8)	(683)
Non-life business: Short-term fluctuation in return on investments	—	(105)	(64)	—	(95)	(30)	(5)	—	132	(167)
General insurance and health business: Economic assumption changes	—	27	2	—	24	—	—	—	1	54
Impairment of goodwill, joint ventures, associates and other amounts expensed	—	—	2	—	—	—	—	9	—	11
Amortisation and impairment of intangibles acquired in business combinations	54	—	13	—	2	1	5	1	1	77
Amortisation and impairment of acquired value of in-force business	275	—	—	—	2	—	—	—	3	280
Profit on the disposal and remeasurement of subsidiaries, joint ventures and associates	—	—	(6)	—	—	—	—	—	—	(6)
Other[3]	2	45	—	—	—	—	—	—	—	47
Group adjusted operating profit/(loss) before tax attributable to shareholders' profits[2]	1,974	297	191	96	473	195	194	37	(524)	2,933

1 The 2019 comparative results have been restated from those previously published due to the change in presentation of segmental information. See note B2.
2 Total reported income, excluding inter-segment revenue, includes £39,041 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 Other relates to a charge of £45 million in relation to a change in the discount rate used for estimating lump sum payments in settlement of bodily injury claims and a charge of £2 million relating to negative goodwill which arose on the acquisition of Friends First.

B6 – Segmental information continued

(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, open-ended investment companies and individual savings accounts. 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 and elimination entries for certain inter-segment transactions and group consolidation adjustments.

(b) (i) Segmental income statement – products and services for the year ended 31 December 2020

Continuing operations	Long-term business £m	General insurance and health[1] £m	Fund management £m	Other £m	Total continuing operation £m
Gross written premiums[2]	18,288	10,727	—	—	29,015
Premiums ceded to reinsurers	(2,948)	(690)	—	—	(3,638)
Premiums written net of reinsurance	15,340	10,037	—	—	25,377
Net change in provision for unearned premiums	—	(123)	—	—	(123)
Net earned premiums	15,340	9,914	—	—	25,254
Fee and commission income	1,423	126	321	76	1,946
	16,763	10,040	321	76	27,200
Net investment income	18,213	365	1	751	19,330
Inter-segment revenue	—	—	219	—	219
Share of profit/(loss) after tax of joint ventures and associates	16	(4)	—	15	27
Profit on the disposal and remeasurement of subsidiaries, joint ventures and associates	—	12	—	—	12
Segmental income	34,992	10,413	541	842	46,788
Claims and benefits paid, net of recoveries from reinsurers	(15,345)	(5,700)	—	—	(21,045)
Change in insurance liabilities, net of reinsurance	(6,073)	(567)	—	—	(6,640)
Change in investment contract provisions	(6,413)	—	—	—	(6,413)
Change in unallocated divisible surplus	(1,528)	—	—	—	(1,528)
Fee and commission expense	(1,290)	(2,794)	(27)	(50)	(4,161)
Investment expense attributable to unitholders	9	—	—	(588)	(579)
Other expenses	(1,347)	(751)	(430)	(509)	(3,037)
Inter-segment expenses	(206)	(13)	—	—	(219)
Finance costs	(139)	(10)	—	(404)	(553)
Segmental expenses	(32,332)	(9,835)	(457)	(1,551)	(44,175)
Profit/(loss) before tax	2,660	578	84	(709)	2,613
Tax attributable to policyholders' returns	(43)	—	—	—	(43)
Profit/(loss) before tax attributable to shareholders' profits	2,617	578	84	(709)	2,570
Adjusting items	126	144	1	8	279
Group adjusted operating profit/(loss) before tax attributable to shareholders' profits	2,743	722	85	(701)	2,849

1 General insurance and health business segment includes gross written premiums of £100 million relating to health business. The remaining business relates to property and liability insurance.
2 Gross written premiums include inward reinsurance premiums assumed from other companies amounting to £637 million, which all relates to property and liability insurance.

B6 – Segmental information continued

(b) (ii) Segmental income statement – products and services for the year ended 31 December 2019

Continuing operations	Long-term business £m	General insurance and health[2] £m	Fund management £m	Other £m	Total continuing operations[1] £m
Gross written premiums[3]	19,058	10,653	—	—	29,711
Premiums ceded to reinsurers	(2,529)	(655)	—	—	(3,184)
Premiums written net of reinsurance	16,529	9,998	—	—	26,527
Net change in provision for unearned premiums	—	(193)	—	—	(193)
Net earned premiums	16,529	9,805	—	—	26,334
Fee and commission income	1,301	126	315	194	1,936
	17,830	9,931	315	194	28,270
Net investment income/(expense)	37,756	622	(1)	1,234	39,611
Inter-segment revenue	—	—	250	—	250
Share of profit/(loss) after tax of joint ventures and associates	122	—	—	(28)	94
Profit on the disposal and remeasurement of subsidiaries, joint ventures and associates	—	6	—	—	6
Segmental income	55,708	10,559	564	1,400	68,231
Claims and benefits paid, net of recoveries from reinsurers	(15,774)	(6,318)	—	—	(22,092)
Change in insurance liabilities, net of reinsurance	(5,540)	(130)	—	—	(5,670)
Change in investment contract provisions	(23,878)	—	—	—	(23,878)
Change in unallocated divisible surplus	(3,616)	—	—	—	(3,616)
Fee and commission expense	(1,151)	(2,653)	(27)	(93)	(3,924)
Investment expense attributable to unitholders	(157)	—	—	(1,198)	(1,355)
Other expenses	(1,628)	(622)	(445)	(362)	(3,057)
Inter-segment expenses	(237)	(13)	—	—	(250)
Finance costs	(162)	(10)	—	(396)	(568)
Segmental expenses	(52,143)	(9,746)	(472)	(2,049)	(64,410)
Profit/(loss) before tax	3,565	813	92	(649)	3,821
Tax attributable to policyholders' returns	(501)	—	—	—	(501)
Profit/(loss) before tax attributable to shareholders' profits	3,064	813	92	(649)	3,320
Adjusting items	(265)	(161)	4	35	(387)
Group adjusted operating profit/(loss) before tax attributable to shareholders' profits	2,799	652	96	(614)	2,933

1 The 2019 comparative results have been re-presented from those previously published to reclassify certain operations in Asia as discontinued operations as described in note B2.
2 General insurance and health business segment includes gross written premiums of £704 million relating to health business. The remaining business relates to property and liability insurance.
3 Gross written premiums include inward reinsurance premiums assumed from other companies amounting to £62 million, which all relates to property and liability insurance.

B7 – Tax

This note analyses the tax charge for the year and explains the factors that affect it. The comparative amounts in (a), (b) and (d) have been re-presented from those previously published to reclassify certain operations in Asia as discontinued operations as described in note B2.

(a) Tax charged to the income statement

(i) The total tax charge comprises:

	2020 £m	2019 £m
Continuing operations		
Current tax		
For the period	**648**	1,041
Prior period adjustments	**(64)**	(178)
Total current tax from continuing operations	**584**	863
Deferred tax		
Origination and reversal of temporary differences	**12**	344
Changes in tax rates or tax laws	**(14)**	(6)
Write (back) of deferred tax assets	**(11)**	—
Total deferred tax from continuing operations	**(13)**	338
Total tax charged to income statement from continuing operations	**571**	1,201
Total tax charged to income statement from discontinued operations	**80**	69
Total tax charged to income statement	**651**	1,270

(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, Ireland 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 £87 million *(2019: £559 million)* of which £43 million *(2019: £501 million)* relates to continuing operations and £44 million *(2019: £58 million)* relates to discontinued operations.

B7 – Tax continued

(a) Tax charged to the income statement continued

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

Continuing operations	2020 £m	2019 £m
UK tax	**259**	851
Overseas tax	**312**	350
	571	1,201

(iv) Unrecognised tax losses and temporary differences of previous years were used to reduce the current tax expense and deferred tax charge by £6 million and £11 million *(2019: £nil and £11 million)*, respectively.

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

	2020 £m	2019 £m
Continuing operations		
Long-term business technical provisions and other insurance items	**(339)**	(1,241)
Deferred acquisition costs	**16**	4
Unrealised gains on investments	**343**	1,554
Pensions and other post-retirement obligations	**(2)**	21
Unused losses and tax credits	**(32)**	13
Subsidiaries, associates and joint ventures	**6**	4
Intangibles and additional value of in-force long-term business	**(23)**	(63)
Provisions and other temporary differences	**18**	46
Total deferred tax (credited)/charged to income statement from continuing operations	**(13)**	338
Total deferred tax charged to income statement from discontinued operations	**70**	49
Total deferred tax charged to income statement	**57**	387

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

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

	2020 £m	2019 £m
Current tax from continuing operations		
In respect of pensions and other post-retirement obligations	**(34)**	(49)
In respect of foreign exchange movements	**9**	(10)
	(25)	(59)
Deferred tax from continuing operations		
In respect of pensions and other post-retirement obligations	**55**	(56)
In respect of fair value gains on owner-occupied properties	**1**	1
In respect of unrealised gains on investments	**2**	5
	58	(50)
Total tax charged/(credited) to other comprehensive income arising from continuing operations	**33**	(109)
Total tax charged/(credited) to other comprehensive income arising from discontinued operations	**—**	—
Total tax charged/(credited) to other comprehensive income	**33**	(109)

(ii) There is no tax charge/(credit) attributable to policyholders' return included above in either 2020 or 2019.

(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 £nil million *(2019: £9 million)*.

B7 – Tax continued

(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	2020 £m	Shareholder £m	Policyholder £m	2019 £m
Profit before tax from continuing operations	**2,570**	**43**	**2,613**	3,320	501	3,821
Profit before tax from discontinued operations	**904**	**44**	**948**	54	58	112
Total profit before tax	**3,474**	**87**	**3,561**	3,374	559	3,933
Tax calculated at standard UK corporation tax rate of 19.00% (2019: 19.00%)	**660**	**17**	**677**	641	106	747
Reconciling items						
Different basis of tax – policyholders	**—**	**73**	**73**	—	454	454
Adjustment to tax charge in respect of prior periods	**(30)**	**—**	**(30)**	5	—	5
Non-assessable income and items not taxed at the full statutory rate	**(72)**	**—**	**(72)**	(51)	—	(51)
Non-taxable profit on sale of subsidiaries and associates	**(138)**	**—**	**(138)**	(1)	—	(1)
Disallowable expenses	**33**	**—**	**33**	41	—	41
Different local basis of tax on overseas profits	**100**	**(3)**	**97**	98	(1)	97
Change in future local statutory tax rates	**30**	**—**	**30**	(6)	—	(6)
Movement in deferred tax not recognised	**(3)**	**—**	**(3)**	(4)	—	(4)
Tax effect of profit from joint ventures and associates	**(10)**	**—**	**(10)**	(8)	—	(8)
Other	**(6)**	**—**	**(6)**	(4)	—	(4)
Total tax charged to income statement	**564**	**87**	**651**	711	559	1,270

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-profits and unit-linked policyholders is zero, the Group's pre-tax profit attributable to policyholders is an amount equal and opposite to the tax charge/(credit) attributable to policyholders included in the total tax charge.

The rate of corporation tax in the UK was due to be reduced from 19% to 17% from 1 April 2020. In addition, the French government has introduced a stepped reduction to the French corporation tax rate from 34.43% to 25.83% from 1 January 2022. These reduced rates were used in the calculation of deferred tax assets and liabilities in the UK and France at 31 December 2019.

During 2020, the reduction in the UK corporation tax rate that was due to take effect from 1 April 2020 was cancelled and as a result, the rate has remained at 19%. This revised rate has been used in the calculation of the UK's deferred tax assets and liabilities as at 31 December 2020 and increased the Group's deferred tax liabilities by £81 million.

B8 – Earnings per share

This note shows how to calculate earnings per share on profit attributable to ordinary shareholders, 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 Group adjusted operating profit as we believe this gives an important indication of operating performance. Consideration of both these measures gives a full picture of the performance of the business in the period. The comparative amounts in (a) and (b) have been re-presented from those previously published to reclassify certain operations in Asia as discontinued operations as described in note B2.

(a) Basic earnings per share

(i) The profit attributable to ordinary shareholders is:

			2020			2019
	Group adjusted operating profit £m	Adjusting items £m	Total £m	Group adjusted operating profit £m	Adjusting items £m	Total £m
Continuing operations						
Profit before tax attributable to shareholders' profits	**2,849**	**(279)**	**2,570**	2,933	387	3,320
Tax attributable to shareholders' profits	**(596)**	**68**	**(528)**	(640)	(60)	(700)
Profit from continuing operations	**2,253**	**(211)**	**2,042**	2,293	327	2,620
Amount attributable to non-controlling interests	**(98)**	**(14)**	**(112)**	(98)	(17)	(115)
Cumulative preference dividends for the year	**(17)**	**—**	**(17)**	(17)	—	(17)
Coupon payments in respect of DCI and tier 1 notes (net of tax)	**(27)**	**—**	**(27)**	(34)	—	(34)
Profit attributable to ordinary shareholders from continuing operations	**2,111**	**(225)**	**1,886**	2,144	310	2,454
Profit/(loss) attributable to ordinary shareholders from discontinued operations	**274**	**594**	**868**	223	(180)	43
Profit attributable to ordinary shareholders	**2,385**	**369**	**2,754**	2,367	130	2,497

B8 – Earnings per share continued

(a) Basic earnings per share continued

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

	2020 Before tax £m	2020 Net of tax, NCI, preference dividends and DCI £m	2020 Per share p	2019 Before tax £m	2019 Net of tax, NCI, preference dividends and DCI[1] £m	2019 Per share p
Continuing operations						
Group adjusted operating profit attributable to ordinary shareholders[2]	**2,849**	**2,111**	**53.8**	2,933	2,144	54.8
Adjusting items:						
Life business: Investment variances and economic assumption changes	**224**	**143**	**3.6**	683	558	14.3
Non-life business: Short-term fluctuation in return on investments	**(64)**	**(11)**	**(0.3)**	167	118	3.0
General insurance and health business: Economic assumption changes	**(104)**	**(83)**	**(2.1)**	(54)	(33)	(0.8)
Impairment of goodwill, joint ventures, associates and other amounts expensed	**(29)**	**(27)**	**(0.7)**	(11)	(11)	(0.3)
Amortisation and impairment of intangibles acquired in business combinations	**(70)**	**(55)**	**(1.4)**	(77)	(51)	(1.3)
Amortisation and impairment of acquired value of in-force business	**(214)**	**(174)**	**(4.4)**	(280)	(230)	(5.9)
Loss on disposal and remeasurement of subsidiaries, joint ventures and associates	**12**	**12**	**0.3**	6	5	0.1
Other	**(34)**	**(30)**	**(0.7)**	(47)	(46)	(1.2)
Profit attributable to ordinary shareholders from continuing operations	**2,570**	**1,886**	**48.1**	3,320	2,454	62.7
Discontinued operations						
Group adjusted operating profit attributable to ordinary shareholders[2]	**312**	**274**	**7.0**	251	223	5.7
Adjusting items	**592**	**594**	**15.1**	(197)	(180)	(4.6)
Profit attributable to ordinary shareholders from discontinued operations	**904**	**868**	**22.1**	54	43	1.1
Profit attributable to ordinary shareholders	**3,474**	**2,754**	**70.2**	3,374	2,497	63.8

1 DCI includes the direct capital instrument and tier 1 notes.
2 Group adjusted operating earnings per share from continuing operations and discontinued operations is 60.8p *(2019: 60.5p)*.

(iii) The calculation of basic earnings per share uses a weighted average of 3,925 million *(2019: 3,911 million)* ordinary shares in issue, after deducting treasury shares. The actual number of shares in issue at 31 December 2020 was 3,928 million *(2019: 3,921 million)* or 3,926 million *(2019: 3,919 million)* excluding treasury shares.

(b) Diluted earnings per share

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

	2020 Total £m	2020 Weighted average number of shares million	2020 Per share p	2019[1] Total £m	2019[1] Weighted average number of shares million	2019[1] Per share p
Continuing operations						
Profit attributable to ordinary shareholders	**1,886**	**3,925**	**48.1**	2,454	3,911	62.7
Dilutive effect of share awards and options	**—**	**19**	**(0.3)**	—	14	(0.2)
Diluted earnings per share from continuing operations	**1,886**	**3,944**	**47.8**	2,454	3,925	62.5
Discontinued operations						
Profit attributable to ordinary shareholders	**868**	**3,925**	**22.1**	43	3,911	1.1
Dilutive effect of share awards and options	**—**	**19**	**(0.1)**	—	14	—
Diluted earnings per share from discontinued operations	**868**	**3,944**	**22.0**	43	3,925	1.1
Diluted earnings per share	**2,754**	**3,944**	**69.8**	2,497	3,925	63.6

1 Following a revision to the methodology to correctly allow for unvested share options in the calculation of the dilutive effect of share awards, the 2019 comparative amounts have been amended from those previously reported.

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

	2020 Total £m	2020 Weighted average number of shares million	2020 Per share p	2019[1] Total £m	2019[1] Weighted average number of shares million	2019[1] Per share p
Continuing operations						
Group adjusted operating profit attributable to ordinary shareholders	**2,111**	**3,925**	**53.8**	2,144	3,911	54.8
Dilutive effect of share awards and options	**—**	**19**	**(0.3)**	—	14	(0.2)
Diluted group adjusted operating profit per share from continuing operations	**2,111**	**3,944**	**53.5**	2,144	3,925	54.6
Discontinued operations						
Group adjusted operating profit attributable to ordinary shareholders	**274**	**3,925**	**7.0**	223	3,911	5.7
Dilutive effect of share awards and options	**—**	**19**	**—**	—	14	—
Diluted group adjusted operating profit per share from discontinued operations	**274**	**3,944**	**7.0**	223	3,925	5.7
Diluted group adjusted operating profit per share	**2,385**	**3,944**	**60.5**	2,367	3,925	60.3

1 Following a revision to the methodology to correctly allow for unvested share options in the calculation of the dilutive effect of share awards, the 2019 comparative amounts have been amended from those previously reported.

B9 – Dividends and appropriations

This note analyses the total dividends and other appropriations paid during the year, as set out in the table below. Details are also provided of the 2020 interim dividend, paid in January 2021, and the proposed final dividend for 2020, which are not accrued in these financial statements and are therefore excluded from the table.

	2020 £m	2019 £m
Ordinary dividends declared and charged to equity in the period		
Final 2019 – 21.40 pence per share, withdrawn on 8 April 2020	—	—
Final 2018 – 20.75 pence per share, paid on 30 May 2019	—	812
Second interim 2019 – 6.00 pence per share, paid on 24 September 2020	236	—
Interim 2019 – 9.50 pence per share, paid on 26 September 2019	—	372
	236	1,184
Preference dividends declared and charged to equity in the period	17	17
Coupon payments on DCI and tier 1 notes	27	43
	280	1,244

On 21 January 2021, an interim dividend of 7.00 pence per ordinary share was paid in respect of the 2020 financial year, amounting to £275 million, and will be accounted for as an appropriation of retained earnings in the year ending 31 December 2021. In respect of the 2019 financial year, two interim dividends were paid: 9.50 pence per ordinary share, amounting to £372 million, on 26 September 2019, accounted for as an appropriation of retained earnings in the year ended 31 December 2019, and a second payment of 6.00 pence per ordinary share, amounting to £236 million, on 24 September 2020, accounted for as an appropriation of retained earnings in the year ended 31 December 2020.

Subsequent to 31 December 2020, the directors proposed a final dividend for 2020 of 14 pence per ordinary share, amounting to £550 million in total. Subject to approval by shareholders at the AGM, the dividend will be paid on 14 May 2021 and will be accounted for as an appropriation of retained earnings in the year ending 31 December 2021. Subsequent to 31 December 2019, the directors agreed a final dividend for 2019 of 21.40 pence per ordinary share, amounting to £839 million. On 8 April 2020 the Group announced that the Board of Directors had agreed to withdraw this recommendation.

On 23 June 2020, notification was given that the Group would redeem the 5.9021% £500 million DCI at its principal amount together with accrued interest to (but excluding) 27 July 2020, the date on which the DCI was redeemed. Interest payable up to 23 June 2020 has been recorded as an appropriation of retained profits with the remaining interest payable from 24 June 2020 until the redemption date recorded within profit before tax attributable to shareholders' profits. In prior periods, the interest on the DCI and tier 1 notes was treated as an appropriation of retained profits and, accordingly, accounted for when paid.

B10 – Contract liabilities and associated reinsurance

The Group's liabilities for insurance and investment contracts it has sold, and the associated reinsurance, is covered in the following notes:

- Note B11 covers insurance liabilities;
- Note B12 covers the methodology and assumptions used in calculating the insurance liabilities;
- Note B13 covers liabilities for investment contracts;
- Note B14 details the associated reinsurance assets on these liabilities; and
- Note B15 shows the effects of changes in the assumptions on the liabilities.

(a) Carrying amount

The following is a summary of the contract liabilities and related reinsurance assets as at 31 December.

	2020 £m			2019 £m		
	Gross provisions £m	Reinsurance assets £m	Net £m	Gross provisions £m	Reinsurance assets £m	Net £m
Long-term business						
Insurance liabilities	(135,409)	7,176	(128,233)	(131,182)	6,369	(124,813)
Liabilities for participating investment contracts	(97,073)	1	(97,072)	(92,762)	1	(92,761)
Liabilities for non-participating investment contracts	(138,183)	3,860	(134,323)	(137,689)	4,006	(133,683)
	(370,665)	11,037	(359,628)	(361,633)	10,376	(351,257)
Outstanding claims provisions	(2,643)	87	(2,556)	(2,187)	93	(2,094)
	(373,308)	11,124	(362,184)	(363,820)	10,469	(353,351)
General insurance and health						
Outstanding claims provisions	(9,017)	794	(8,223)	(8,831)	683	(8,148)
Provisions for claims incurred but not reported	(3,367)	1,139	(2,228)	(2,672)	1,004	(1,668)
	(12,384)	1,933	(10,451)	(11,503)	1,687	(9,816)
Provision for unearned premiums	(5,210)	299	(4,911)	(5,138)	275	(4,863)
Provision arising from liability adequacy tests[1]	(2)	—	(2)	(15)	—	(15)
	(17,596)	2,232	(15,364)	(16,656)	1,962	(14,694)
Total	(390,904)	13,356	(377,548)	(380,476)	12,431	(368,045)
Less: Liabilities classified as held for sale	15,591	(18)	15,573	9,011	(75)	8,936
	(375,313)	13,338	(361,975)	(371,465)	12,356	(359,109)

1 Provision arising from liability adequacy tests relates to general insurance business only. Additional liabilities arising from liability adequacy test for life operations, where applicable, are included in unallocated divisible surplus. At 31 December 2020 this liability is £8 million *(2019: £nil)* for life operations.

B10 – Contract liabilities and associated reinsurance continued

(b) Change in contract liabilities, net of reinsurance, recognised as an expense

The purpose of the following table is to reconcile the change in insurance liabilities, net of reinsurance, shown on the consolidated income statement, to the change in insurance liabilities recognised as an expense in the relevant movement tables in the following notes. 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, 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.

2020	Gross £m	Reinsurance £m	Net £m
Long-term business			
Change in insurance liabilities (note B11(b)(iii))	**7,336**	**(1,458)**	**5,878**
Change in provision for outstanding claims	**471**	**(22)**	**449**
	7,807	**(1,480)**	**6,327**
General insurance and health			
Change in insurance liabilities (note B11(c)(iv) and B14(c)(ii))	**852**	**(259)**	**593**
Change in provision arising from liability adequacy tests	**(12)**	**—**	**(12)**
Less: Unwind of discount	**(11)**	**8**	**(3)**
	829	**(251)**	**578**
Total change in insurance liabilities	**8,636**	**(1,731)**	**6,905**
Less: Change in insurance liabilities from discontinued operations	**(515)**	**250**	**(265)**
Total change in insurance liabilities from continued operations	**8,121**	**(1,481)**	**6,640**

2019	Gross £m	Reinsurance £m	Net £m
Long-term business			
Change in insurance liabilities (note B11(b)(iii))	6,600	(1,030)	5,570
Change in provision for outstanding claims	4	(8)	(4)
	6,604	(1,038)	5,566
General insurance and health			
Change in insurance liabilities (note B11(c)(iv) and B14(c)(ii))[1]	234	(94)	140
Change in provision arising from liability adequacy tests	—	—	—
Less: Unwind of discount	(14)	10	(4)
	220	(84)	136
Total change in insurance liabilities	6,824	(1,122)	5,702
Less: Change in insurance liabilities from discontinued operations	(390)	358	(32)
Total change in insurance liabilities from continued operations	6,434	(764)	5,670

1 Includes £45 million in the UK General Insurance and Health business relating to a change in the discount rate used for estimating lump sum payments of bodily injury claims from 0.00% to -0.25%.

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. For participating investment contracts, the change in investment contract provisions on the income statement primarily consists of the movement in participating investment contract liabilities (net of reinsurance) over the reporting period.

B11 – Insurance liabilities

This note analyses the Group's gross insurance contract liabilities for the long-term and general insurance and health business, describes how the Group calculates these liabilities and presents the movement in these liabilities during the year.

(a) Carrying amount

Insurance liabilities (gross of reinsurance) at 31 December comprised:

	2020 £m	2019 £m
Long-term business		
Participating insurance liabilities	**44,725**	47,344
Unit-linked non-participating insurance liabilities	**14,061**	14,707
Other non-participating insurance liabilities	**76,623**	69,131
	135,409	131,182
Outstanding claims provisions	**2,643**	2,187
	138,052	133,369
General insurance and health		
Outstanding claims provisions	**9,017**	8,831
Provision for claims incurred but not reported	**3,367**	2,672
	12,384	11,503
Provision for unearned premiums	**5,210**	5,138
Provision arising from liability adequacy tests[1]	**2**	15
	17,596	16,656
Total	**155,648**	150,025
Less: Liabilities classified as held for sale	**(3,166)**	(687)
	152,482	149,338

1 Provision arising from liability adequacy tests relates to general insurance business only. Additional liabilities arising from liability adequacy test for life operations, where applicable, are included in unallocated divisible surplus. At 31 December 2020 this liability is £8 million *(2019: £nil)* for life operations.

(b) Long-term business liabilities

(i) Business description

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

- In the UK and Ireland, long-term business is mainly written in the 'Non-Profit' funds and in a number of 'With-Profits' sub-funds. In the 'Non-Profit' funds shareholders are entitled to 100% of the distributed profits. In the 'With-Profits' sub-funds the with-profits policyholders are entitled to between 40% and 100% of distributed profits, depending on the fund rules. There is also the Reattributed Inherited Estate External Support Account (RIEESA) in the UK, which does not itself underwrite any business, but provides capital support to one of the with-profits sub-funds and receives any surplus or deficit emerging from it. In the RIEESA, 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;
- 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; and
- In other Manage-for-value operations in Europe and Asia, a range of long-term insurance and savings products are written.

(ii) Group practice

The long-term business liabilities are 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 liabilities 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, mortality and 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 liabilities.

A description of the main methodology and most material valuation assumptions has been provided (see note B12).

B11 – Insurance liabilities continued

(b) Long-term business liabilities continued

(iii) Movements in long-term business liabilities

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

	2020 £m	2019 £m
Carrying amount at 1 January	**131,182**	125,829
Liabilities in respect of new business	**8,982**	6,988
Expected change in existing business	**(6,293)**	(6,452)
Variance between actual and expected experience	**(378)**	3,212
Impact of operating assumption changes	**(783)**	(961)
Impact of economic assumption changes	**5,531**	3,766
Other movements recognised as an expense[1]	**277**	47
Change in liability recognised as an expense (note B10(b))	**7,336**	6,600
Effect of portfolio transfers, acquisitions and disposals[2]	**(4,707)**	—
Foreign exchange rate movements	**1,510**	(1,775)
Other movements[3]	**88**	528
Carrying amount at 31 December	**135,409**	131,182

1 Other movements recognised as an expense during 2020 relate primarily to recognition of additional reserves related to with-profits legacy guarantees. Additional contributions from a special bonus distribution to with-profits policyholders and provisions for legacy unclaimed assets broadly offset by model changes in UK Life, Ireland and Singapore. The movement in 2019 relates to: a special bonus distribution to with-profits policyholders and model changes in UK Life; the reclassification of health liabilities in Singapore; and methodology changes in Ireland.
2 The movement during 2020 includes the disposal of FPI, Hong Kong and Singapore businesses.
3 Other movements include the reclassification in the UK from participating investment contracts to insurance contracts of £97 million during 2020 *(2019: £972 million)*. Other movements in 2019 also included £(427) million of negative reinsurance assets in the UK which were reclassified from insurance liabilities to reinsurance assets following a review of the presentation of negative reinsurance assets.

For many types of long-term business, including unit-linked and participating insurance liabilities, movements in asset values are offset by corresponding changes in liabilities, limiting the net impact on profit. The gross long-term business liabilities increased by £4.2 billion during 2020 *(2019: £5.4 billion increase)* mainly driven by:

- New business net of the expected change on existing business of £2.7 billion, primarily due to growing bulk purchase annuities sales in the UK;
- Variance between actual and expected experience of £(0.4) billion, which was mainly due to lower than expected equity returns in the UK, France and Italy;
- Impact of operating assumption changes of £(0.8) billion mainly due to updates to longevity assumptions (with the impact on profit partially offset by a corresponding reduction in reinsurance assets) in the UK; and
- Economic assumption changes of £5.5 billion, which reflects a reduction in valuation interest rates in response to decreasing interest rates and narrowing of credit spreads, primarily in respect of annuity contracts in the UK.

For participating insurance liabilities, a movement in liabilities is generally offset by a corresponding adjustment to the unallocated divisible surplus and does not impact profit. Where assumption changes impact profit, these are included in the effect of changes in assumptions and estimates during the year (see note B15), together with the impact of movements in related non-financial assets.

(c) General insurance and health liabilities

(i) Business description

The Group underwrites general insurance and health business in a number of countries as follows:

- In the UK and Ireland, providing individual and corporate customers with a wide range of insurance products;
- In Canada, providing a range of personal and commercial lines products; and
- In other Manage-for-Value operations in Europe, providing a range of general insurance and health products.

(ii) Group practice

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 liabilities 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 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.

B11 – Insurance liabilities continued

(c) General insurance and health liabilities continued

(iii) Provisions for outstanding claims

The table below shows the total general insurance and health liabilities split by outstanding claim provisions and provision for claims incurred but not reported (IBNR provisions), gross of reinsurance, by major line of business.

	As at 31 December 2020			As at 31 December 2019		
	Outstanding claim provisions £m	**IBNR provisions £m**	**Total claim provisions £m**	Outstanding claim provisions £m	IBNR provisions £m	Total claim provisions £m
Motor	**4,678**	**1,298**	**5,976**	4,836	1,115	5,951
Property	**2,117**	**430**	**2,547**	1,823	155	1,978
Liability	**1,940**	**1,440**	**3,380**	1,864	1,277	3,141
Creditor	**2**	**1**	**3**	5	6	11
Other	**280**	**198**	**478**	303	119	422
	9,017	**3,367**	**12,384**	8,831	2,672	11,503

The gross outstanding claims provision before discounting was £12,546 million *(2019: £11,801 million)*. Details of the range of discount rates used along with other material assumptions are available (see note B12(b)).

(iv) Movements in general insurance and health claims liabilities

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

	2020 £m	2019 £m
Carrying amount at 1 January	**11,503**	11,406
Impact of changes in assumptions	**184**	126
Claim losses and expenses incurred in the current year	**6,909**	7,045
Decrease in estimated claim losses and expenses incurred in prior periods	**(122)**	(186)
Incurred claims losses and expenses	**6,971**	6,985
Less:		
Payments made on claims incurred in the current year	**(3,315)**	(3,834)
Payments made on claims incurred in prior periods	**(3,137)**	(3,327)
Recoveries on claim payments	**322**	396
Claims payments made in the period, net of recoveries	**(6,130)**	(6,765)
Unwind of discounting	**11**	14
Changes in claims reserve recognised as an expense (note B10(b))	**852**	234
Effect of portfolio transfers, acquisitions and disposals[1]	**(72)**	—
Foreign exchange rate movements	**101**	(138)
Other movements	**—**	1
Carrying amount at 31 December	**12,384**	11,503

1 The movement during 2020 relates to the disposal of the Singapore business.

The impact of COVID-19 on general insurance incurred claims losses is estimated as £150 million after allowing for an estimated £500 million of offsetting favourable impacts in other product lines as a result of reduced economic activity. Claims are primarily as a result of disruption to business insured by the Group; partially offset by a reduction in claims frequency on other product lines. Further information on the impact of COVID-19 on general insurance and health liabilities can be found within note B20.

Since the ultimate cost of claims is not known in advance, there are uncertainties involved in estimating the loss reserves including those relating to the COVID-19 pandemic. Allowances for uncertainties in the reserving process are discussed in note B12.

(v) Movements in general insurance and health unearned premiums

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

	2020 £m	2019 £m
Carrying amount at 1 January	**5,138**	4,946
Premiums written during the year	**10,956**	10,908
Less: Premiums earned during the year	**(10,807)**	(10,677)
Changes in UPR recognised as an expense/(income)	**149**	231
Gross portfolio transfers and acquisitions[1]	**(104)**	—
Foreign exchange rate movements	**27**	(39)
Carrying amount at 31 December	**5,210**	5,138

1 The movement during 2020 relates to the disposal of the Singapore business.

B11 – Insurance liabilities continued

(vi) Analysis of general insurance and health claims development

The tables that follow present the development of claims payments and the estimated ultimate cost of claims for the accident years 2011 to 2020. The upper half of the tables shows the cumulative amounts paid during successive years related to each accident year, while the lower section of the tables shows the original estimated ultimate cost of claims and how these original estimates have increased or decreased, as more information becomes known about the individual claims and overall claim frequency and severity.

Key elements of the development of prior accident year general insurance and health net provisions during 2020 were:

- £47 million release from the UK and Ireland primarily due to favourable experience in personal property and personal motor lines, partially offset by strengthening across commercial lines due to adverse large claims experience;
- £13 million release from Canada primarily due to favourable injury experience in personal motor, offset by strengthening and large loss development in latent claims;
- £20 million release from Manage-for-value markets mainly due to favourable claims development in France.

Key elements of the development of prior accident year general insurance and health net provisions during 2019 were:

- £134 million release from the UK due to favourable claims experience in personal and commercial motor partly offset by a strengthening in commercial property and a change in the discount rate used for estimating lump sum payments in settlement of bodily injury claims (for further details see note B12);
- £58 million release from Canada primarily due to favourable claims experience on personal and commercial motor and large reinsurance recoverable on two catastrophe events from August 2018 in personal and commercial property lines; and
- £83 million release from other markets mainly due to favourable claims development in France.

Gross of reinsurance

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

Accident year	All prior years £m	2011 £m	2012 £m	2013 £m	2014 £m	2015 £m	2016 £m	2017 £m	2018 £m	2019 £m	**2020 £m**	**Total £m**
Gross cumulative claim payments												
At end of accident year		(3,420)	(3,055)	(3,068)	(3,102)	(2,991)	(3,534)	(3,517)	(3,769)	(3,617)	(3,240)	
One year later		(4,765)	(4,373)	(4,476)	(4,295)	(4,285)	(4,972)	(4,952)	(5,239)	(4,986)		
Two years later		(5,150)	(4,812)	(4,916)	(4,681)	(4,710)	(5,435)	(5,388)	(5,681)			
Three years later		(5,457)	(5,118)	(5,221)	(4,974)	(4,997)	(5,781)	(5,699)				
Four years later		(5,712)	(5,376)	(5,467)	(5,244)	(5,198)	(6,020)					
Five years later		(5,864)	(5,556)	(5,645)	(5,406)	(5,364)						
Six years later		(5,978)	(5,635)	(5,739)	(5,507)							
Seven years later		(6,032)	(5,718)	(5,785)								
Eight years later		(6,078)	(5,756)									
Nine years later		(6,101)										
Estimate of gross ultimate claims												
At end of accident year		6,428	6,201	6,122	5,896	5,851	6,947	6,894	7,185	6,979	6,896	
One year later		6,330	6,028	6,039	5,833	5,930	6,931	6,796	7,175	6,935		
Two years later		6,315	6,002	6,029	5,865	5,912	6,864	6,756	7,220			
Three years later		6,292	5,952	6,067	5,842	5,814	6,817	6,751				
Four years later		6,262	6,002	6,034	5,772	5,785	6,836					
Five years later		6,265	5,979	5,996	5,756	5,760						
Six years later		6,265	5,910	5,956	5,735							
Seven years later		6,223	5,902	5,950								
Eight years later		6,205	5,895									
Nine years later		6,213										
Estimate of gross ultimate claims		6,213	5,895	5,950	5,735	5,760	6,836	6,751	7,220	6,935	6,896	
Cumulative payments		(6,101)	(5,756)	(5,785)	(5,507)	(5,364)	(6,020)	(5,699)	(5,681)	(4,986)	(3,240)	
	2,305	112	139	165	228	396	816	1,052	1,539	1,949	3,656	**12,357**
Effect of discounting	(160)	(1)	(1)	—	—	—	—	—	—	—	—	**(162)**
Present value	2,145	111	138	165	228	396	816	1,052	1,539	1,949	3,656	**12,195**
Cumulative effect of foreign exchange movements	—	1	5	7	18	60	(4)	(9)	(2)	17	—	**93**
Effect of acquisitions	—	5	7	7	15	31	31	—	—	—	—	**96**
Present value recognised in the statement of financial position	**2,145**	**117**	**150**	**179**	**261**	**487**	**843**	**1,043**	**1,537**	**1,966**	**3,656**	**12,384**

B11 – Insurance liabilities continued

Net of reinsurance

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

Accident year	All prior years £m	2011 £m	2012 £m	2013 £m	2014 £m	2015 £m	2016 £m	2017 £m	2018 £m	2019 £m	**2020 £m**	**Total £m**
Net cumulative claim payments												
At end of accident year		(3,300)	(2,925)	(2,905)	(2,972)	(2,867)	(3,309)	(3,483)	(3,718)	(3,565)	(3,090)	
One year later		(4,578)	(4,166)	(4,240)	(4,079)	(4,061)	(4,591)	(4,843)	(5,117)	(4,873)		
Two years later		(4,963)	(4,575)	(4,649)	(4,432)	(4,452)	(5,012)	(5,255)	(5,514)			
Three years later		(5,263)	(4,870)	(4,918)	(4,720)	(4,725)	(5,329)	(5,560)				
Four years later		(5,485)	(5,110)	(5,159)	(4,973)	(4,919)	(5,564)					
Five years later		(5,626)	(5,289)	(5,324)	(5,132)	(5,085)						
Six years later		(5,740)	(5,371)	(5,417)	(5,222)							
Seven years later		(5,798)	(5,439)	(5,459)								
Eight years later		(5,842)	(5,488)									
Nine years later		(5,868)										
Estimate of net ultimate claims												
At end of accident year		6,202	5,941	5,838	5,613	5,548	6,489	6,714	6,997	6,774	6,378	
One year later		6,103	5,765	5,745	5,575	5,635	6,458	6,591	6,944	6,729		
Two years later		6,095	5,728	5,752	5,591	5,608	6,377	6,569	6,983			
Three years later		6,077	5,683	5,733	5,559	5,517	6,334	6,560				
Four years later		6,034	5,717	5,689	5,490	5,495	6,335					
Five years later		6,005	5,680	5,653	5,472	5,469						
Six years later		6,003	5,631	5,612	5,449							
Seven years later		5,967	5,600	5,612								
Eight years later		5,952	5,607									
Nine years later		5,961										
Estimate of net ultimate claims		5,961	5,607	5,612	5,449	5,469	6,335	6,560	6,983	6,729	6,378	
Cumulative payments		(5,868)	(5,488)	(5,459)	(5,222)	(5,085)	(5,564)	(5,560)	(5,514)	(4,873)	(3,090)	
	990	93	119	153	227	384	771	1,000	1,469	1,856	3,288	**10,350**
Effect of discounting	(89)	1	(1)	2	—	—	—	—	—	—	—	**(87)**
Present value	901	94	118	155	227	384	771	1,000	1,469	1,856	3,288	**10,263**
Cumulative effect of foreign exchange movements	—	1	5	7	17	59	(4)	(9)	(2)	16	—	**90**
Effect of acquisitions	3	5	7	7	15	30	31	—	—	—	—	**98**
Present value recognised in the statement of financial position	**904**	**100**	**130**	**169**	**259**	**473**	**798**	**991**	**1,467**	**1,872**	**3,288**	**10,451**

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 more than 10 years ago. The undiscounted claim provisions, net of reinsurance, in respect of this business at 31 December 2020 were £87 million *(2019: £88 million)*. The movement in asbestos and environmental pollution liabilities in the year reflects a reduction of £11 million due to favourable claims development, claim payments net of reinsurance recoveries and foreign exchange movements.

B12 – Insurance liabilities methodology and assumptions

(a) Long-term business

The main method used for the actuarial valuation of long-term insurance liabilities is the gross premium method which involves the discounting of projected future cash flows. The cash flows are calculated using the contractual premiums payable together with explicit assumptions for investment returns, discount rates, inflation, mortality, morbidity, persistency and future expenses. These assumptions can vary by contract type and reflect current and expected future experience with an allowance for prudence.

The methodology and assumptions described below relate to the UK and France insurance businesses only.

(i) UK

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-profits funds, are valued using the gross premium method. For non-profit business in the ex. Friends Life with-profits funds, the liabilities are measured on a realistic basis with implicit recognition of the present value of future profits.

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

B12 – Insurance liabilities methodology and assumptions continued

(a) Long-term business continued

Discount rates

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 making a deduction from the yields on corporate bonds, mortgages and deposits, based on historical default experience of each asset class. For equity release assets, the risk allowances are consistent with those used in the fair value asset methodology. A further margin for risk is then deducted for all asset classes.

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

Valuation discount rates (Gross of investment expenses)	**2020**	2019
Assurances		
Life conventional non-profit	**0.5%**	0.5% to 2.1%
Pensions conventional non-profit	**0.5%**	0.6% to 1.6%
Annuities		
Conventional immediate and deferred annuities	**0.5% to 1.5%**	0.9% to 2.3%
Non-unit reserves on unit-linked business		
Life	**0.4%**	0.9%
Pensions	**0.5%**	1.1%
Income Protection		
Active lives	**0.5%**	0.6% to 2.1%
Claims in payment (level and index linked)	**0.5%**	1.1%

The valuation discount rates are after a reduction for risk, but before allowance for investment expenses. For annuity business, the allowance for risk comprises long-term assumptions on a prudent basis for defaults or, in the case of equity release assets, expected losses arising from the No-Negative-Equity Guarantee. These allowances vary by asset category and for some asset classes by rating.

The risk allowances made for corporate bonds (including overseas government bonds and structured finance assets), mortgages (including healthcare mortgages, commercial mortgages and infrastructure assets), and equity release equated to 46 bps, 35 bps, and 118 bps respectively at 31 December 2020 *(2019: 45 bps – 47 bps, 31 bps – 35 bps, and 124 bps respectively)*.

The total valuation allowance in respect of corporate bonds was £1.4 billion *(2019: £1.3 billion)* over the remaining term of the portfolio at 31 December 2020. The total valuation allowance in respect of mortgages (including healthcare mortgages but excluding equity release) was £0.6 billion at 31 December 2020 *(2019: £0.5 billion)*. The total valuation allowance in respect of equity release mortgages was £1.7 billion at 31 December 2020 *(2019: £1.5 billion)*. Total liabilities for the annuity business were £62.9 billion at 31 December 2020 *(2019: £57.6 billion)*.

Expenses

Maintenance expense assumptions for non-profit business are generally expressed as a per policy charge set with regards to an allocation of current year expense levels by broad category of business and using the policy counts for in-force business. The assumptions also include an allowance for prudence and increase by future expense inflation over the lifetime of each contract. Expense inflation is assumed to be in line with RPI, and in line with external agreements for business administered externally. An additional liability is held if projected per policy expenses in future years are expected to exceed current assumptions. Further, explicit project expense liabilities are held for non-discretionary project costs that typically relate to mandatory requirements. Expense-related liabilities are only held where expenses are not covered by anticipated future profits in the liability methodology, notably for unit-linked contracts. Investment expense assumptions are generally expressed as a proportion of the assets backing the liabilities.

Mortality

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	**2020**	2019
Assurances		
Non-profit	**AM00/AF00 or TM08/TF08 adjusted for smoker status and age/sex specific factors**	AM00/AF00 or TM08/TF08 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	**PMA08 HAMWP /PFA08 HAMWP adjusted plus allowance for future mortality improvement**	PMA08 HAMWP /PFA08 HAMWP adjusted plus allowance for future mortality improvement
Bulk purchase annuities	**CV3**	CV3

For the largest portfolio of pensions annuity business, the underlying mortality assumptions for males are 105.2% of PMA08 HAMWP adjusted *(2019: 105.4% of PMA08 HAMWP adjusted)* with base year 2008; for females the underlying mortality assumptions are 102.7% of PFA08 HAMWP adjusted *(2019: 99.5% of PFA08 HAMWP adjusted)* with base year 2008.

B12 – Insurance liabilities methodology and assumptions continued

(a) Long-term business continued

Mortality continued

Improvements are based on 'CMI_2019 (S=7.25) Advanced with adjustments' *(2019: 'CMI_2018 (S=7.25) Advanced with adjustments')* with a long-term improvement rate of 1.5% *(2019: 1.75%)* for males and 1.5% *(2019: 1.5%)* for females, both with an additional improvement for prudence of 0.5% *(2019: 0.5%)* to all future annual improvement adjustments. The CMI_2019 tables have been adjusted by adding 0.25% *(2019: 0.25%)* and 0.35% *(2019: 0.35%)* to the initial rate of mortality improvements for males and females respectively (to allow for greater mortality improvements in the annuitant population relative to the general population on which CMI_2019 is based), and uses the advanced parameters to taper the long-term improvement rates to zero between ages 90 and 115 (the 'core' parameters taper the long-term improvement rates to zero between ages 85 and 110). The tapering approach is unchanged from that used at 2019. In addition, on a significant proportion of individual annuity business, 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.

With-profits business

The Group's UK with-profits funds are evaluated by reference to FRS 27, which was grandfathered under IFRS 4, prior to the adoption of Solvency II. This uses an approach of calculating the realistic liabilities for the contracts. The realistic liabilities include the with-profits benefit reserve (WPBR), and an additional provision for the expected cost of any guarantees and options in excess of the WPBR.

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.

Provisions for guarantees and options within realistic liabilities are measured using market-consistent stochastic models. A stochastic approach includes measuring the time value of guarantees and options, which represents the additional cost arising from uncertainty surrounding future economic conditions. 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.

The with-profits business is valued by adjusting Solvency II Best Estimate Liabilities and results in a valuation in accordance with FRS 27.

Future investment return

A risk-free rate equal to the spot yield on UK swaps is used for the valuation of with-profits business. The rates vary according to the outstanding term of the policy, with a typical rate as at 31 December 2020 of 0.40% *(2019: 1.02%)* 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	**2020**	2019
Equity returns	**19.0%**	16.2%
Property returns	**15.4%**	15.8%

The equity volatility used depends on term, moneyness and region. The figure shown is for a sample UK equity, at the money, with a ten-year term.

Future regular bonuses

Annual bonus assumptions for 2021 have been set consistently with the year-end 2020 declaration. Future annual bonus rates reflect the principles and practices of each fund. In particular, the level is set with regard to the projected margin for final bonus and the change from one year to the next is limited to a level consistent with past practice.

Mortality

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

Mortality table used	**2020**	2019
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	**PMA08 HAMWP/PFA08 HAMWP adjusted plus allowance for future mortality improvement**	PMA08 HAMWP/PFA08 HAMWP adjusted plus allowance for future mortality improvement

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

B12 – Insurance liabilities methodology and assumptions continued

(a) Long-term business continued

Expenses

Maintenance fee assumptions for with-profits business are generally expressed as a fixed per policy charge in line with a memorandum of understanding between the with-profits funds and the non-profit fund within the company. The memorandum of understanding specifies the charges for a five-year period ending in 2023 and specifies a level of charge inflation during that period of CPI+2% or CPI+3% depending on the product type. After the end of the period covered by the memorandum of understanding we assume that the charges will remain unchanged, and a level of charge inflation of RPI+1% for all products will apply. Any difference of expenses charged by Aviva Life Services UK Limited (UKLS) to Aviva Life & Pensions UK Limited (AVLAP) over the charges specified by the memorandum of understanding accrues to the non-profit fund.

Guarantees and options

The provisions held in respect of guaranteed annuity options for the with-profits and the non-profit business 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.

(ii) 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
	2020	2019	**2020 and 2019**
Life assurances	**0% to 4.5%**	0% to 4.5%	TD73-77, TD88-90, TH00-02, TF00-02, H_AVDBS, F_AVDBS, H_SSDBS, F_SSDBS
Annuities	**0% to 1.5%**	0% to 1.5%	TGF05/TGH05

(b) General insurance and health

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 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. Historical claims development is mainly analysed by accident period, although underwriting or notification period is also used where this is considered appropriate.

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 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:

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:

	Discount rate		Mean term of liabilities	
Class	**2020**	2019	**2020**	2019
Reinsured London Market business	**0.0% to 1.5%**	0.8% to 2.2%	**9 years**	9 years
Latent claims	**0.0% to 1.2%**	0.8% to 2.2%	**9 to 11 years**	10 to 12 years
Structured settlements	**-0.4% to 2.3%**	-0.2% to 2.7%	**11 to 35 years**	11 to 35 years

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, structured settlements and reinsured London Market business is based on the swap curve in the relevant currency at the reporting date, having regard to the duration of 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 9 and 11 years depending on the geographical region.

At 31 December 2020, it is estimated that a 1% fall in the discount rates used would increase net claim reserves by approximately £130 million *(2019: £120 million)*, excluding the offsetting effect on asset values as assets are not hypothecated across classes of business.

B12 – Insurance liabilities methodology and assumptions continued

(b) General insurance and health continued

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 considers the latest available market information and studies and how these might impact Aviva's liabilities.

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 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.

Lump sum payments in settlement of bodily injury claims that are 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 and is applied when calculating the present value of future care costs and loss of earnings for claims settlement purposes. The balance sheet reserves in the UK have been calculated using the current Ogden discount rate of -0.25%, as this is the enacted legislative rate that was announced by the Lord Chancellor in August 2019. The Ogden discount rate is expected to be reviewed by the Lord Chancellor by summer 2024

B13 – Liability for investment contracts

This note analyses our gross liabilities for investment contracts by type of product and describes the calculation of these liabilities.

(a) Carrying amount

The liabilities for investment contracts (gross of reinsurance) at 31 December 2020 comprised:

	2020 £m	2019 £m
Long-term business		
Liabilities for participating investment contracts	**97,073**	92,762
Liabilities for non-participating investment contracts	**138,183**	137,689
Total	**235,256**	230,451
Less: Liabilities classified as held for sale	**(12,425)**	(8,324)
	222,831	222,127

(b) Group practice

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 for long-term business liabilities (see note B12). 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 deferred consideration of participating contracts to the IFRS 17 insurance standard, which is expected to apply to annual reporting periods beginning on or after 1 January 2023.

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, except for the with-profits sub-fund supported by the RIEESA.

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, £138,044 million at 31 December 2020 *(2019: £137,040 million)* 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 B24, which relates primarily to the acquisition of Friends Life in 2015 and Friends First in 2018.

B13 – Liabilities for investment contracts continued

(c) Movements in the year

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

(i) Participating investment contracts

	2020 £m	2019 £m
Carrying amount at 1 January	**92,762**	90,455
Liabilities in respect of new business	**4,691**	6,991
Expected change in existing business	**(5,127)**	(4,857)
Variance between actual and expected experience	**343**	4,751
Impact of operating assumption changes	**92**	173
Impact of economic assumption changes	**330**	204
Other movements recognised as an expense[1]	**76**	103
Change in liability recognised as an expense[2]	**405**	7,365
Foreign exchange rate movements	**4,003**	(4,054)
Other movements[3]	**(97)**	(1,004)
Carrying amount at 31 December	**97,073**	92,762

1 Other movements recognised as an expense during 2020 relate to a special bonus distribution to with-profits policyholders in UK Life. In 2019 this related to a special bonus distribution and the recognition of unitised with-profits annual management charges in UK Life.
2 Total interest expense for participating investment contracts recognised in profit or loss is £1,311 million *(2019: £5,269 million)*.
3 Other movements include the reclassification in the UK from participating investment contracts to insurance contracts of £(97) million during 2020 *(2019: £(972) million)*. Other movements in 2019 also included a reclassification in the UK from participating investment contracts to outstanding claims reserves of £(32) million.

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 2020 of £0.3 billion is primarily due to higher bond and gilt values as a result of lower interest rates and increases in US and Japanese equity markets; partially offset by decreases in UK and European equity performance.

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 B15, together with the impact of movements in related non-financial assets.

(ii) Non-participating investment contracts

	2020 £m	2019 £m
Carrying amount at 1 January	**137,689**	120,354
Liabilities in respect of new business	**4,187**	5,520
Expected change in existing business	**(3,231)**	(3,742)
Variance between actual and expected experience	**6,970**	16,345
Impact of operating assumption changes	**19**	(22)
Impact of economic assumption changes	**6**	(1)
Other movements recognised as an expense	**—**	2
Change in liability	**7,951**	18,102
Effect of portfolio transfers, acquisitions and disposals[1]	**(8,038)**	—
Foreign exchange rate movements	**583**	(575)
Other movements[2]	**(2)**	(192)
Carrying amount at 31 December	**138,183**	137,689

1 The movement during 2020 relates to the disposal of FPI.
2 Other movements during 2019 relate to a reclassification from non-participating investment to outstanding claims reserves in the UK (£(180) million).

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 2020 of £7.0 billion is due to higher bond and gilt values as a result of lower interest rates and increases in US and Japanese equity markets; partially offset by decreases in UK and European equity performance. In addition more UK pension policies have remained in force due to increased pensions freedoms.

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 B15, which combines participating and non-participating investment contracts together with the impact of movements in related non-financial assets.

B14 Reinsurance assets

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

(a) Carrying amount

The reinsurance assets at 31 December comprised:

	2020 £m	2019 £m
Long-term business		
Insurance contracts	**7,176**	6,369
Participating investment contracts	**1**	1
Non-participating investment contracts[1]	**3,860**	4,006
	11,037	10,376
Outstanding claims provisions	**87**	93
	11,124	10,469
General insurance and health		
Outstanding claims provisions	**794**	683
Provisions for claims incurred but not reported	**1,139**	1,004
	1,933	1,687
Provisions for unearned premiums	**299**	275
	2,232	1,962
	13,356	12,431
Less: Assets classified as held for sale	**(18)**	(75)
Total	**13,338**	12,356

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.

Of the above total, £12,048 million *(2019: £10,943 million)* is expected to be recovered more than one year after this statement of financial position.

(b) Assumptions

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

(c) Movements

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

(i) Long-term business liabilities

	2020 £m	2019 £m
Carrying amount at 1 January	**10,376**	9,846
Assets in respect of new business	**1,539**	954
Expected change in existing business assets	**(335)**	(185)
Variance between actual and expected experience	**763**	274
Impact of non-economic assumption changes	**(150)**	(175)
Impact of economic assumption changes	**503**	193
Other movements recognised as an expense[1]	**(998)**	(37)
Change in assets[2]	**1,322**	1,024
Effect of portfolio transfers, acquisitions and disposals[3]	**(731)**	—
Foreign exchange rate movements	**63**	(73)
Other movements[4]	**7**	(421)
Carrying amount at 31 December	**11,037**	10,376

1 Other movements recognised as an expense during 2020 primarily relate to the reclassification of collective investments in unit-linked funds in the UK following a restructure of a reinsurance treaty. The movement in 2019 primarily relates to the ceding of reinsurance for annuity business offset by basis methodology changes in Ireland, the reclassification of health reinsurance assets in Singapore and collective investments in unit-linked funds in the UK following a restructure of a reinsurance treaty.
2 Change in assets does not reconcile with values in note B10(b) due to the inclusion of reinsurance assets classified as non-participating investment contracts where, for such contracts, deposit accounting is applied on the income statement.
3 Movements in 2020 relate to the disposals of the FPI, Hong Kong and Singapore businesses.
4 Other movements in 2019 included £(427) million of negative reinsurance assets in the UK which were reclassified form insurance liabilities to reinsurance assets following a review of the presentation of negative reinsurance assets.

The impact of assumption changes in the above analysis shows the resulting movement in the carrying value of reinsurance assets, 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 impact profit, these are included in the effect of changes in assumptions and estimates during the year (see note B15), together with the impact of movements in related liabilities and other non-financial assets.

B14 – Reinsurance assets continued

(c) Movements continued

(ii) General insurance and health claims liabilities

	2020 £m	2019 £m
Carrying amount at 1 January	**1,687**	1,611
Impact of changes in assumptions	**81**	73
Reinsurers' share of claim losses and expenses		
Incurred in current year	**521**	195
Incurred in prior years	**(43)**	96
Reinsurers' share of incurred claim losses and expenses	**478**	291
Less:		
Reinsurance recoveries received on claims		
Incurred in current year	**(145)**	(53)
Incurred in prior years	**(163)**	(227)
Reinsurance recoveries received in the year	**(308)**	(280)
Unwind of discounting	**8**	10
Change in reinsurance asset recognised as income (note B10(b))	**259**	94
Effect of portfolio transfers, acquisitions and disposals[1]	**(9)**	—
Foreign exchange rate movements	**(4)**	(15)
Other movements	**—**	(3)
Carrying amount at 31 December	**1,933**	1,687

1 The movement during 2020 relates to the disposal of the Singapore business.

The impact of COVID-19 on reinsurers' share of incurred claim losses is estimated as £255 million. Further information on the impact of COVID-19 on general insurance and health liabilities and associated reinsurance can be found within note B20.

(iii) General insurance and health unearned premiums

	2020 £m	2019 £m
Carrying amount at 1 January	**275**	254
Premiums ceded to reinsurers in the year	**725**	683
Less: Reinsurers' share of premiums earned during the year	**(696)**	(661)
Changes in reinsurance asset recognised as income	**29**	22
Reinsurers' share of portfolio transfers and acquisitions[1]	**(4)**	—
Foreign exchange rate movements	**—**	(1)
Carrying amount at 31 December	**300**	275

1 The movement during 2020 relates to the disposal of the Singapore business.

B15 – Effect of changes in assumptions and estimates during the year

This note analyses the impact of changes in estimates and assumptions from 2019 to 2020, on liabilities for insurance and investment contracts, and related assets and liabilities, such as unallocated divisible surplus, reinsurance, deferred acquisition costs and acquired value of in-force business and does not allow for offsetting movements in the value of backing financial assets.

	Effect on profit 2020 £m	Effect on profit 2019 £m
Assumptions		
Long-term insurance business		
Interest rates	**(3,831)**	(2,978)
Expenses	**111**	(47)
Persistency rates	**(31)**	(124)
Mortality and morbidity for assurance contracts	**81**	(38)
Mortality for annuity contracts	**384**	830
Tax and other assumptions	**14**	9
Long-term investment business		
Expenses	**3**	—
General insurance and health business		
Change in discount rate assumptions	**(104)**	(54)
Total	**(3,373)**	(2,402)

The impact of change in 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 reduction in the discount rate, in response to decreasing interest rates and narrowing credit spreads, has increased liabilities.

The impact of expense assumption changes on long-term business relates to the UK and Ireland, where reserves have decreased by £111 million following a review of recent experience including the expense allocations.

The impact of persistency assumption changes on long-term business relates to the UK where reserves have increased by £31 million following a review of recent experience on protection business.

The impact of change in mortality and morbidity assumptions for assurance contracts relates primarily to Singapore where prior to disposal there was a reduction in reserves of £86 million following a review of recent experience. In addition, there has been a £40 million strengthening of reserves in the UK as a result of COVID-19 partially offset by a £32 million reduction in reserves following a review of recent experience (not related to COVID-19).

The impact of mortality assumption changes for annuitant contracts on long-term business relates primarily to a reduction in reserves of £390 million in the UK. This is due to changes in assumptions on both individual and bulk purchase annuities arising from:

- Updates to base mortality to reflect recent experience of £224 million;
- Updates to the rate of mortality improvements, including moving to CMI 2019 and changing the long-term rate of future mortality improvements for males of £210 million;
- Changes to assumptions for anti-selection on individual annuities of £(68) million;
- Net impacts arising from COVID-19 of £24 million.

In 2019 the impact of mortality for annuitant contracts on long-term business related primarily to a reduction in reserves of £799 million in the UK comprising:

- Updates to base mortality to reflect recent experience for individual annuities of £81 million;
- Updates to the rate of mortality improvements for individual annuities, including CMI 2018 and a change in smoothing parameter, of £410 million;
- Refinements to modelling of bulk purchase annuities together with a change to base mortality, improvements and a change in smoothing parameter, of £231 million;
- Refinements to modelling of enhanced annuities of £58 million; and
- Other less significant movements of £19 million.

In the general insurance and health business, a negative impact of £(104) million *(2019: £(54) million negative)* has arisen primarily as a result of a decrease in the interest rates used to discount claim reserves for both periodic payment orders (PPOs) and latent claims.

B16 – 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 undefined.

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

	2020 £m	2019 £m
Carrying amount at 1 January	**9,597**	5,949
Change in participating fund assets	**2,925**	9,411
Change in participating fund liabilities	**(1,244)**	(5,426)
Other movements[1]	**8**	—
Change in liability recognised as an expense	**1,689**	3,985
Effect of portfolio transfers, acquisition and disposals[2]	**(730)**	—
Foreign exchange rate movements	**414**	(337)
	10,970	9,597
Less: Classified as held for sale	**(1,234)**	—
Carrying amount at 31 December	**9,736**	9,597

1 Other movements relates to additional liabilities arising from the liability adequacy test for France of £8 million *(2019: £nil)*.
2 The movement during 2020 relates to disposal of the Singapore business.

The amount of UDS at 31 December 2020 has increased to £9.7 billion *(2019: £9.6 billion)*. The movement in UDS is mainly due to market movements in Europe as a result of decreasing interest rates and narrowing credit spreads; partially offset by a decrease in the UK due to an increase in liabilities for special bonus distributions, the disposal of the Singapore business and business now held for sale in Italy.

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 material negative UDS balances at the participating fund-level within each life entity in the current period *(2019: no material negative UDS)*.

B17 – Borrowings

Our borrowings are classified as either core structural borrowings, which are included within the Group's capital employed, or operational borrowings drawn by operating subsidiaries. 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:

	2020 £m	2019 £m
Core structural borrowings, at amortised cost	**8,253**	7,496
Operational borrowings, at amortised cost	**308**	338
Operational borrowings, at fair value	**1,166**	1,233
	1,474	1,571
	9,727	9,067
Less: Liabilities classified as held for sale	**(43)**	(28)
	9,684	9,039

(b) Movements in the year

Movements in borrowings during the year were:

	2020			2019		
	Core Structural £m	Operational £m	Total £m	Core Structural £m	Operational £m	Total £m
New borrowings drawn down, excluding commercial paper, net of expenses	**754**	**(2)**	**752**	—	75	75
Repayment of borrowings, excluding commercial paper[1]	**(499)**	**(69)**	**(568)**	(210)	(231)	(441)
Movement in commercial paper[2]	**(150)**	**—**	**(150)**	19	—	19
Net cash outflow	**105**	**(71)**	**34**	(191)	(156)	(347)
Foreign exchange rate movements	**177**	**36**	**213**	(204)	(28)	(232)
Borrowings reclassified/(loans repaid) for non-cash consideration[1]	**499**	**(26)**	**473**	210	(4)	206
Fair value movements	**—**	**(11)**	**(11)**	—	38	38
Amortisation of discounts and other non-cash items	**(24)**	**—**	**(24)**	(23)	—	(23)
Movements in debt held by Group companies[3]	**—**	**(25)**	**(25)**	5	—	5
Movements in the year	**757**	**(97)**	**660**	(203)	(150)	(353)
Balance at 1 January	**7,496**	**1,571**	**9,067**	7,699	1,721	9,420
Balance at 31 December	**8,253**	**1,474**	**9,727**	7,496	1,571	9,067

1 On 23 June 2020, notification was given that the Group would redeem 5.9021% £500 million direct capital instrument. At that date, the instruments were reclassified as a financial liability of £499 million, representing the fair value at that date. On 27 July 2020 the instruments were redeemed in full at a cost of £500 million. The difference of £1 million between the carrying amount of £500 million and fair value of £499 million was charged to retained earnings. On 17 October 2019, notification was given that the Group would redeem the 6.875% £210 million tier 1 notes. At that date, the instruments were reclassified as a financial liability of £210 million, representing the fair value at that date. On 21 November 2019 the instruments were redeemed in full at a cost of £210 million. The difference of £21 million between the carrying amount of £231 million and fair value of £210 million was charged to retained earnings.
2 Gross issuances of commercial paper were £214 million in 2020 *(2019: £505 million)*, offset by repayments of £364 million *(2019: £486 million)*.
3 Certain subsidiary companies have purchased subordinated notes and securitised loan notes issued by Group companies 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.

B17 – Borrowings continued

All movements in fair value in 2019 and 2020 on securitised mortgage loan notes designated as fair value through profit or loss were attributable to changes in market conditions.

(c) Subsequent events

On 3 March 2021 the Group approved the launch of £800 million of tender offers for certain series of its euro and sterling denominated notes to expedite the delivery of the Group's debt reduction targets.

B18 – 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. The assets and liabilities of these defined benefit schemes as at 31 December 2020 are shown below.

	2020				2019			
	UK £m	Ireland £m	Canada £m	Total £m	UK £m	Ireland £m	Canada £m	Total £m
Total fair value of scheme assets	18,915	941	269	20,125	17,671	833	264	18,768
Present value of defined benefit obligation	(16,623)	(1,123)	(345)	(18,091)	(15,416)	(1,035)	(341)	(16,792)
Net IAS 19 surpluses/(deficits) in the schemes	2,292	(182)	(76)	2,034	2,255	(202)	(77)	1,976
Surpluses included in other assets	2,780	—	—	2,780	2,746	—	—	2,746
Deficits included in provisions	(488)	(182)	(76)	(746)	(491)	(202)	(77)	(770)
Net IAS 19 surpluses/(deficits) in the schemes	2,292	(182)	(76)	2,034	2,255	(202)	(77)	1,976

Movements in the scheme surpluses and deficits

Movements in the pension schemes' surpluses and deficits comprise:

2020	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	18,768	(16,792)	1,976
Past service costs – amendments[1]	—	(18)	(18)
Administrative expenses[2]	—	(17)	(17)
Total pension cost charged to net operating expenses	—	(35)	(35)
Net interest credited/(charged) to investment income /(finance costs)[3]	350	(309)	41
Total recognised in income	350	(344)	6
Remeasurements:			
Actual return on these assets	1,746	—	1,746
Less: Interest income on scheme assets	(350)	—	(350)
Return on scheme assets excluding amounts in interest income	1,396	—	1,396
Losses from change in financial assumptions	—	(1,769)	(1,769)
Gains from change in demographic assumptions	—	43	43
Experience gains	—	182	182
Total recognised in other comprehensive income	1,396	(1,544)	(148)
Employer contributions	211	—	211
Plan participant contributions	2	(2)	—
Benefits paid	(631)	631	—
Administrative expenses paid from scheme assets[2]	(17)	17	—
Foreign exchange rate movements	46	(57)	(11)
Net IAS 19 surplus in the schemes at 31 December	20,125	(18,091)	2,034

1 Past service costs include a charge of £18 million relating to the estimated liability arising in the UK defined benefit pension schemes as a result of the requirement to equalise the cash equivalent transfer values paid to former scheme members for the effects of Guaranteed Minimum Pension (GMP). This additional liability has arisen following the High Court judgement in November 2020 in the case involving Lloyds Banking Group.
2 Administrative expenses are expensed as incurred.
3 Net interest income of £58 million has been credited to investment income and net interest expense of £17 million has been charged to finance costs.

During the period the Aviva Staff Pension Scheme (ASPS) completed a bulk annuity buy-in transaction with Aviva Life & Pensions UK Limited, a Group Company. Due to different measurement bases applying for accounting purposes, the premium paid by the scheme exceeded the valuation of the plan asset recognised. This has been recognised as a loss in the actual return on assets within other comprehensive income. The plan asset recognised is transferable and so has not been subject to consolidation within the Group's financial statements.

B18 – Pension obligations continued

The remeasurements recognised are also a result of falling interest rates over the period; as well as an update to the corporate bond portfolio used to derive the discount rate, which reduces the liabilities under IAS 19. The impact of the change in corporate bond portfolio used to derive the discount rate is recognised as a gain from change in financial assumptions within other comprehensive income.

2019	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	18,083	(15,520)	2,563
Administrative expenses[1]	—	(19)	(19)
Total pension cost charged to net operating expenses	—	(19)	(19)
Net interest credited/(charged) to investment income /(finance costs)[2]	479	(406)	73
Total recognised in income	479	(425)	54
Remeasurements:			
Actual return on these assets	1,141	—	1,141
Less: Interest income on scheme assets	(479)	—	(479)
Return on scheme assets excluding amounts in interest income	662	—	662
Losses from change in financial assumptions	—	(1,824)	(1,824)
Gains from change in financial assumptions	—	165	165
Experience gains	—	130	130
Total recognised in other comprehensive income	662	(1,529)	(867)
Employer contributions	215	—	215
Plan participant contributions	4	(4)	—
Benefits paid	(612)	612	—
Administrative expenses paid from scheme assets[1]	(19)	19	—
Foreign exchange rate movements	(44)	55	11
Net IAS 19 surplus in the schemes at 31 December	18,768	(16,792)	1,976

1 Administrative expenses are expensed as incurred.
2 Net interest income of £96 million has been credited to investment income and net interest expense of £23 million has been charged to finance costs.

B19 – 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

	2020				2019			
	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	**12**	**(1)**	**—**	**6**	1	—	—	4
Joint ventures	**27**	**—**	**—**	**1**	54	—	—	4
Employee pension schemes	**11**	**—**	**—**	**6**	9	—	—	6
	50	**(1)**	**—**	**13**	64	—	—	14

Transactions with joint ventures in the UK relate to the property management undertakings. The Group has equity interests in these joint ventures, together with the provision of administration services and financial management to many of them. 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 2020, 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 2020, the Friends Provident Pension Scheme ('FPPS'), acquired in 2015 as part of the acquisition of the Friends Life business, held an insurance policy of £667 million *(2019: £646 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.

B19 – Related party transactions continued

During the prior period, the ASPS completed a bulk annuity buy-in transaction with Aviva Life & Pensions UK Limited (AVLAP), a Group company. At inception, the buy-in insured approximately 4,300 deferred and 1,500 current pensioner liabilities. A premium of £1,665 million was paid by the scheme to AVLAP, with AVLAP recognising gross insurance liabilities of £1,334 million. The difference between the premium and the gross liabilities implied a profit of £331 million, which did not include costs incurred by the Group associated with the transaction, and was driven primarily by differences between the measurement bases used to calculate the premium and the accounting value of the associated gross liabilities. The ASPS recognised a plan asset of £1,126 million, with the difference between the plan asset recognised and the premium paid being recognised as an actuarial loss through Other Comprehensive Income.

During the current period, the ASPS completed a further bulk annuity buy-in transaction with AVLAP. A premium of £873 million was paid by the scheme to AVLAP, with AVLAP recognising gross liabilities of £737 million. The difference between the premium and the gross liabilities implies a profit of £136 million, which does not include costs incurred by the Group associated with the transaction, and is driven primarily by differences between the measurement bases used to calculate the premium and the accounting value of the associated gross liabilities. The ASPS recognised a plan asset of £579 million, with the difference between the plan asset recognised and the premium paid being recognised as an actuarial loss through Other Comprehensive Income. As at 31 December 2020, AVLAP recognised technical provisions of £2,147 million *(2019: £1,243 million)* in relation to buy-in transactions with the ASPS which have been included within the Group's gross insurance liabilities, and the ASPS held a transferable plan asset of £1,858 million *(2019: £1,144 million)* which does not eliminate on consolidation.

B20 – Risk management

Risk management is key to Aviva's success. We accept the risks inherent to our core business lines of life, health and general insurance and asset management. We diversify these risks through our scale, geographic spread, the variety of the products and services we offer and the channels through which we sell them. We receive premiums which we invest to maximise risk-adjusted returns, so that we can fulfil our promises to customers while providing a return to our shareholders. In doing so we have a preference for retaining those risks we believe we are capable of managing to generate a return.

Our sustainability and financial strength are underpinned by an effective risk management process which helps us identify major risks to which we may be exposed, establish appropriate controls and take mitigating actions for the benefit of our customers and investors. The Group's risk strategy is to invest its available capital to optimise the balance between return and risk while maintaining an appropriate level of economic (i.e. risk-based) capital and regulatory capital.

The key elements of our risk management framework comprise our 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 risks, including the use of our risk models and stress and scenario testing.

The Group's overarching risk management and internal control system is actively responding to the challenges of the COVID-19 outbreak and remains intact. We are focused on ensuring that the control environment remains robust in the current operating environment.

Risk environment

During the year, the Group has been impacted by the COVID-19 pandemic through its operations, insurance products and asset holdings as well as ongoing difficult conditions in the global financial markets and the economy generally. General insurance products are impacted as a result of disruption to business and travel insured by the Group; life protection products as a result of increased mortality; savings and asset management revenues which are sensitive to asset values; and income protection, critical illness and health insurance products as a result of increased morbidity, offset by a potential reduction in annuity payments.

We have seen COVID-19 have a significant impact on the global economy and markets. Key impacts have been observed from volatile equity markets and falls in interest rates. We have taken a number of actions to reduce our exposure to equity and interest rate risk across all our markets. We have also taken a number of actions to reduce our exposure to credit spread and counterparty default risk across our major markets. The Group's balance sheet exposure has been reviewed and actions are being taken to further reduce the sensitivity to economic shocks.

The Group continues to maintain strong solvency and liquidity positions through a range of scenarios and stress testing. These scenarios allow for the potential impacts of COVID-19 both directly on operations of the Group and also the wider macroeconomic environment. Key financial actions taken in response to the crisis include significant de-risking to reduce sensitivity to equity and corporate credit spreads. We have been closely engaging with regulators in both Europe and globally on their response to COVID-19. The FCA Business Interruption test case judgement was broadly in line with expectations and reserves are not expected to materially change.

Risks associated with business conduct and financial crime heightened in the year with COVID-19 becoming a pretext for phishing activity, leading to pension and investment fraud. An increase in switching, churning and exaggerated or fraudulent GI claims is expected, particularly if the economic impact is prolonged. Our controls have been effectively monitoring this situation.

In the current climate, areas of increased conduct risk have been identified across the Group in relation to the financial vulnerability of our customers, product suitability and fair value. In response, our businesses have taken action to support the needs of different customer groups and we continue to work with local regulators. Steps have been taken to support our customers and their local communities, whether that be through extension of covers, additional support to customers and charitable donations.

The UK-EU Future Relationship Agreement came into effect on 1 January 2021, ending the Brexit transition period, for which the Group was fully prepared. It provides scope for managed policy divergence or maintaining alignment, if the UK chooses. The agreement will have evolving consequences in 2021 and beyond on future financial services and data regulation, UK-EU data transfers, EU market access and the UK economy which will require careful monitoring.

B20 – Risk management continued

Risk environment continued

Aviva remains committed to supporting a low carbon economy that will improve the resilience of our economy, society and the financial system in line with the 2015 Paris Agreement target on climate change. We are acting now to mitigate and manage the impact of climate change on our business. We calculate a Climate VaR against IPCC scenarios to assess the climate-related risks and opportunities under different emission projections and associated temperature pathways. A range of different financial indicators are used to assess the impact on our investments and insurance liabilities.

The Group is in the process of implementing the new international accounting standards for insurance contracts, IFRS 17 Insurance Contracts. The impact of the adoption of IFRS 17 significantly impacts the measurement and presentation of the contracts in scope of the standard. It is now expected that the standard will apply to annual reporting periods beginning on or after 1 January 2023.

(a) Risk management framework

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 make an annual declaration supported by an opinion from the business Chief Risk Officers that the system of governance and internal controls was effective and fit for purpose for their business throughout the year.

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 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 risk identification, measurement, monitoring, management and reporting processes 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 Customer, Conduct and Reputation Committee. To further align with our strategic priority to transform customer experiences, the Customer, Conduct and Reputation Committee was designated as a sub-committee of the Risk 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.

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.

The types of risks to which the Group is exposed have not changed significantly during the year and remain credit, market, liquidity, life and health insurance, general insurance, asset management and operational risks. These risks are described below.

(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 taken so that 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.

B20 – Risk management continued

(b) Credit risk continued

As a result of the financial market impact of COVID-19 we have taken a number of actions to reduce our exposure to credit spread and counterparty default risk across our major markets. Actions include purchasing tactical derivative hedges, asset disposals and reallocation and reducing new business sales in certain markets and products. We continue to monitor credit quality in our Commercial Mortgage and Equity Release Mortgage portfolios, specific de-risking actions include phased sales and credit hedging.

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 2020	AAA	AA	A	BBB	Below BBB	Not rated	Carrying value including held for sale £m	Less: Assets classified as held for sale £m	Carrying value £m
Fixed maturity securities	**9.7%**	**34.0%**	**21.4%**	**23.2%**	**7.3%**	**4.4%**	**216,154**	**(13,317)**	**202,837**
Reinsurance assets	**—**	**77.4%**	**21.0%**	**—**	**—**	**1.6%**	**13,356**	**(18)**	**13,338**
Other investments	**—**	**0.1%**	**0.3%**	**—**	**—**	**99.6%**	**51,627**	**(3,490)**	**48,137**
Loans	**9.0%**	**10.2%**	**7.9%**	**0.4%**	**—**	**72.5%**	**43,679**	**—**	**43,679**
Total							**324,816**	**(16,825)**	**307,991**

As at 31 December 2019	AAA	AA	A	BBB	Below BBB	Not rated	Carrying value including held for sale £m	Less: Assets classified as held for sale £m	Carrying value £m
Fixed maturity securities	10.7%	34.1%	19.7%	23.0%	8.0%	4.5%	199,481	(649)	198,832
Reinsurance assets	3.3%	75.8%	9.2%	7.8%	—	3.9%	12,431	(75)	12,356
Other investments	0.2%	—	0.3%	0.1%	—	99.4%	51,935	(6,919)	45,016
Loans	18.3%	3.8%	0.1%	—	—	77.8%	38,580	(1)	38,579
Total							302,427	(7,644)	294,783

At 31 December 2020, a significant portion of assets remain investment grade in line with 2019. We have remained focused on high quality assets.

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 £4,580 million (*2019: £4,095 million*) 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 following table provides information on the Group's exposure by credit ratings to financial assets that meet the definition of 'solely payment of principal and interest' (SPPI).

As at 31 December 2020	AAA	AA	A	BBB	Below BBB	Not rated
Loans	**3,920**	**4,468**	**3,453**	**—**	**—**	**153**
Receivables	**—**	**497**	**539**	**459**	**2**	**4,555**
Accrued income & interest	**—**	**—**	**—**	**—**	**—**	**283**
Other financial assets	**—**	**—**	**—**	**—**	**—**	**12**
Total	**3,920**	**4,965**	**3,992**	**459**	**2**	**5,003**

As at 31 December 2019	AAA	AA	A	BBB	Below BBB	Not rated
Loans	7,065	1,443	—	—	—	1,071
Receivables	—	144	338	259	4	5,044
Accrued income & interest	—	—	—	—	—	265
Other financial assets	—	—	5	—	—	—
Total	7,065	1,587	343	259	4	6,380

At the period end, the Group held cash and cash equivalents of £12,576 million *(2019: £15,344 million)* that met the SPPI criteria, of which all *(2019: £15,322 million)* is placed with financial institutions with issuer ratings within the range of AAA to BBB. Further information on the extent to which unrated receivables, including those that meet the SPPI criteria, are past due may be found in section (ix) of this note.

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.

B20 – Risk management continued

(b) Credit risk continued

(ii) 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, including 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.

(iii) 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.

(iv) 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's 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 the Group Asset Liability Committee (ALCO). With the exception of government bonds, the largest aggregated counterparty exposure within shareholder assets is to the Swiss Reinsurance Company Ltd (including subsidiaries), representing approximately 2.1% of the total shareholder assets.

(v) 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 Swiss Reinsurance Company Ltd (including subsidiaries). At 31 December 2020, the reinsurance asset recoverable, including debtor balances, from Swiss Reinsurance Company Ltd was £2,399 million *(2019: £3,097 million)*.

(vi) 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.

(vii) 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.

(viii) 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.

(ix) Impairment of financial assets

In assessing whether financial assets carried at amortised cost or classified as available for sale are impaired, due consideration is given to the factors outlined in accounting policies (T) and (V). 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.

B20 – Risk management continued

(b) Credit risk continued

(ix) Impairment of financial assets continued

As at 31 December 2020	Neither past due nor impaired £m	Financial assets that are past due but not impaired: 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
Fixed maturity securities	**1,573**	**—**	**—**	**6**	**—**	**—**	**1,579**
Reinsurance assets	**9,478**	**—**	**—**	**—**	**—**	**—**	**9,478**
Other investments	**1**	**—**	**—**	**—**	**—**	**—**	**1**
Loans	**13,840**	**—**	**—**	**—**	**—**	**—**	**13,840**
Receivables and other financial assets	**9,326**	**18**	**—**	**8**	**—**	**—**	**9,352**

As at 31 December 2019	Neither past due nor impaired £m	Financial assets that are past due but not impaired: 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
Fixed maturity securities	1,455	—	—	6	—	—	1,461
Reinsurance assets	8,361	—	—	—	—	—	8,361
Other investments	2	—	—	—	—	—	2
Loans	10,260	—	—	—	—	—	10,260
Receivables and other financial assets	8,911	51	14	10	9	—	8,995

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: £214,575 million of debt securities *(2019: £198,020 million)*, £42,320 million of other investments *(2019 £44,836 million)*, £29,839 million of loans *(2019: £28,319 million)* and £3,860 million of reinsurance assets *(2019: £4,006 million)*.

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 included in the tables 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, inflation, 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 the 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.

As a result of the significant financial market impact of COVID-19, particularly to equity markets and interest rates, we have taken a number of actions to reduce our exposure to equity and interest rate risk across all our markets. Actions include purchasing tactical derivative hedges, asset disposals and reallocations and reducing new business sales in certain markets and products. We are also exposed to the potential impact of increased defaults and downgrades on our commercial mortgage loans although we maintain conservative loan-to-value across this portfolio. Our capital position includes an allowance for the expected potential impacts from downgrades and defaults.

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.

B20 – Risk management continued

(c) Market risk continued

(i) Equity price risk 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 2020 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 (i) 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 2020, no material derivative contracts had been entered into to mitigate the effects of changes in property prices. Exposure to property risk on equity release mortgages from sustained underperformance in the UK House Price Index (HPI) is mitigated by capping loan to value on origination at low levels and regularly monitoring the performance of the mortgage portfolio.

Sensitivity to changes in property prices is given in section (i) 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, 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). Markets where Aviva is primarily exposed to this risk are the UK, France, Italy and some other Asian business units.

The low interest rate environment in a number of markets around the world has resulted in our current investment yields being lower than the overall current portfolio yield, primarily in our investments in fixed income securities. We anticipate that interest rates may remain below historical averages 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.

B20 – Risk management continued
(c) Market risk continued
(iii) Interest rate risk continued

In addition, the following table summarises the weighted average minimum guaranteed crediting rates and weighted average book value yields on assets as at 31 December 2020 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	**0.69%**	**1.94%**	**72,620**
Italy	**0.20%**	**3.40%**	**23,941**
Other[1]	**N/A**	**N/A**	**45,237**
Total	**N/A**	**N/A**	**141,798**

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. 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
2018	2.28%	14,651
2019	2.21%	14,350
2020	1.88%	15,023

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 (i) 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 capital modelling, sensitivity testing and stress and scenario testing. The Group typically manages inflation risk through its investment strategy and, in particular, by investing in inflation linked securities and through a variety of derivative instruments, including inflation linked swaps.

(v) Currency risk

The Group has minimal exposure to currency risk from financial instruments held by business units in currencies other than their functional currencies, as nearly all such holdings are backing either unit-linked or with-profits contract liabilities or are hedged. As a result the foreign exchange gains and losses on investments are largely offset by changes in unit-linked and with-profits 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 50% (*2019: 58%*) of the Group's premium income arises in currencies other than sterling and the Group's net assets are denominated in a variety of currencies, of which the largest are 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.

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 2020 and 2019, the Group's net assets by currency including assets 'held for sale' was:

	Sterling £m	Euro £m	CAD$ £m	Other £m	Total £m
Net assets at 31 December 2020	**16,438**	**2,374**	**635**	**1,113**	**20,560**
Net assets at 31 December 2019	16,036	819	397	1,433	18,685

B20 – Risk management continued

(c) Market risk continued

(v) Currency risk continued

A 10% change in sterling to euro/CAD$ period-end foreign exchange rates would have had the following impact on net assets.

	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 2020	**(237)**	**237**	**(64)**	**64**
Net assets at 31 December 2019	(82)	82	(40)	40

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.

A 10% change in sterling to euro/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.

	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 2020	**(48)**	**59**	**(31)**	**37**
Impact on profit before tax 31 December 2019	(67)	82	(18)	22

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 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 and infrastructure loans. 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 (£1,700 million) from a range of leading international banks to further mitigate this risk.

A cautious approach on cash remittances is being taken across the Group with some markets retaining cash rather than remitting to Group in the wake of the unprecedented challenges COVID-19 presents for businesses, households and customers, and the adverse and highly uncertain impact on the global economy.

Maturity analyses

The following tables show the maturities of our insurance and investment contract liabilities, and of the financial and reinsurance assets held to meet them.

(i) Analysis of maturity of insurance and investment contract liabilities

For non-linked insurance business, the following table shows the gross liability at 31 December 2020 and 2019 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 amounts held for sale.

B20 – Risk management continued

(d) Liquidity risk continued

As at 31 December 2020	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	**116,352**	**8,433**	**26,288**	**43,385**	**38,246**
Investment contracts – non-linked	**78,024**	**4,348**	**17,555**	**32,203**	**23,918**
Linked business	**178,932**	**8,187**	**27,420**	**58,411**	**84,914**
General insurance and health	**17,596**	**7,413**	**7,260**	**2,325**	**598**
Total contract liabilities	**390,904**	**28,381**	**78,523**	**136,324**	**147,676**

As at 31 December 2019	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	111,731	8,811	27,184	41,728	34,008
Investment contracts – non-linked	74,641	5,978	19,532	28,313	20,818
Linked business	177,448	16,226	26,002	58,601	76,619
General insurance and health	16,656	7,136	6,665	2,258	597
Total contract liabilities	380,476	38,151	79,383	130,900	132,042

(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.

As at 31 December 2020	Total £m	On demand or within 1 year £m	1-5 years £m	Over 5 years £m	No fixed term £m
Fixed maturity securities	**202,837**	**50,488**	**45,917**	**106,432**	**—**
Equity securities	**100,404**	**—**	**—**	**—**	**100,404**
Other investments	**48,137**	**39,681**	**126**	**7,469**	**861**
Loans	**43,679**	**14,049**	**4,339**	**25,290**	**1**
Cash and cash equivalents	**16,900**	**16,900**	**—**	**—**	**—**
	411,957	**121,118**	**50,382**	**139,191**	**101,266**

As at 31 December 2019	Total £m	On demand or within 1 year £m	1-5 years £m	Over 5 years £m	No fixed term £m
Fixed maturity securities	198,832	42,644	47,983	106,981	1,224
Equity securities	99,570	—	—	—	99,570
Other investments	45,016	38,817	25	5,365	809
Loans	38,579	9,641	4,643	24,293	2
Cash and cash equivalents	19,524	19,524	—	—	—
	401,521	110,626	52,651	136,639	101,605

The assets above are analysed in accordance with the earliest possible redemption date of the instrument at the initiation of the Group. Where an instrument is transferable back to the issuer on demand, such as most unit trusts or similar types of investment vehicle, it is included in the 'On demand or within 1 year' column. Debt securities with no fixed contractual maturity date are generally callable at the option of the issuer at the date the coupon rate is reset under the contractual terms of the instrument. The terms for resetting the coupon are such that we expect the securities to be redeemed at this date, as it would be uneconomic for the issuer not to do so, and for liquidity management purposes we manage these securities on this basis. The first repricing and call date is normally ten years or more after the date of issuance. Most of the Group's investments in equity securities and fixed maturity securities are market traded and therefore, if required, can be liquidated for cash at short notice.

(e) Life 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 policyholder options and management and administration expenses. The Group chooses to take measured amounts of life 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.

We have reinsurance in place across all our markets to reduce our net exposure to potential losses. In the UK we have extensive quota share reinsurance in place on Individual Protection business and for UK Group Life protection business we have surplus reinsurance for large individual claims.

B20 – Risk management continued

(e) Life insurance risk continued

The impact of COVID-19 on the profile of our life insurance risks, primarily longevity, persistency, mortality and expense risk, has been limited during 2020. We track the potential longer term impacts from the pandemic (e.g. morbidity impacts). We are also exposed to longevity risk through the Aviva Staff Pension Scheme, to which our economic exposure has been reduced since 2014 by entering into a longevity swap covering approximately £5 billion of pensioner in payment scheme liabilities. Longevity risk remains the Group's most significant life insurance risk. We purchased reinsurance for longevity risk for our annuity business, including the bulk annuity buy-in transaction with the Aviva Staff Pension scheme. 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 capital model and subject to sensitivity and stress and scenario testing.

In all of our markets, underwriting procedures on Individual Life Protection products limit our exposure to cohorts of the population at highest risk of COVID-19. While we have greater potential net exposure through Group Life Protection, we have taken pricing actions to limit our potential exposure from new business. We expect there to be some offset to increased protection claims as a result of COVID-19 from technical provision releases on our UK annuity portfolio

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 behaviour 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; and
- Other: indexed interest or principal payments, maturity value, loyalty bonus.

The impact of these is reflected in the capital model and managed as part of the asset liability framework. Further disclosure on financial guarantees and options embedded in contracts and their inclusion in insurance and investment contract liabilities is provided in note B13.

(f) General insurance and health risk

The Group writes a balanced portfolio of general insurance risk (including personal motor; household; commercial motor; property and liability) across a geographically diversified spread of markets, as well as global exposure to corporate specialty risks. This risk is taken on, in line with our underwriting and pricing expertise, to provide an appropriate level of return for an acceptable level of risk. Underwriting discipline and a robust governance process is at the core of the Group's underwriting strategy.

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.

Provisions made for insurance liabilities are inherently uncertain. Due to this uncertainty, general and health insurance reserves are regularly reviewed by qualified and experienced actuaries at the business unit and Group level in accordance with the Group's reserving framework. These and other key risks, including the occurrence of unexpected claims from a single source or cause and inadequate reinsurance protection/risk transfer, are subject to an overarching risk management framework and various mechanisms to govern and control our risks and exposures. We recognise that the severity and frequency of weather-related events has the potential to adversely impact provisions for insurance liabilities and our earnings, with the result that there is some seasonality in our results from period to period. Large catastrophic (CAT) losses arising as a result of these events are explicitly considered in our economic capital modelling to ensure we are resilient to such CAT scenarios.

B20 – Risk management continued

(f) General insurance and health risk continued

We continue to closely monitor the impact of COVID-19 on our General insurance and health business. Our exposures, together with mitigants, are:

- Business Interruption: For the significant majority of the Group's UK General Insurance commercial policies, where policy wordings are determined by the company, cover is based on a specified list of diseases. These policies exclude business interruption due to new and emerging diseases, like COVID-19. Business interruption losses stemming from the current COVID-19 outbreak are therefore not covered under the significant majority of policies but there is a risk that litigation will be required to provide legal clarity in terms of the events and the cover provided under broker determined business interruption policy wordings where we are the lead or follow insurer and many of the issues were subject to the outcome of the FCA test case. Judgement in the FCA test case was received on 15 September 2020 and followed by the Supreme Court appeal on 15 January 2021. Following the verdict the legal uncertainty in the UK around gross losses has been significantly reduced. In order to provide clarity to policyholders and mitigate exposure to future events of a similar nature, exclusions have been added to relevant policy wordings at renewal. In Canada, we are party to a number of litigation proceedings challenging coverage under certain policies; however, we do not believe there is coverage under these policies. In Ireland, the vast majority of commercial insurance products do not respond to business interruption losses arising from the COVID-19 pandemic. In respect of broker-led wordings, Ireland continues to assess developments arising from the changing nature of Government restrictions and the outcome of both the FCA case and test case litigation in the local market.
- Travel Insurance: We are potentially exposed to claims due to travel cancellation, disruption and sickness where this is insured by the Group, primarily in the UK. We are only exposed to losses after recoveries have been made from travel providers (e.g. tour operators or airlines) and agents. Travel disruption is not part of our Aviva UK Direct cover and was removed as a policy option on 9 March but is included as standard in the majority of the added value accounts with our banking partners. COVID-19 wording has been clarified to eliminate ambiguity, pricing adjusted to ensure risk is appropriately priced and further reinsurance cover has been purchased. These costs are offset by reduced claims frequency as a result of the current low levels of international travel, and are also partially mitigated through profit commission and future pricing agreements with distribution partners.
- Other: There have also been impacts in other product lines as a result of reduced economic activity, for example there has been a reduction in claims frequency and a change in the severity of claims on motor lines. Private health insurance claims were also lower than expected levels in 2020 as a result of the disruption caused by the COVID-19 pandemic, and in the UK we provided a fair value pledge to policyholders to recognise the ongoing uncertainty around the ability to access treatment.

These exposures are partially offset by favourable impacts in other product lines (e.g. frequency benefits on motor lines). The Group purchases reinsurance protections on its property portfolio that includes coverage for business interruption and will seek reinsurance recoveries of those of its business interruption losses that are covered by reinsurance. The continuing nature of the event means that our final exposure is subject to a significant degree of uncertainty.

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 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 up to a 1 in 250 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 250 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. The Group's property reinsurance programme and several of its smaller specialty programmes no longer provide coverage for pandemic catastrophes following the 1 January 2021 renewal in line with the rest of the market.

(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.

Due to the adverse impact of COVID-19 on the UK commercial property sectors, and in particular the difficulty in being able to assign values to our commercial property portfolios, we temporarily suspended our unit-linked property funds to redemptions for six months in March 2020. We perform stress tests to ensure that our portfolios are managed within client mandates.

B20 – Risk management continued

(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.

COVID-19 has resulted in an increased level of inherent operational risk through new practices including enforced remote working, staff absences for sickness and childcare, market volatility and through our outsourcing arrangements. Additional risks relating to extensive working from home; include cyber, data loss and occupational health. We have adapted and strengthened our processes and controls to ensure operational risks remain at an acceptable level. Since the onset of the pandemic the Group has remained operationally resilient, with key activities such as cash payments and transaction processing being maintained, IT systems remaining operational, and employees including frontline customer facing staff being supported to ensure that that we are there to support our customers when they need us most.

Aviva has not seen a material increase in the volume of cyber incidents/attacks as a result of COVID-19 but has seen external threat actors exploiting the COVID-19 pandemic within such attacks e.g. phishing, texts and phone calls. In response to this Aviva has put in place a programme of communications to ensure Aviva employees are aware of such scams, published safe homeworking guides and run online training for our employees and their families. Support has also been given to our customers, including the launch of an online reporting facility to help combat fraud.

The importance of digital interaction with our customers and advanced data analytics, the conduct, data protection and financial crime agenda of the European institutions, the FCA and other regulators, as well as the increasing cyber security threat, as evidenced by continuing instances of high profile cyber security breaches for other corporates in the UK and elsewhere, mean the Group has inherent risk exposure to data theft, conduct regulatory breaches (including financial crime) and customer service interruption due to IT systems failure. During 2020 we have continued to take action to reduce our residual exposure to these risks and improve our operational resilience through our conduct risk management framework, financial crime risk mitigation programme and significant investment in upgrading our IT infrastructure and security.

On 26 October 2020 the FCA published the outcome of its investigation into Aviva's announcement on preference shares made in March 2018. The FCA found that Aviva contravened certain provisions of the Listing Rules and the Disclosure and Transparency Rules by failing to take reasonable care to ensure that information in the announcement was not misleading and did not omit anything likely to affect the import of the information in the announcement. We have accepted the FCA decision and lessons have been learned.

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, and inadequate services, whether or not founded, could impact our brands or reputation. Any of our brands or our reputation could also be affected if products or services recommended by us (or any of our intermediaries) do not perform as expected (whether or not the expectations are founded) or customers' expectations for the product change. We seek to reduce this risk to as low a level as commercially sensible.

The FCA regularly considers whether we are meeting the requirement to treat our customers fairly and we make use of various metrics to assess our own performance, including customer advocacy, retention and complaints. Failure to meet these requirements could also impact our brands or reputation. During 2020, the FCA published their General Insurance Pricing Practices Report. We support the FCA's intent to bring greater clarity and consistency to consumers across general insurance pricing. This will be a significant area of focus for us over the next 12 months.

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.

(i) 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.

B20 – Risk management continued

(i) Risk and capital management continued

(iv) Sensitivity test results

Illustrative results of sensitivity testing for long-term business, general insurance and health business and the fund management and non-insurance business are set out below. For each sensitivity test the impact of a reasonably possible change in a single factor is shown, with other assumptions left unchanged. Each test allows for any consequential impact on the asset and liability valuations.

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.
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 2020

31 December 2020 Impact on profit before tax £m	Interest rates +1%	Interest rates - 1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%	Expenses +10%	Assurance mortality +5%	Annuitant mortality -5%
Insurance participating	**10**	**(375)**	**(80)**	**(20)**	**(40)**	**(65)**	**20**	**(5)**
Insurance non-participating	**(965)**	**1,215**	**(735)**	**(115)**	**100**	**(215)**	**(155)**	**(1,020)**
Investment participating	**(60)**	**75**	**—**	**(20)**	**20**	**(50)**	**—**	**—**
Investment non-participating	**(5)**	**5**	**—**	**5**	**(10)**	**(5)**	**—**	**—**
Assets backing life shareholders' funds	**(145)**	**180**	**(45)**	**(25)**	**25**	**—**	**—**	**—**
Total	**(1,165)**	**1,100**	**(860)**	**(175)**	**95**	**(335)**	**(135)**	**(1,025)**

31 December 2020 Impact on shareholders' equity before tax £m	Interest rates +1%	Interest rates - 1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%	Expenses +10%	Assurance mortality +5%	Annuitant mortality -5%
Insurance participating	**10**	**(375)**	**(80)**	**(20)**	**(40)**	**(65)**	**20**	**(5)**
Insurance non-participating	**(965)**	**1,215**	**(735)**	**(115)**	**100**	**(215)**	**(155)**	**(1,020)**
Investment participating	**(60)**	**75**	**—**	**(20)**	**20**	**(50)**	**—**	**—**
Investment non-participating	**(5)**	**5**	**—**	**5**	**(10)**	**(5)**	**—**	**—**
Assets backing life shareholders' funds	**(195)**	**220**	**(50)**	**(25)**	**25**	**—**	**—**	**—**
Total	**(1,215)**	**1,140**	**(865)**	**(175)**	**95**	**(335)**	**(135)**	**(1,025)**

Sensitivities as at 31 December 2019

31 December 2019 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	—	5	(10)	(65)	60	(50)	10	(5)
Insurance non-participating	(985)	1,265	(800)	(120)	105	(240)	(145)	(955)
Investment participating	(85)	55	(5)	(5)	5	(25)	—	—
Investment non-participating	—	5	—	5	(5)	(5)	—	—
Assets backing life shareholders' funds	(150)	170	(35)	(35)	30	—	—	—
Total	(1,220)	1,500	(850)	(220)	195	(320)	(135)	(960)

31 December 2019 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	—	5	(10)	(65)	60	(50)	10	(5)
Insurance non-participating	(985)	1,265	(800)	(120)	105	(240)	(145)	(955)
Investment participating	(85)	55	(5)	(5)	5	(25)	—	—
Investment non-participating	—	5	—	5	(5)	(5)	—	—
Assets backing life shareholders' funds	(190)	205	(30)	(30)	30	—	—	—
Total	(1,260)	1,535	(845)	(215)	195	(320)	(135)	(960)

Changes in sensitivities between 2020 and 2019 reflect underlying movements in the value of assets and liabilities, the relative duration of assets and liabilities and asset liability management actions. The sensitivities to economic and demographic movements relate mainly to business in the UK.

General insurance and health business sensitivities as at 31 December 2020

31 December 2020 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	**(380)**	**445**	**(110)**	**100**	**(100)**	**(145)**	**(325)**
Net of reinsurance	**(435)**	**490**	**(110)**	**100**	**(100)**	**(145)**	**(305)**

B20 – Risk management continued
(i) Risk and capital management
(iv) Sensitivity test results continued

31 December 2020 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	**(380)**	**445**	**(110)**	**100**	**(100)**	**(25)**	**(325)**
Net of reinsurance	**(435)**	**490**	**(110)**	**100**	**(100)**	**(25)**	**(305)**

Sensitivities as at 31 December 2019

31 December 2019 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	(210)	165	(115)	185	(175)	(140)	(315)
Net of reinsurance	(270)	215	(115)	185	(175)	(140)	(300)

31 December 2019 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	(210)	165	(115)	185	(175)	(25)	(315)
Net of reinsurance	(270)	215	(115)	185	(175)	(25)	(300)

For general insurance and health, the impact of the expense sensitivity on profit also includes the increase in ongoing administration expenses, in addition to the increase in the claims handling expense provision

Fund management and non-insurance business sensitivities as at 31 December 2020

31 December 2020 Impact on profit before tax £m	Interest rates +1%	Interest rates - 1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%
Total	**—**	**—**	**50**	**(10)**	**20**

31 December 2020 Impact on shareholders' equity before tax £m	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%
Total	**—**	**—**	**50**	**(10)**	**15**

Sensitivities as at 31 December 2019

31 December 2019 Impact on profit before tax £m	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%
Total	(20)	15	40	(10)	15

31 December 2019 Impact on shareholders' equity before tax £m	Interest rates +1%	Interest rates -1%	Credit spreads +0.5%	Equity/ property +10%	Equity/ property -10%
Total	(15)	15	40	(10)	15

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.

B21 – Direct capital instrument and tier 1 notes

Notional amount	2020 £m	2019 £m
5.9021% £500 million direct capital instrument – Issued November 2004	—	500
6.875% £210 million STICS – Issued November 2003	—	—
Total	—	500

The DCI was issued on 25 November 2004. The DCI had no fixed redemption date however, on 23 June 2020 notification was given that the Group would redeem the DCI at its principal amount together with accrued interest to (but excluding) 27 July 2020. The 27 July 2020 being the first optional call date for the DCI. On the notification date the instrument was reclassified as a financial liability of £499 million, representing its fair value at that date. The resulting difference of £1 million has been charged to retained earnings. On 27 July 2020, the instrument was redeemed in full at a cost of £500 million.

On 17 October 2019, notification was given that the Group would redeem the 6.875% £210 million tier 1 notes. At that date, the instruments were reclassified as a financial liability of £210 million, representing the fair value at that date. On 21 November 2019 the instruments were redeemed in full at a cost of £210 million. The difference of £21 million between the carrying amount of £231 million and fair value of £210 million was charged to retained earnings

B22 – Cash and cash equivalents

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

	2020 £m	2019 £m
Cash and cash equivalents	**16,900**	19,524
Cash and cash equivalents of operations classified as held for sale	**190**	780
Bank overdrafts	**(908)**	(870)
Net cash and cash equivalents at 31 December	**16,182**	19,434

B23 – 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 B12 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.

In addition, COVID-19 has given rise to an increase in the uncertainty over the general insurance business outstanding claims provisions and long-term business provisions. The impact on the Group's insurance liabilities as a result of the global pandemic has been recognised. However, due to the uncertainty around the long-term impacts of COVID-19, actual experience may differ from that expected.

Business Interruption

On 15 January 2021, the Supreme Court handed down its judgement on the appeal for the FCA Test Case on business interruption cover. Aviva was not a party to the Test Case, but fully supported the process. The Supreme Court judgement has been carefully considered and the impact on claims related to business interruption policies assessed. In Canada, we are party to a number of litigation proceedings challenging coverage under certain policies; however, we do not believe there is coverage under these policies. In the opinion of management, adequate provisions have been established for such claims based on information available at the reporting date. For further information on our general insurance risk management see note 59(f).

(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.

B23 – Contingent liabilities and other risk factors continued

(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 Group has purchased annuities from licensed Canadian life insurers to provide for fixed and recurring payments to claimants. As a result of these arrangements, the Group is exposed to credit risk to the extent that any of the life insurers fail to fulfil their obligations. The Group's maximum exposure to credit risk for these types of arrangements is approximately £742 million as at 31 December 2020 *(2019: £707 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 2020, no information has come to the Group'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.

(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 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.

B24 – 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:

	2020 £m	2019 £m
Acquired value of in-force business on insurance contracts[1]	**1,078**	1,235
Acquired value of in-force business on investment contracts[2]	**664**	1,244
Intangible assets	**704**	847
	2,446	3,326
Less: Assets classified as held for sale	**(12)**	(526)
Total	**2,434**	2,800

1 On insurance and participating investment contracts.
2 On non-participating investment contracts.

The acquired value of in-force (AVIF) business on insurance and investment contracts has reduced in the year primarily due to an amortisation charge of £278 million *(2019: £406 million charge)* and the disposal of FPI. There was also an impairment of AVIF on investment contracts of £19 million in the year relating to FPI *(2019: £28 million)* recorded as a remeasurement loss as FPI was held for sale (see note B5(b)).

The decrease in intangible assets primarily relates to the amortisation charge of £197 million *(2019: £212 million charge)* and an impairment charge of £23 million *(2019: £13 million charge)*, partially offset by additions of £76 million largely relating to computer software.

B25 – Subsequent events

- For details of subsequent events relating to disposals see note B5(f).
- For details of subsequent events relating to borrowings see note B17(c).

Analysis of assets

As an insurance business, the 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. To support this, we use a variety of hedging and other risk management strategies to mitigate any residual mismatch risk that is outside of our risk appetite.

C1 – Summary of total assets by fund

2020	Policyholder assets £m	Participating fund assets £m	Shareholder assets £m	Total assets analysed £m	Less: Assets classified as held for sale £m	Balance sheet total £m
Goodwill and acquired value of in-force business and intangible assets	—	—	4,251	4,251	(18)	4,233
Interests in, and loans to, joint ventures and associates	146	819	1,000	1,965	—	1,965
Property and equipment	—	198	639	837	(69)	768
Investment property	6,851	3,876	642	11,369	—	11,369
Loans	2,334	6,421	34,924	43,679	—	43,679
Financial investments						
Debt securities	45,781	105,677	64,696	216,154	(13,317)	202,837
Equity securities	86,957	12,827	720	100,504	(100)	100,404
Other investments	34,577	12,009	5,041	51,627	(3,490)	48,137
Reinsurance assets	3,860	476	9,020	13,356	(18)	13,338
Deferred tax assets	—	—	128	128	(9)	119
Current tax assets	—	—	183	183	—	183
Receivables and other financial assets	525	1,571	7,629	9,725	(373)	9,352
Deferred acquisition costs and other assets	27	1,110	4,987	6,124	(26)	6,098
Prepayments and accrued income	372	988	1,505	2,865	(123)	2,742
Cash and cash equivalents	6,555	3,960	6,575	17,090	(190)	16,900
Assets classified as held for sale	—	—	—	—	17,733	17,733
Total	**187,985**	**149,932**	**141,940**	**479,857**	**—**	**479,857**
Total %	**39.2%**	**31.2%**	**29.6%**	**100.0%**	**—**	**100.0%**
2019 Total	186,182	146,226	127,635	460,043	—	460,043
2019 Total %	40.5%	31.8%	27.7%	100.0%	—	100.0%

C2 – Summary of total assets by valuation bases

Total assets 2020	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	—	4,251	—	4,251
Interests in, and loans to, joint ventures and associates	—	—	1,965	1,965
Property and equipment	403	434	—	837
Investment property	11,369	—	—	11,369
Loans	29,839	13,840	—	43,679
Financial Investments				
Debt securities	216,154	—	—	216,154
Equity securities	100,504	—	—	100,504
Other investments	51,627	—	—	51,627
Reinsurance assets	3,859	9,497	—	13,356
Deferred tax assets	—	—	128	128
Current tax assets	—	—	183	183
Receivables and other financial assets	—	9,725	—	9,725
Deferred acquisition costs and other assets	—	6,124	—	6,124
Prepayments and accrued income	—	2,865	—	2,865
Cash and cash equivalents	17,090	—	—	17,090
Total	**430,845**	**46,736**	**2,276**	**479,857**
Total %	**89.8%**	**9.7%**	**0.5%**	**100.0%**
Less: Assets classified as held for sale	(17,165)	(559)	(9)	(17,733)
Total (excluding assets held for sale)	**413,680**	**46,177**	**2,267**	**462,124**
Total % (excluding assets held for sale)	**89.5%**	**10.0%**	**0.5%**	**100.0%**
2019 Total	415,466	42,744	1,833	460,043
2019 Total %	90.3%	9.3%	0.4%	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.

Policyholder assets 2020	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, and loans to, joint ventures and associates	—	—	146	146
Property and equipment	—	—	—	—
Investment property	6,851	—	—	6,851
Loans	—	2,334	—	2,334
Financial Investments				
Debt securities	45,781	—	—	45,781
Equity securities	86,957	—	—	86,957
Other investments	34,577	—	—	34,577
Reinsurance assets	3,859	1	—	3,860
Deferred tax assets	—	—	—	—
Current tax assets	—	—	—	—
Receivables and other financial assets	—	525	—	525
Deferred acquisition costs and other assets	—	27	—	27
Prepayments and accrued income	—	372	—	372
Cash and cash equivalents	6,555	—	—	6,555
Total	**184,580**	**3,259**	**146**	**187,985**
Total %	**98.2%**	**1.7%**	**0.1%**	**100.0%**
Less: Assets classified as held for sale	(3,191)	(3)	—	(3,194)
Total (excluding assets held for sale)	**181,389**	**3,256**	**146**	**184,791**
Total % (excluding assets held for sale)	**98.2%**	**1.7%**	**0.1%**	**100.0%**
2019 Total	182,605	3,484	93	186,182
2019 Total %	98.1%	1.9%	—	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.

C2 – Summary of total assets by valuation bases continued

Participating fund assets 2020	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, and loans to, joint ventures and associates	—	—	819	819
Property and equipment	176	22	—	198
Investment property	3,876	—	—	3,876
Loans	220	6,201	—	6,421
Financial Investments				
Debt securities	105,677	—	—	105,677
Equity securities	12,827	—	—	12,827
Other investments	12,009	—	—	12,009
Reinsurance assets	—	476	—	476
Deferred tax assets	—	—	—	—
Current tax assets	—	—	—	—
Receivables and other financial assets	—	1,571	—	1,571
Deferred acquisition costs and other assets	—	1,110	—	1,110
Prepayments and accrued income	—	988	—	988
Cash and cash equivalents	3,960	—	—	3,960
Total	**138,745**	**10,368**	**819**	**149,932**
Total %	**92.6%**	**6.9%**	**0.5%**	**100.0%**
Less: Assets classified as held for sale	(13,581)	—	—	(13,581)
Total (excluding assets held for sale)	**125,164**	**10,368**	**819**	**136,351**
Total % (excluding assets held for sale)	**91.8%**	**7.6%**	**0.6%**	**100.0%**
2019 Total	136,027	9,304	895	146,226
2019 Total %	93.0%	6.4%	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.

Shareholder assets 2020	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	—	4,251	—	4,251
Interests in, and loans to, joint ventures and associates	—	—	1,000	1,000
Property and equipment	227	412	—	639
Investment property	642	—	—	642
Loans	29,619	5,305	—	34,924
Financial Investments				
Debt securities	64,696	—	—	64,696
Equity securities	720	—	—	720
Other investments	5,041	—	—	5,041
Reinsurance assets	—	9,020	—	9,020
Deferred tax assets	—	—	128	128
Current tax assets	—	—	183	183
Receivables and other financial assets	—	7,629	—	7,629
Deferred acquisition costs and other assets	—	4,987	—	4,987
Prepayments and accrued income	—	1,505	—	1,505
Cash and cash equivalents	6,575	—	—	6,575
Total	**107,520**	**33,109**	**1,311**	**141,940**
Total %	**75.8%**	**23.3%**	**0.9%**	**100.0%**
Less: Assets classified as held for sale	(393)	(556)	(9)	(958)
Total (excluding assets held for sale)	**107,127**	**32,553**	**1,302**	**140,982**
Total % (excluding assets held for sale)	**76.0%**	**23.1%**	**0.9%**	**100.0%**
2019 Total	96,834	29,956	845	127,635
2019 Total %	75.8%	23.5%	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.

C3 – Analysis of financial investments by fund

The asset allocation as at 31 December 2020 across the Group, split according to the type of the liability the assets are backing, is shown in the table below.

	Shareholder business assets				Participating fund assets				
	General insurance & health & other[1] £m	Annuity and non-profit £m	Total shareholder assets £m	Policyholder (unit-linked assets) £m	UK style with-profits £m	Continental European-style participating funds £m	Total assets analysed £m	Less: Assets classified as held for sale £m	Carrying value in the statement of financial position £m
Debt securities (note C4)									
Government bonds	**6,640**	**21,713**	**28,353**	**19,098**	**11,465**	**37,312**	**96,228**	**(8,786)**	**87,442**
Corporate bonds	**4,266**	**22,845**	**27,111**	**19,828**	**11,562**	**36,628**	**95,129**	**(4,525)**	**90,604**
Other	**4,280**	**4,952**	**9,232**	**6,855**	**5,518**	**3,192**	**24,797**	**(6)**	**24,791**
	15,186	**49,510**	**64,696**	**45,781**	**28,545**	**77,132**	**216,154**	**(13,317)**	**202,837**
Loans (note C5)									
Mortgage loans	**—**	**22,034**	**22,034**	**—**	**39**	**—**	**22,073**	**—**	**22,073**
Other loans	**3,132**	**9,758**	**12,890**	**2,334**	**5,232**	**1,150**	**21,606**	**—**	**21,606**
	3,132	**31,792**	**34,924**	**2,334**	**5,271**	**1,150**	**43,679**	**—**	**43,679**
Equity securities (note C6)	**393**	**327**	**720**	**86,957**	**9,358**	**3,469**	**100,504**	**(100)**	**100,404**
Investment property (note C7)	**481**	**161**	**642**	**6,851**	**1,689**	**2,187**	**11,369**	**—**	**11,369**
Other investments (note C8)	**1,408**	**3,633**	**5,041**	**34,577**	**5,001**	**7,008**	**51,627**	**(3,490)**	**48,137**
Total	**20,600**	**85,423**	**106,023**	**176,500**	**49,864**	**90,946**	**423,333**	**(16,907)**	**406,426**
2019 Total	16,812	76,893	93,705	172,368	53,123	81,829	401,025	(7,825)	393,200

1 Of the £20,600 million of assets 43% relates to other shareholder business assets.

C4 – Analysis of debt securities

C4.1 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; and
- 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. However, the fair value measurement objective remains the same, i.e. an exit price at the measurement date from the perspective of a market participant that holds the asset. Unobservable inputs reflect the assumptions the business unit considers that market participants would use in pricing the asset. Examples are investment property and commercial and equity release mortgage loans.

	Fair value hierarchy			
Debt securities – Total 2020	**Level 1 £m**	**Level 2 £m**	**Level 3 £m**	**Total £m**
UK Government	**27,645**	**2,324**	**494**	**30,463**
Non-UK government	**32,935**	**27,404**	**5,426**	**65,765**
Europe	**30,581**	**16,555**	**3,860**	**50,996**
North America	**2,155**	**3,819**	**919**	**6,893**
Asia Pacific & Other	**199**	**7,030**	**647**	**7,876**
Corporate bonds – Public utilities	**—**	**8,252**	**2,161**	**10,413**
Other corporate bonds	**—**	**74,322**	**10,394**	**84,716**
Other	**—**	**23,732**	**1,065**	**24,797**
Total	**60,580**	**136,034**	**19,540**	**216,154**
Total %	**28.1%**	**62.9%**	**9.0%**	**100.0%**
Less: Assets classified as held for sale	**(6,700)**	**(6,130)**	**(487)**	**(13,317)**
Total (excluding assets held for sale)	**53,880**	**129,904**	**19,053**	**202,837**
Total % (excluding assets held for sale)	**26.6%**	**64.0%**	**9.4%**	**100.0%**
2019 Total[1]	56,322	125,163	17,996	199,481
2019 Total %[1]	28.3%	62.7%	9.0%	100.0%

1 Following a review of the fair value hierarchy for debt securities, a new framework has been implemented to improve consistency across the Group. Comparative amounts have been amended from those previously reported and the effect of this change is to move £14,681 million of debt securities from fair value hierarchy Level 1 to Level 2 and £3,167 million from Level 2 to Level 1.

	Fair value hierarchy			
Debt securities – Policyholder assets 2020	**Level 1 £m**	**Level 2 £m**	**Level 3 £m**	**Total £m**
UK Government	**10,043**	**—**	**1**	**10,044**
Non-UK government	**3,670**	**5,383**	**1**	**9,054**
Europe	**2,452**	**2,981**	**—**	**5,433**
North America	**1,063**	**88**	**1**	**1,152**
Asia Pacific & Other	**155**	**2,314**	**—**	**2,469**
Corporate bonds – Public utilities	**—**	**1,763**	**—**	**1,763**
Other corporate bonds	**—**	**18,045**	**20**	**18,065**
Other	**—**	**6,854**	**1**	**6,855**
Total	**13,713**	**32,045**	**23**	**45,781**
Total %	**30.0%**	**69.9%**	**0.1%**	**100.0%**
Less: Assets classified as held for sale	**(265)**	**(22)**	**—**	**(287)**
Total (excluding assets held for sale)	**13,448**	**32,023**	**23**	**45,494**
Total % (excluding assets held for sale)	**29.6%**	**70.3%**	**0.1%**	**100.0%**
2019 Total[1]	12,592	29,045	713	42,350
2019 Total %[1]	29.7%	68.6%	1.7%	100.0%

1 Following a review of the fair value hierarchy for debt securities, a new framework has been implemented to improve consistency across the Group. Comparative amounts have been amended from those previously reported and the effect of this change is to move £1,555 million of debt securities from fair value hierarchy Level 1 to Level 2 and £1,939 million from Level 2 to Level 1.

C4 – Analysis of debt securities continued

C4.1 Fair value hierarchy continued

Debt securities – Participating fund assets 2020	Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m
UK Government	5,261	790	87	6,138
Non-UK government	26,957	13,149	2,533	42,639
Europe	26,580	8,982	1,864	37,426
North America	377	225	349	951
Asia Pacific & Other	—	3,942	320	4,262
Corporate bonds – Public utilities	—	2,970	95	3,065
Other corporate bonds	—	38,239	6,886	45,125
Other	—	7,871	839	8,710
Total	**32,218**	**63,019**	**10,440**	**105,677**
Total %	**30.5%**	**59.6%**	**9.9%**	**100.0%**
Less: Assets classified as held for sale	(6,372)	(5,906)	(487)	(12,765)
Total (excluding assets held for sale)	**25,846**	**57,113**	**9,953**	**92,912**
Total % (excluding assets held for sale)	**27.8%**	**61.5%**	**10.7%**	**100.0%**
2019 Total[1]	32,126	59,320	9,128	100,574
2019 Total %[1]	31.9%	59.0%	9.1%	100.0%

1 Following a review of the fair value hierarchy for debt securities, a new framework has been implemented to improve consistency across the Group. Comparative amounts have been amended from those previously reported and the effect of this change is to move £11,676 million of debt securities from fair value hierarchy Level 1 to Level 2 and £714 million from Level 2 to Level 1.

Debt securities – Shareholder assets 2020	Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m
UK Government	12,341	1,534	406	14,281
Non-UK government	2,308	8,872	2,892	14,072
Europe	1,549	4,592	1,996	8,137
North America	715	3,506	569	4,790
Asia Pacific & Other	44	774	327	1,145
Corporate bonds – Public utilities	—	3,519	2,066	5,585
Other corporate bonds	—	18,038	3,488	21,526
Other	—	9,007	225	9,232
Total	**14,649**	**40,970**	**9,077**	**64,696**
Total %	**22.7%**	**63.3%**	**14.0%**	**100.0%**
Less: Assets classified as held for sale	(63)	(202)	—	(265)
Total (excluding assets held for sale)	**14,586**	**40,768**	**9,077**	**64,431**
Total % (excluding assets held for sale)	**22.6%**	**63.3%**	**14.1%**	**100.0%**
2019 Total[1]	11,604	36,798	8,155	56,557
2019 Total %[1]	20.5%	65.1%	14.4%	100.0%

1 Following a review of the fair value hierarchy for debt securities, a new framework has been implemented to improve consistency across the Group. Comparative amounts have been amended from those previously reported and the effect of this change is to move £1,450 million of debt securities from fair value hierarchy Level 1 to Level 2 and £514 million from Level 2 to Level 1.

Analysis of assets continued

C4 – Analysis of debt securities continued
C4.2 External ratings

Debt securities – Total 2020	AAA £m	AA £m	A £m	BBB £m	Less than BBB £m	Non-rated £m	Total £m
				External ratings			
Government							
UK Government	—	29,195	268	—	—	786	30,249
UK local authorities	—	—	151	—	—	63	214
Non-UK Government	12,684	25,054	8,040	15,489	2,941	1,557	65,765
	12,684	54,249	8,459	15,489	2,941	2,406	96,228
Corporate							
Public utilities	49	866	2,936	4,582	565	1,415	10,413
Other corporate bonds	6,721	8,157	26,585	28,162	10,314	4,777	84,716
	6,770	9,023	29,521	32,744	10,879	6,192	95,129
Certificates of deposit	90	9,407	6,727	25	—	761	17,010
Structured							
Residential Mortgage Backed Security non-agency prime	2	12	101	73	—	—	188
	2	12	101	73	—	—	188
Commercial Mortgage Backed Security	778	165	147	57	—	26	1,173
Asset Backed Security	246	444	148	224	52	85	1,199
Collateralised Debt Obligation (including Collateralised Loan Obligation)	294	—	—	—	—	—	294
	1,318	609	295	281	52	111	2,666
Wrapped credit	—	12	469	94	5	37	617
Other	113	185	635	1,464	1,919	—	4,316
Total	20,977	73,497	46,207	50,170	15,796	9,507	216,154
Total %	9.7%	34.0%	21.4%	23.2%	7.3%	4.4%	100.0%
Less: Assets classified as held for sale	(634)	(1,328)	(1,429)	(8,714)	(932)	(280)	(13,317)
Total (excluding assets held for sale)	20,343	72,169	44,778	41,456	14,864	9,227	202,837
Total % (excluding assets held for sale)	10.1%	35.6%	22.1%	20.4%	7.3%	4.5%	100.0%
2019 Total	21,367	67,939	39,319	45,927	15,946	8,983	199,481
2019 Total %	10.7%	34.1%	19.7%	23.0%	8.0%	4.5%	100.0%

Analysis of assets continued

C4 – Analysis of debt securities continued

C4.2 External ratings continued

Debt securities – Policyholder assets 2020	AAA £m	AA £m	A £m	BBB £m	External ratings Less than BBB £m	Non-rated £m	Total £m
Government							
UK Government	—	9,476	28	—	—	540	10,044
UK local authorities	—	—	—	—	—	—	—
Non-UK Government	2,390	651	1,915	2,079	1,908	111	9,054
	2,390	10,127	1,943	2,079	1,908	651	19,098
Corporate							
Public utilities	3	36	814	713	190	7	1,763
Other corporate bonds	697	1,437	5,528	5,306	4,262	835	18,065
	700	1,473	6,342	6,019	4,452	842	19,828
Certificates of deposit	20	2,697	2,036	25	—	562	5,340
Structured							
Residential Mortgage Backed Security non-agency prime	—	1	3	31	—	—	35
	—	1	3	31	—	—	35
Commercial Mortgage Backed Security	149	36	21	2	—	—	208
Asset Backed Security	55	72	46	5	7	12	197
Collateralised Debt Obligation (including Collateralised Loan Obligation)	—	—	—	—	—	—	—
	204	108	67	7	7	12	405
Wrapped credit	—	—	—	—	—	—	—
Other	28	46	158	365	478	—	1,075
Total	3,342	14,452	10,549	8,526	6,845	2,067	45,781
Total %	7.3%	31.6%	23.0%	18.6%	15.0%	4.5%	100.0%
Less: Assets classified as held for sale	(179)	(13)	(25)	(70)	—	—	(287)
Total (excluding assets held for sale)	3,163	14,439	10,524	8,456	6,845	2,067	45,494
Total % (excluding assets held for sale)	7.0%	31.7%	23.1%	18.6%	15.0%	4.6%	100.0%
2019 Total	3,634	13,913	8,979	7,990	5,746	2,088	42,350
2019 Total %	8.6%	32.8%	21.2%	18.9%	13.6%	4.9%	100.0%

Analysis of assets continued

C4 – Analysis of debt securities continued

C4.2 External ratings continued

	External ratings						
Debt securities – Participating fund assets 2020	AAA £m	AA £m	A £m	BBB £m	Less than BBB £m	Non-rated £m	Total £m
Government							
UK Government	—	5,992	2	—	—	137	6,131
UK local authorities	—	—	7	—	—	—	7
Non-UK Government	4,030	19,806	4,332	13,178	1,011	282	42,639
	4,030	25,798	4,341	13,178	1,011	419	48,777
Corporate							
Public utilities	46	664	525	1,416	359	55	3,065
Other corporate bonds	3,832	3,929	12,439	17,442	5,735	1,748	45,125
	3,878	4,593	12,964	18,858	6,094	1,803	48,190
Certificates of deposit	27	2,683	1,811	—	—	120	4,641
Structured							
Residential Mortgage Backed Security non-agency prime	1	11	12	42	—	—	66
	1	11	12	42	—	—	66
Commercial Mortgage Backed Security	200	21	20	—	—	10	251
Asset Backed Security	73	55	69	63	22	16	298
Collateralised Debt Obligation (including Collateralised Loan Obligation)	294	—	—	—	—	—	294
	567	76	89	63	22	26	843
Wrapped credit	—	—	24	—	—	1	25
Other	82	134	462	1,063	1,394	—	3,135
Total	8,585	33,295	19,703	33,204	8,521	2,369	105,677
Total %	8.2%	31.5%	18.6%	31.4%	8.1%	2.2%	100.0%
Less: Assets classified as held for sale	(438)	(1,221)	(1,327)	(8,604)	(930)	(245)	(12,765)
Total (excluding assets held for sale)	8,147	32,074	18,376	24,600	7,591	2,124	92,912
Total % (excluding assets held for sale)	8.7%	34.5%	19.8%	26.5%	8.2%	2.3%	100.0%
2019 Total	9,078	32,638	16,979	29,890	9,713	2,276	100,574
2019 Total %	9.0%	32.4%	16.9%	29.7%	9.7%	2.3%	100.0%

C4 – Analysis of debt securities continued

C4.2 External ratings continued

Debt securities – Shareholder assets 2020	AAA £m	AA £m	A £m	BBB £m	Less than BBB £m	Non-rated £m	Total £m
	External ratings						
Government							
UK Government	—	13,727	238	—	—	109	14,074
UK local authorities	—	—	144	—	—	63	207
Non-UK Government	6,264	4,597	1,793	232	22	1,164	14,072
	6,264	18,324	2,175	232	22	1,336	28,353
Corporate							
Public utilities	—	166	1,597	2,453	16	1,353	5,585
Other corporate bonds	2,192	2,791	8,618	5,414	317	2,194	21,526
	2,192	2,957	10,215	7,867	333	3,547	27,111
Certificates of deposit	43	4,027	2,880	—	—	79	7,029
Structured							
Residential Mortgage Backed Security non-agency prime	1	—	86	—	—	—	87
	1	—	86	—	—	—	87
Commercial Mortgage Backed Security	429	108	106	55	—	16	714
Asset Backed Security	118	317	33	156	23	57	704
Collateralised Debt Obligation (including Collateralised Loan Obligation)	—	—	—	—	—	—	—
	547	425	139	211	23	73	1,418
Wrapped credit	—	12	445	94	5	36	592
Other	3	5	15	36	47	—	106
Total	9,050	25,750	15,955	8,440	430	5,071	64,696
Total %	14.0%	39.8%	24.7%	13.0%	0.7%	7.8%	100.0%
Less: Assets classified as held for sale	(17)	(94)	(77)	(40)	(2)	(35)	(265)
Total (excluding assets held for sale)	9,033	25,656	15,878	8,400	428	5,036	64,431
Total % (excluding assets held for sale)	14.1%	39.8%	24.6%	13.0%	0.7%	7.8%	100.0%
2019 Total	8,655	21,388	13,361	8,047	487	4,619	56,557
2019 Total %	15.3%	37.8%	23.6%	14.2%	0.9%	8.2%	100.0%

Within shareholder assets debt securities, 43.8% of exposure is in government holdings *(2019: 42.5%)*. Our corporate debt securities portfolio represents 41.9% of total shareholder debt securities *(2019: 45.4%)*. At 31 December 2020, the proportion of our shareholder debt securities that are investment grade is 91.5% *(2019: 90.9%)*. The remaining 8.5% of shareholder debt securities that do not have an external rating of BBB or higher can be split as follows:

- 0.7% are debt securities that are rated as below investment grade; and
- 7.8% 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 rating 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 £3.3 billion *(2019: £3.2 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.

C5 – Analysis of loans

(a) Overview

The Group's loan portfolio of £43,679 million *(2019: £38,579 million)* is principally made up of the following:

- Policy loans of £637 million *(2019: £684 million)*, which are generally collateralised by a lien or charge over the underlying policy;
- Loans and advances to banks of £12,330 million *(2019: £8,830 million)*, which primarily relate to loans of cash collateral received in stock lending transactions and are therefore fully collateralised by other securities;
- Mortgage loans collateralised by property assets of £22,073 million *(2019: £21,549 million)*; and
- Healthcare, infrastructure and private financial initiative (PFI) loans of £7,283 million *(2019: £6,467 million)*.

Loans with fixed maturities, including policy loans 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 using the effective interest rate method.

For certain mortgage loans, the Group has taken advantage of the fair value option under IAS 39 *Financial Instruments: Recognition Measurement* 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. These mortgage loans are not traded in active markets and are classified within level 3 of the fair value hierarchy as the significant valuation assumptions and inputs are not deemed to be market observable. Of the Group's total loan portfolio, 50.5% *(2019: 55.8%)* is invested in mortgage loans. The shareholder risk relating to these loans is discussed further below.

Healthcare, infrastructure and PFI loans included within shareholder assets are £7,283 million *(2019: £6,467 million)*. These loans are secured against the income from healthcare and education premises and as such are not considered further in this section.

Loans – Shareholder assets 31 December 2020	United Kingdom £m	Canada £m	Europe £m	Asia £m	Total £m
Policy loans	**4**	**—**	**2**	**—**	**6**
Loans and advances to banks	**5,327**	**—**	**—**	**—**	**5,327**
Healthcare, Infrastructure and PFI other loans	**7,048**	**—**	**235**	**—**	**7,283**
Mortgage loans	**22,034**	**—**	**—**	**—**	**22,034**
Other loans	**141**	**132**	**1**	**—**	**274**
Total	**34,554**	**132**	**238**	**—**	**34,924**
Total %	**98.9%**	**0.4%**	**0.7%**	**—**	**100.0%**
Less: Assets classified as held for sale	**—**	**—**	**—**	**—**	**—**
Total (excluding assets held for sale)	**34,554**	**132**	**238**	**—**	**34,924**
Total % (excluding assets held for sale)	**98.9%**	**0.4%**	**0.7%**	**—**	**100.0%**
2019 Total	30,890	125	222	1	31,238
2019 Total %	98.9%	0.4%	0.7%	—	100.0%

(b) Analysis of shareholder mortgage loans

Mortgage loans included within shareholder assets are £22,034 million *(2019: £21,508 million)* and are almost entirely held in the UK. The narrative below focuses on explaining the risks arising as a result of these exposures.

31 December 2020	Total £m
Non-securitised mortgage loans	
– Residential (Equity release)	**9,360**
– Commercial	**7,479**
– Healthcare, Infrastructure and PFI mortgage loans	**2,804**
	19,643
Securitised mortgage loans	**2,391**
Total	**22,034**
Less: Assets classified as held for sale	**—**
Total (excluding assets held for sale)	**22,034**
2019 Total	21,508

Non-securitised mortgage loans

Residential

The UK non-securitised residential mortgage portfolio has a total value as at 31 December 2020 of £9,360 million *(2019: £8,558 million)*. The movement in the year is due to £583 million of new lending and an increase in the fair value of £241 million. Additional accrued interest in the year is offset by the value of redemptions. These mortgages are all in the form of equity release, whereby homeowners mortgage their property to release cash equity. Due to the structure of equity release mortgages, whereby interest amounts due are not paid in cash but instead rolled into the amount outstanding, they predominantly have a current Loan to Value (LTV) of below 70%. The average LTV across the portfolio is 28.2% *(2019: 28.2%)*.

C5 – Analysis of loans continued

(b) Analysis of shareholder mortgage loans continued

Non-securitised mortgage loans continued

Commercial

Gross exposure by loan to value and arrears of UK non-securitised commercial mortgages is shown in the table below.

31 December 2020	>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	33	—	—	316	—	57	38	245	1,042	5,714	7,445
0 – 3 months	—	—	—	—	—	34	—	—	—	—	34
Total	33	—	—	316	—	91	38	245	1,042	5,714	7,479

Of the £7,479 million *(2019: £7,640 million)* of mortgage loans within shareholder assets, £7,479 million are used to back annuity liabilities and are stated on a fair value basis. The UK loan exposures are calculated on a discounted cash flow basis, and include a risk adjustment through the use of a Credit Risk Adjusted Value (CRAV).

For commercial mortgages, loan service collection ratios, a key indicator of mortgage portfolio performance, reduced to 2.37x *(2019: 2.56x)*. Loan Interest Cover (LIC), which is defined as the annual net rental income (including rental deposits less ground rent) divided by the annual loan interest service, also reduced to 2.74x *(2019: 2.90x)*. Average mortgage LTV increased from 55.6% in 2019 to 61.0%. As at 31 December 2020 loans with a value of £34 million have a balance in arrears *(2019: £nil)*.

Commercial mortgages and Healthcare, Infrastructure and PFI loans are held at fair value on the asset side of the statement of financial position. The related insurance liabilities are valued using a discount rate derived from the gross yield on assets, with adjustments to allow for risk. £17,171 million of shareholder loan assets are backing annuity liabilities and comprise of commercial mortgage loans (£7,479 million), Healthcare, Infrastructure and PFI mortgage loans (£2,804 million) and Healthcare, Infrastructure and PFI other loans (£6,888 million).

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 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. The Group continues to actively manage this position.

Healthcare, Infrastructure and PFI

Healthcare, Infrastructure and PFI mortgage loans included within shareholder assets of £2,804 million *(2019: £2,878 million)* are secured against healthcare premises, 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 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 73.7% *(2019: 72.6%)*, although this is not considered to be a key risk indicator due to the Government support noted above and the social need for these premises. The Group therefore consider these loans to be lower risk relative to other mortgage loans.

Securitised mortgage loans

As at 31 December 2019, the Group has £2,391 million *(2019: £2,432 million)* of securitised mortgage loans within shareholder assets. Funding for the securitised residential mortgage assets was obtained by issuing loan note securities. Of these loan notes approximately £230 million *(2019: £224 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 been redeemed is borne by the loan note holders, the majority of the credit risk of these mortgages is borne by third parties rather than by shareholders. The average LTV across the securitised mortgage loans is 49.6% *(2019: 49.0%)*.

Valuation allowance

The Group carries a valuation allowance within insurance liabilities against the risk of default for assets backing annuities. The total valuation allowance in respect of corporate bonds was £1.4 billion *(2019: £1.3 billion)* over the remaining term of the portfolio at 31 December 2020. The total valuation allowance in respect of mortgages, including healthcare mortgages but excluding equity release, was £0.6 billion at 31 December 2020 *(2019: £0.5 billion)*. The total valuation allowance in respect of equity release mortgages was £1.7 billion at 31 December 2020 *(2019: £1.5 billion)*. The risk allowances made for corporate bonds (including overseas government bonds and structured finance assets), mortgages (including healthcare mortgages, commercial mortgages and infrastructure assets) and equity release equated to 46 bps, 35 bps, and 118 bps respectively at 31 December 2020 *(2019: 45 bps — 47 bps, 31 bps — 35 bps, and 124 bps respectively)*. Following a change in methodology this disclosure now includes total valuation allowances for all annuities in UK shareholder funds (2019 disclosure included total valuation allowances for annuities transferred in from Aviva Annuity UK Limited).

Analysis of assets continued

C6 – Analysis of equity securities

Equity securities – Total	2020 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m	2019 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Public utilities	**3,099**	**—**	**—**	**3,099**	2,883	—	—	2,883
Banks, trusts and insurance companies	**17,695**	**—**	**140**	**17,835**	20,476	—	160	20,636
Industrial miscellaneous and all other	**79,044**	**—**	**275**	**79,319**	75,496	—	600	76,096
Non-redeemable preferred shares	**251**	**—**	**—**	**251**	211	—	—	211
Total	**100,089**	**—**	**415**	**100,504**	99,066	—	760	99,826
Total %	**99.6%**	**—**	**0.4%**	**100.0%**	99.2%	—	0.8%	100.0%
Less: Assets classified as held for sale	**(92)**	**—**	**(8)**	**(100)**	(216)	—	(40)	(256)
Total (excluding assets held for sale)	**99,997**	**—**	**407**	**100,404**	98,850	—	720	99,570
Total % (excluding assets held for sale)	**99.6%**	**—**	**0.4%**	**100.0%**	99.3%	—	0.7%	100.0%

Equity securities – Policyholder assets	2020 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m	2019 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Public utilities	**2,782**	**—**	**—**	**2,782**	2,549	—	—	2,549
Banks, trusts and insurance companies	**15,409**	**—**	**—**	**15,409**	17,070	—	6	17,076
Industrial miscellaneous and all other	**68,710**	**—**	**4**	**68,714**	63,210	—	189	63,399
Non-redeemable preferred shares	**52**	**—**	**—**	**52**	11	—	—	11
Total	**86,953**	**—**	**4**	**86,957**	82,840	—	195	83,035
Total %	**100.0%**	**—**	**—**	**100.0%**	99.8%	—	0.2%	100.0%
Less: Assets classified as held for sale	**(43)**	**—**	**—**	**(43)**	(216)	—	(40)	(256)
Total (excluding assets held for sale)	**86,910**	**—**	**4**	**86,914**	82,624	—	155	82,779
Total % (excluding assets held for sale)	**100.0%**	**—**	**—**	**100.0%**	99.8%	—	0.2%	100.0%

Equity securities – Participating fund assets	2020 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m	2019 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Public utilities	**307**	**—**	**—**	**307**	319	—	—	319
Banks, trusts and insurance companies	**2,205**	**—**	**39**	**2,244**	3,239	—	48	3,287
Industrial miscellaneous and all other	**10,019**	**—**	**253**	**10,272**	10,973	—	380	11,353
Non-redeemable preferred shares	**4**	**—**	**—**	**4**	—	—	—	—
Total	**12,535**	**—**	**292**	**12,827**	14,531	—	428	14,959
Total %	**97.7%**	**—**	**2.3%**	**100.0%**	97.1%	—	2.9%	100.0%
Less: Assets classified as held for sale	**(49)**	**—**	**(8)**	**(57)**	—	—	—	—
Total (excluding assets held for sale)	**12,486**	**—**	**284**	**12,770**	14,531	—	428	14,959
Total % (excluding assets held for sale)	**97.8%**	**—**	**2.2%**	**100.0%**	97.1%	—	2.9%	100.0%

Equity securities – Shareholder assets	2020 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m	2019 Fair value hierarchy Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Public utilities	**10**	**—**	**—**	**10**	15	—	—	15
Banks, trusts and insurance companies	**81**	**—**	**101**	**182**	167	—	106	273
Industrial miscellaneous and all other	**315**	**—**	**18**	**333**	1,313	—	31	1,344
Non-redeemable preferred shares	**195**	**—**	**—**	**195**	200	—	—	200
Total	**601**	**—**	**119**	**720**	1,695	—	137	1,832
Total %	**83.5%**	**—**	**16.5%**	**100.0%**	92.5%	—	7.5%	100.0%
Less: Assets classified as held for sale	**—**	**—**	**—**	**—**	—	—	—	—
Total (excluding assets held for sale)	**601**	**—**	**119**	**720**	1,695	—	137	1,832
Total % (excluding assets held for sale)	**83.5%**	**—**	**16.5%**	**100.0%**	92.5%	—	7.5%	100.0%

Analysis of assets continued

C7 – Analysis of investment property

The Group's total investment property value is £11,369 million *(2019: £11,203 million)*.

Within total investment properties by value, 94.4% *(2019: 93.9%)* 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 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 into consideration lease incentives and assuming no further growth in the estimated rental value of the property. External valuations include a capital deduction on properties in the retail and leisure sectors where tenant risk is deemed to have increased as a result of COVID-19. The uplift and discount rates are derived from rates implied by recent market transactions on similar property. These inputs are deemed unobservable.

Within total investment properties by value, 97.6% *(2019: 97.6%)* are leased to third parties under operating leases, with the remainder either being vacant or held for capital appreciation.

Within shareholder investment properties by value, 100% *(2019: 100%)* are leased to third parties under operating leases.

C8 – Analysis of other financial investments

	2020				2019			
	Fair value hierarchy				Fair value hierarchy			
Other investments – Total	Level 1 £m	Level 2 £m	Level 3 £m	Total £m	Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Unit trusts and other investment vehicles[1]	33,978	970	2,997	37,945	37,322	438	4,394	42,154
Derivative financial instruments	248	8,943	531	9,722	240	6,365	492	7,097
Deposits with credit institutions	157	54	—	211	156	13	—	169
Minority holdings in property management undertakings	—	78	3,569	3,647	1	62	2,332	2,395
Other[1]	2	—	100	102	120	—	—	120
Total	**34,385**	**10,045**	**7,197**	**51,627**	37,839	6,878	7,218	51,935
Total %	**66.6%**	**19.5%**	**13.9%**	**100.0%**	72.9%	13.2%	13.9%	100.0%
Less: Assets classified as held for sale	**(2,904)**	**(48)**	**(538)**	**(3,490)**	(5,374)	—	(1,545)	(6,919)
Total (excluding assets held for sale)	**31,481**	**9,997**	**6,659**	**48,137**	32,465	6,878	5,673	45,016
Total % (excluding assets held for sale)	**65.4%**	**20.8%**	**13.8%**	**100.0%**	72.1%	15.3%	12.6%	100.0%

1 Following a review of the presentation of investments held by the Singapore business, comparative amounts have been amended to reclassify £318 million of investments from Other to Unit trusts and other investment vehicles.

	2020				2019			
	Fair value hierarchy				Fair value hierarchy			
Other investments – Policyholder assets	Level 1 £m	Level 2 £m	Level 3 £m	Total £m	Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Unit trusts and other investment vehicles[1]	31,681	684	3	32,368	34,016	390	1,549	35,955
Derivative financial instruments	21	1,014	—	1,035	17	828	—	845
Deposits with credit institutions	137	54	—	191	125	13	—	138
Minority holdings in property management undertakings	—	—	983	983	1	—	775	776
Other[1]	—	—	—	—	108	—	—	108
Total	**31,839**	**1,752**	**986**	**34,577**	34,267	1,231	2,324	37,822
Total %	**92.0%**	**5.1%**	**2.9%**	**100.0%**	90.6%	3.3%	6.1%	100.0%
Less: Assets classified as held for sale	**(2,757)**	**—**	**—**	**(2,757)**	(5,166)	—	(1,545)	(6,711)
Total (excluding assets held for sale)	**29,082**	**1,752**	**986**	**31,820**	29,101	1,231	779	31,111
Total % (excluding assets held for sale)	**91.4%**	**5.5%**	**3.1%**	**100.0%**	93.5%	4.0%	2.5%	100.0%

1 Following a review of the presentation of investments held by the Singapore business, comparative amounts have been amended to reclassify £318 million of investments from Other to Unit trusts and other investment vehicles.

C8 – Analysis of other financial investments continued

Other investments – Participating fund assets	2020 Fair value hierarchy Level 1 £m	2020 Level 2 £m	2020 Level 3 £m	2020 Total £m	2019 Fair value hierarchy Level 1 £m	2019 Level 2 £m	2019 Level 3 £m	2019 Total £m
Unit trusts and other investment vehicles	**1,866**	**82**	**2,710**	**4,658**	2,767	47	2,661	5,475
Derivative financial instruments	**173**	**4,713**	**53**	**4,939**	183	3,656	42	3,881
Deposits with credit institutions	**20**	**—**	**—**	**20**	26	—	—	26
Minority holdings in property management undertakings	**—**	**30**	**2,362**	**2,392**	—	28	1,312	1,340
Other	**—**	**—**	**—**	**—**	—	—	—	—
Total	**2,059**	**4,825**	**5,125**	**12,009**	2,976	3,731	4,015	10,722
Total %	**17.1%**	**40.2%**	**42.7%**	**100.0%**	27.8%	34.8%	37.4%	100.0%
Less: Assets classified as held for sale	**(147)**	**(48)**	**(538)**	**(733)**	(206)	—	—	(206)
Total (excluding assets held for sale)	**1,912**	**4,777**	**4,587**	**11,276**	2,770	3,731	4,015	10,516
Total % (excluding assets held for sale)	**17.0%**	**42.3%**	**40.7%**	**100.0%**	26.3%	35.5%	38.2%	100.0%

Other investments – Shareholder assets	2020 Fair value hierarchy Level 1 £m	2020 Level 2 £m	2020 Level 3 £m	2020 Total £m	2019 Fair value hierarchy Level 1 £m	2019 Level 2 £m	2019 Level 3 £m	2019 Total £m
Unit trusts and other investment vehicles	**431**	**204**	**284**	**919**	539	1	184	724
Derivative financial instruments	**54**	**3,216**	**478**	**3,748**	40	1,881	450	2,371
Deposits with credit institutions	**—**	**—**	**—**	**—**	5	—	—	5
Minority holdings in property management undertakings	**—**	**48**	**224**	**272**	—	34	245	279
Other	**2**	**—**	**100**	**102**	12	—	—	12
Total	**487**	**3,468**	**1,086**	**5,041**	596	1,916	879	3,391
Total %	**9.7%**	**68.8%**	**21.5%**	**100.0%**	17.6%	56.5%	25.9%	100.0%
Less: Assets classified as held for sale	**—**	**—**	**—**	**—**	(2)	—	—	(2)
Total (excluding assets held for sale)	**487**	**3,468**	**1,086**	**5,041**	594	1,916	879	3,389
Total % (excluding assets held for sale)	**9.7%**	**68.8%**	**21.5%**	**100.0%**	17.5%	56.6%	25.9%	100.0%

C9 – Analysis of available for sale (AFS) investments

There were no impairment expenses during 2020 relating to AFS debt securities and other investments.

Total unrealised losses on AFS debt securities at 31 December 2020 were £1 million *(2019: £2 million)*. There were no other unrealised losses on AFS investments.

C10 – Summary of exposure to peripheral European countries

The Group's direct sovereign exposures to Ireland, Portugal, Italy and Spain (net of non-controlling interests, excluding policyholder assets) is summarised below:

	Participating 2020 £bn	Participating 2019 £bn	Shareholder 2020 £bn	Shareholder 2019 £bn	Total 2020 £bn	Total 2019 £bn
Ireland	**0.9**	0.8	**0.3**	0.3	**1.2**	1.1
Portugal	**0.5**	0.2	**0.1**	0.1	**0.6**	0.3
Italy	**10.4**	7.7	**—**	0.2	**10.4**	7.9
Spain	**1.0**	0.6	**0.2**	0.2	**1.2**	0.8
Total	**12.8**	9.3	**0.6**	0.8	**13.4**	10.1

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.

C11 – 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						
2020	AAA £m	AA £m	A £m	BBB £m	Less than BBB £m	Not rated £m	Total £m
Policyholder assets	**—**	**2,630**	**628**	**—**	**—**	**61**	**3,319**
Participating fund assets	**—**	**150**	**273**	**—**	**—**	**28**	**451**
Shareholder assets	**—**	**8,078**	**1,372**	**—**	**—**	**136**	**9,586**
Total	**—**	**10,858**	**2,273**	**—**	**—**	**225**	**13,356**
Total %	**—**	**81.3%**	**17.0%**	**—**	**—**	**1.7%**	**100.0%**
Less: Assets classified as held for sale	**—**	**—**	**—**	**—**	**—**	**(18)**	**(18)**
Total (excluding assets held for sale)	**—**	**10,858**	**2,273**	**—**	**—**	**207**	**13,338**
Total % (excluding assets held for sale)	**—**	**81.4%**	**17.0%**	**—**	**—**	**1.6%**	**100.0%**
2019 Total	412	9,428	1,139	972	—	480	12,431
2019 Total %	3.3%	75.8%	9.2%	7.8%	—	3.9%	100.0%

Other information

Alternative Performance Measures

In order to fully explain the performance of our business, we discuss and analyse our results in terms of financial measures which include a number of alternative performance measures (APMs). APMs are non-GAAP measures which are used to supplement the disclosures prepared in accordance with other regulations such as International Financial Reporting Standards (IFRS) and Solvency II. We believe these measures provide useful information to enhance the understanding of our financial performance. However, APMs should be viewed as complementary to, rather than as a substitute for, the figures determined according to other regulations.

Throughout, the symbol '#' denotes an APM that is also a key performance indicator used as a base to determine or modify remuneration.

The APMs utilised by Aviva may not be the same as those used by other insurers and may change over time. The calculation of APMs is consistent with previous periods unless otherwise stated.

Following the announcement of our strategic priorities on 6 August 2020, the financial performance of our 'Core markets' are presented as UK & Ireland Life, General Insurance (which brings together our UK & Ireland general insurance businesses and Canada) and Aviva Investors. Our 'Manage-for-value' markets consist of our remaining international businesses: France, Italy, Poland, Asia and Other. The 2019 comparative results for our APMs have been restated from those previously published to reclassify operations on this basis.

In addition, the 2019 comparative amounts have been re-presented from those previously published to reclassify the amounts relating to Aviva Singapore, Friends Provident International Limited (FPI), Hong Kong, Indonesia and Vietnam as discontinued operations. Where relevant, these discontinued operations are presented as 'Manage-for-value' markets.

At 31 December 2020, the estimated Solvency II shareholder cover ratio APM has been amended to no longer make adjustments for planned acquisitions and disposals when deriving the shareholder view. This change in approach is considered more relevant because prior to completion there is uncertainty in relation to the progression and final terms of such transactions. Comparative amounts have not been restated for this change as the impacts were not material at 31 December 2019.

At 30 June 2020, we removed the operating expenses APM, having disclosed this metric alongside controllable costs at 31 December 2019. The controllable costs metric aligns to our capital markets day target announced in November 2019 and excludes premium based taxes, fees and levies that vary directly with premium volumes. Therefore, controllable costs is considered more representative of operational expenses that are controllable by management and is considered more useful and relevant than the operating expenses metric.

Further details on APMs derived from IFRS measures and APMs derived from Solvency II measures are provided in the following sections. A further section describes Other APMs.

APMs derived from IFRS measures

A number of APMs relating to IFRS are utilised to measure and monitor the Group's performance. Definitions and additional information, including reconciliations to the relevant amounts in the IFRS Financial Statements and, where appropriate, commentary on the material reconciling items are included within this section.

Group adjusted operating profit#

Group adjusted operating profit is an APM that supports decision making and internal performance management of the Group's operating segments that incorporates an expected return on investments supporting the life and non-life insurance businesses. The Group considers this measure meaningful to stakeholders as it enhances the understanding of the Group's operating performance over time by separately identifying non-operating items. The various items excluded from Group adjusted operating profit, but included in IFRS profit before tax, are:

Investment variances, economic assumption changes and short-term fluctuation in return on investments

Group adjusted operating profit for the life insurance 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. The expected rate of return is determined using consistent assumptions between operations, having regard to local economic and market forecasts of investment return and asset classification.

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. Where such securities are classified as available for sale the expected return comprises interest or dividend payments and amortisation of the premium or discount at purchase. The expected return on equities and properties is calculated by reference to the opening 10-year swap rate in the relevant currency plus an appropriate risk margin.

Group adjusted operating profit includes the effect of variances in experience for non-economic items, such as mortality, persistency and expenses, and the effect of changes in non-economic assumptions. Changes due to economic items, such as market value movement and interest rate changes, which give rise to variances between actual and expected investment returns, and the impact of changes in economic assumptions on liabilities, are disclosed separately outside Group adjusted operating profit.

Group adjusted operating profit for the non-life insurance business is based on expected investment returns on financial investments backing shareholder funds over the period. Expected investment returns are calculated for equities and properties by multiplying the opening market value of the investments, adjusted for sales and purchases during the year, by the long-term rate of return. This rate of return is the same as that applied for the long-term business expected returns. The long-term return for other investments (including debt securities) is the actual income receivable for the period. Actual income and long-term investment return both contain the amortisation of the discounts/premium arising on the acquisition of fixed income securities.

Changes due to market value movements and interest rate changes, which give rise to variances between actual and expected investment returns, are disclosed separately outside Group adjusted operating profit. The impact of changes in the discount rate applied to claims provisions is also disclosed outside Group adjusted operating profit.

The exclusion of short-term investment variances from this APM reflects the long-term nature of much of our business. The Group adjusted operating profit which is used in managing the performance of our operating segments excludes the impact of economic variances, to provide a comparable measure year on year.

Impairment, amortisation and profit or loss on disposal

Group adjusted operating profit also excludes impairment of goodwill, associates and joint ventures; amortisation and impairment of other intangible assets acquired in business combinations; amortisation and impairment of acquired value of in-force business; and the profit or loss on disposal and remeasurement of subsidiaries, joint ventures and associates. These items principally relate to merger, acquisition and disposal activity which we view as strategic in nature, hence they are excluded from the Group adjusted operating profit APM as this is principally used to manage the performance of our operating segments when reporting to the Group chief operating decision maker.

Other items

These items are, in the directors' view, required to be separately disclosed by virtue of their nature or incidence to enable a full understanding of the Group's financial performance. Other items in 2020 comprise:

- A charge of £16 million relating to costs on contracts that have become onerous following the disposals of FPI, Singapore, Indonesia and Hong Kong. This was disclosed outside of Group adjusted operating profit as the onerous contracts arise as a result of disposal transactions which we consider to be strategic in nature; and
- A charge of £18 million relating to the estimated additional liability arising in the UK defined benefit pension schemes as a result of the requirement to equalise members' benefits for the effects of Guaranteed Minimum Pension (GMP) for former members. This was disclosed outside of Group adjusted operating profit as the additional liability arose as a consequence of a further High Court judgement in November 2020 in the case involving Lloyds Banking Group, and does not reflect the financial performance of the Group for the year.

Other items in 2019 comprised:

- A charge of £45 million relating to a change in the discount rate used for estimating lump sum payments in settlement of bodily injury claims. Consistent with the presentation of the change in the Ogden discount rate in 2016 and 2018, this was disclosed outside of Group adjusted operating profit; and
- A charge of £2 million relating to the negative goodwill which arose on the acquisition of Friends First in 2018, which was excluded from Group adjusted operating profit for consistency with the treatment of impairment of goodwill.

The Group adjusted operating profit APM should be viewed as complementary to IFRS measures. It is important to consider Group adjusted operating profit and profit for the year together to understand the performance of the business in the period.

The table below presents a reconciliation between our consolidated operating profit and profit before tax attributable to shareholders' profits.

	2020 £m	2019 £m
UK & Ireland Life	**1,907**	1,974
General Insurance		
UK & Ireland GI	**213**	297
Canada	**287**	191
Aviva Investors	**85**	96
Core markets	**2,492**	2,558
Manage-for-value	**999**	899
Other Group activities	**(22)**	(21)
	3,469	3,436
Corporate centre	**(250)**	(183)
Group debt costs and other interest	**(370)**	(320)
Group adjusted operating profit before tax attributable to shareholders' profits from continuing operations	**2,849**	2,933
Group adjusted operating profit before tax attributable to shareholders' profits from discontinued operations	**312**	251
Group adjusted operating profit before tax attributable to shareholders' profits	**3,161**	3,184
Adjusted for the following:		
Life business: Investment variances and economic assumption changes	**174**	654
Non-life business: Short-term fluctuation in return on investments	**(64)**	167
General insurance and health business: Economic assumption changes	**(104)**	(54)
Impairment of goodwill, associates and joint ventures and other amounts expensed	**(30)**	(15)
Amortisation and impairment of intangibles acquired in business combinations	**(76)**	(87)
Amortisation and impairment of acquired value of in-force business	**(278)**	(406)
Profit/(loss) on the disposal and re-measurement of subsidiaries, joint ventures and associates	**725**	(22)
Other	**(34)**	(47)
Adjusting items before tax	**313**	190
Profit before tax attributable to shareholders' profits	**3,474**	3,374
Tax on Group adjusted operating profit	**(634)**	(668)
Tax on other activities	**70**	(43)
	(564)	(711)
Profit for the year	**2,910**	2,663

The difference between the Group adjusted operating profit before tax attributable to shareholders' profit from discontinued operations of £312 million *(2019: £251 million)* and profit before tax attributable to shareholders' profits from discontinued operations of £904 million *(2019: £54 million)* is a net profit of £592 million *(2019: £197 million loss)*. This is included in the total adjustments in the table above of £313 million *(2019: £190 million)* and comprises a net gain of £713 million *(2019: £28 million loss)* relating to profit on the disposal and re- measurement of subsidiaries, joint ventures and associates; offset by losses of £50 million *(2019: £29 million loss)* relating to investment return variances and economic assumption changes on long-term business; losses of £1 million *(2019: £4 million loss)* relating to impairment of goodwill, associates and joint ventures; losses of £6 million *(2019: £10 million loss)* in relation to amortisation and impairment of intangibles acquired in business combinations; and losses of £64 million *(2019: £126 million loss)* relating to amortisation and impairment of acquired in-force business.

Combined operating ratio (COR)

COR is a useful financial measure of general insurance underwriting profitability calculated as total underwriting costs in our insurance entities expressed as a percentage of net earned premiums. It is used to monitor the profitability of lines of business. A COR below 100% indicates profitable underwriting.

The Group COR is shown below.

	2020 £m	2019 £m
Continuing operations		
Incurred claims – GI & Health (as per note B6)[1]	**(6,267)**	(6,448)
Adjusted for the following:		
Incurred claims – Health	**423**	491
Change in discount rate assumptions	**104**	54
Impact of change in the discount rate used in settlement of bodily injury claims	**—**	45
Total Incurred claims (included in COR)[2]	**(5,740)**	(5,858)
Commission and expenses – GI & Health (as per note B6)	**(3,545)**	(3,275)
Adjusted for the following:		
Amortisation and impairment of intangibles acquired in business combinations	**23**	19
Foreign exchange gains/(losses)	**49**	(45)
Commission income	**21**	20
Other	**12**	5
Commission and Expenses – Health & Other Non GI	**252**	259
Total commission and expenses (included in COR)[3]	**(3,188)**	(3,017)
Total underwriting costs from continuing operations	**(8,928)**	(8,875)
Total underwriting costs from discontinued operations	**(12)**	(17)
Total underwriting costs	**(8,940)**	(8,892)
Net earned premiums – GI & Health	**9,914**	9,805
Adjusted for:		
Net earned premiums – Health	**(638)**	(700)
Net earned premiums (included in COR) from continuing operations	**9,276**	9,105
Net earned premiums (included in COR) from discontinued operations	**12**	15
Net earned premiums (included in COR)	**9,288**	9,120
Combined operating ratio – continuing operations	**96.2%**	97.5%
Combined operating ratio	**96.2%**	97.5%

1 Corresponds to the sum of claims and benefits paid, net of recoveries from reinsurers and the change in insurance liabilities, net of reinsurance per note B6.
2 Includes Aviva Re.
3 Commission and expenses (included in COR) is comprised of £2,031 million earned commission *(2019: £1,900 million)* and £1,157 million earned expenses *(2019: £1,116 million)*. It includes Aviva Re.

Claims, commission, and expense ratios

Financial measures of the performance of our general insurance business which are calculated as incurred claims, earned commissions or earned expenses expressed as a percentage of net earned premiums, which can be derived from the COR table above.

Operating earnings per share (EPS)#

Operating EPS is calculated based on the Group adjusted operating profit attributable to ordinary shareholders net of tax, deducting non-controlling interests, preference dividends and direct capital instrument and tier 1 note coupons divided by the weighted average number of ordinary shares in issue, after deducting treasury shares. Operating EPS is considered meaningful to stakeholders because it enhances the understanding of the Group's operating performance over time by adjusting for the effects of non-operating items. A reconciliation between operating EPS and basic EPS can be found in note B8.

Controllable costs

Controllable costs is a useful measure of the controllable operational overheads associated with maintaining our businesses. These predominantly consist of staff costs, central costs, property and IT related costs and other expenses. Controllable costs also include indirect acquisition costs, such as underwriting overheads, and claims handling costs. These are considered to be controllable by the operating segments.

Controllable costs exclude impairment of goodwill, associates and joint ventures; amortisation and impairment of other intangible assets acquired in business combinations; and amortisation and impairment of acquired value of in-force business. These items relate to merger, acquisition and disposal activity which we view as strategic in nature, hence they are excluded from controllable costs which is principally used to manage the performance of our operating segments.

Controllable costs exclude costs in relation to product governance and mis-selling. These costs represent compensation and redress payments made to policyholders and are excluded from controllable costs because they have characteristics of claims payments. In 2019 these costs included a £175 million provision in our UK Life business relating to past communications to a specific sub-set of pension policyholders that may not have adequately informed them of switching options into with-profits funds that were available to them.

Controllable costs exclude premium based taxes, fees and levies that vary directly with premiums. These costs are by their nature a direct cost incurred as a result of generating premium income, and therefore not a controllable operational overhead.

Controllable costs also excludes other amounts that, in management's view, are not representative of underlying day-to-day expenses involved in running the business, and that would distort the year on year controllable costs trend such as GI instalment income.

Following a review of the presentation of claims handling costs, to achieve consistency in our reporting, comparative amounts have been restated by £83 million for the year ended 31 December 2019 to include previously excluded claims handling costs attributable to the Life & Health businesses from the UK, Ireland and Poland in controllable costs.

A reconciliation of other expenses in the IFRS consolidated income statement to controllable costs is set out below:

	2020 £m	Restated[1] 2019 £m
Continuing operations		
Other expenses (IFRS income statement)	**3,037**	3,057
Add: other acquisition costs	**1,028**	947
Add: claims handling costs[1]	**366**	422
Less: impairment of goodwill, associates and joint ventures and other amounts expensed	**(17)**	(2)
Less: amortisation and impairment of intangibles acquired in business combinations	**(71)**	(76)
Less: amortisation and impairment of acquired value of in-force business	**(214)**	(280)
Less: foreign exchange (losses)/gains	**(109)**	109
Less: product governance and mis-selling costs[2]	**(50)**	(225)
Less: premium based income taxes, fees and levies	**(192)**	(180)
Add: other costs	**—**	57
Controllable costs from continuing operations	**3,778**	3,829
Controllable costs from discontinued operations	**157**	193
Controllable costs	**3,935**	4,022

1 Following a review of the presentation of claims handling costs, to achieve consistency in our reporting, comparative amounts have been restated by £83 million for the year ended 31 December 2019 to include previously excluded claims handling costs attributable to the Life & Health businesses from the UK, Ireland and Poland in controllable costs.
2 Product governance and mis-selling costs, previously included within other costs, have been presented as a discrete item in the reconciliation in order to improve transparency.

Alternative Performance Measures continued

At 30 June 2020, we have removed the operating expenses APM, having disclosed this metric alongside controllable costs at 31 December 2019. The controllable costs metric aligns to our target announced in 2019 and excludes premium based taxes, fees and levies that vary directly with premium volumes. Therefore, controllable costs is considered more representative of operational expenses that are controllable by management and is considered more useful and relevant than the operating expenses metric.

IFRS Return on Equity (RoE)[#]

The IFRS RoE calculation is based on Group adjusted operating profit after tax attributable to ordinary shareholders expressed as a percentage of weighted average ordinary shareholders' equity (excluding non-controlling interests, preference share capital and direct capital instrument and tier 1 notes).

IFRS net asset value (NAV) per share

IFRS 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 at the balance sheet date. IFRS NAV per share is meaningful as a measure of the value generated by the Group in terms of the equity shareholders' face value per share investment.

	2020	2019
Equity attributable to shareholders of Aviva plc at 31 December[1] (£m)	**19,354**	17,008
Number of shares in issue at 31 December (in millions)	**3,928**	3,921
IFRS NAV per share	**493p**	434p

1 Excluding preference shares of £200 million *(2019: £200 million)*.

Assets Under Management (AUM) and Assets Under Administration (AUA)

AUM represent all assets managed or administered by or on behalf of the Group, including those assets managed by Aviva Investors and by third parties. AUM include assets that are reported within the Group's statement of financial position and those assets belonging to external clients outside the Aviva Group which are therefore not included in the Group's statement of financial position.

Consistent with previous years, Aviva Investors AUA comprises AUM plus £40 billion *(2019: £36 billion)* of assets managed by third parties on platforms administered by Aviva Investors.

Both AUM and AUA are monitored as they reflect the potential earnings arising from investment returns and fee and commission income and measure the size and scale of the Group's fund management business.

A reconciliation of amounts appearing in the Group's statement of financial position to AUM is shown below:

	2020 £bn	2019 £bn
Assets managed on behalf of Group companies		
Assets included in statement of financial position[1]		
Financial investments	**369**	351
Investment properties	**11**	11
Loans	**44**	39
Cash and cash equivalents	**17**	20
Other	**5**	1
	446	422
Less: third party funds and UK Platform included above	**(26)**	(17)
	420	405
Assets managed on behalf of third parties[2]		
Aviva Investors	**74**	67
UK Platform[3]	**34**	29
Other	**7**	9
	115	105
Total AUM[4]	**535**	510

1 Includes assets classified as held for sale.
2 AUM managed on behalf of third parties cannot be directly reconciled to the financial statements.
3 UK Platform relates to the assets under management in the UK long-term savings business.
4 Includes AUM of £366 billion *(2019: £346 billion)* managed by Aviva Investors.

Net flows

Net flows is one of the measures of growth used by management and is a component of the movement in the life and platform business AUM 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.

In previous periods, this APM was labelled net fund flows and this has been updated for consistency.

APMs derived from Solvency II measures

The Group is a regulated entity under the Solvency II regulatory framework and therefore uses a number of APMs that are derived from Solvency II measures in addition to those that are derived from IFRS based measures.

The Solvency II regulatory framework requires insurers to hold own funds in excess of the Solvency Capital Requirement (SCR). Own funds are available capital resources determined under Solvency II. This includes the excess of assets over liabilities in the Solvency II balance sheet, calculated on best estimate, market consistent assumptions and include transitional measures on technical provisions (TMTP), subordinated liabilities that qualify as capital under Solvency II, and off-balance sheet own funds.

The SCR is calculated at Group level using a risk-based capital model which is calibrated to reflect the cost of mitigating the risk of insolvency to a 99.5% confidence level over a one-year time horizon – equivalent to a 1 in 200 year event – against financial and non-financial shocks. As a number of subsidiaries utilise the standard formula rather than a risk-based capital model to assess capital requirements, the overall Group SCR is calculated using a partial internal model, and it is shown after the impact of diversification benefit.

The reconciliation from total Group equity on an IFRS basis to Solvency II regulatory own funds is presented below. The key differences between the two bases are as follows:

- Elimination of goodwill and other intangible assets
- Valuation adjustments to reflect insurance assets and liabilities valued on a best estimate basis using market-implied assumptions
- Valuation adjustments and the impact of the difference between consolidation methodologies under Solvency II and IFRS
- Tax effect of all other reconciling items in the table above which are shown gross of tax
- Recognition of subordinated debt capital, non-controlling interests and adjustments for ring-fenced funds restrictions.

	2020 £m	2019 £m
Total Group equity on an IFRS basis	**20,560**	18,685
Elimination of goodwill and other intangible assets		
Goodwill	**(1,805)**	(1,855)
Acquired value of in-force business	**(1,742)**	(2,479)
Deferred acquisition costs (net of deferred income)	**(3,154)**	(3,221)
Other intangibles	**(704)**	(869)
Liability valuation differences (net of transitional deductions)	**16,159**	19,564
Inclusion of risk margin (net of transitional deductions)	**(3,245)**	(3,122)
Revaluation of subordinated liabilities	**(795)**	(716)
Other accounting differences	**(69)**	(99)
Net deferred tax	**(1,191)**	(1,220)
Estimated Solvency II net assets (gross of non-controlling interests)	**24,014**	24,668
Difference between Solvency II net assets and own funds	**5,248**	3,679
Estimated Solvency II own funds	**29,262**	28,347

A number of key performance measures relating to Solvency II are utilised to measure and monitor the Group's performance and financial strength:

- Solvency II shareholder cover ratio#
- Value of new business on an adjusted Solvency II basis (VNB)
- Solvency II operating capital generation (OCG)#
- Solvency II operating own funds generation
- Solvency II return on capital
- Solvency II return on equity (RoE)#
- Solvency II net asset value (NAV) per share
- Solvency II debt leverage ratio

Solvency II shareholder cover ratio#

The estimated Solvency II shareholder cover ratio, which is derived from own funds divided by the SCR using a 'shareholder view', is one of the indicators of the Group's balance sheet strength. The shareholder view is 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 and aligns with management's approach to dynamically manage its capital position. In arriving at the shareholder position, the following adjustments are typically made to the regulatory Solvency II position:

- The contribution to the Group's SCR and own funds of the most material fully ring fenced with-profits funds and staff pension schemes in surplus are excluded. These exclusions have no impact on Solvency II surplus as these funds are self-supporting on a Solvency II capital basis with any surplus capital above SCR not recognised.
- A notional reset of the transitional measure on technical provisions (TMTP), calculated using the same method as used for formal TMTP resets. This presentation avoids step changes to the Solvency II position that arise only when the formal TMTP reset points are triggered. The 31 December 2020 position includes a notional reset while the 31 December 2019 position included a formal, rather than notional, reset of the TMTP in line with the regulatory requirement to reset the TMTP at least every two years.
- A change in regulations announced in December 2019 allows French insurers to place a part of the Provision pour Participation aux Excédents (PPE) into Solvency II own funds. At December 2019 PPE was included in the France local regulatory own funds but was excluded from the estimated Group regulatory and shareholder own funds, subject to confirmation of the appropriate treatment at Group level. The treatment has since been confirmed and PPE is now included within Group regulatory own funds but remains excluded from the shareholder position.
- Pro forma adjustments are made if the Solvency II shareholder cover ratio does not fully reflect the effect of future regulatory changes that are known as at each reporting date. These adjustments are made in order to show a more representative view of the Group's solvency position.
- In a change to previous practice, pro forma adjustments are no longer made for planned acquisitions and disposals. This change in approach is considered more relevant because prior to completion there is uncertainty in relation to the progression and final terms of such transactions. Comparative amounts have not been restated for this change as the impacts were not material at 31 December 2019.

A reconciliation of the Solvency II regulatory surplus to the Solvency II shareholder surplus is provided below:

2020	Own funds £m	SCR £m	Surplus £m
Estimated Solvency II regulatory surplus	**29,262**	**(16,441)**	**12,821**
Adjustments for:			
Fully ring-fenced with-profit funds	**(2,492)**	**2,492**	**—**
Staff pension schemes in surplus	**(1,179)**	**1,179**	**—**
Notional reset of TMTP	**564**	**—**	**564**
PPE	**(385)**	**—**	**(385)**
Pro forma adjustments	**—**	**—**	**—**
Estimated Solvency II shareholder surplus	**25,770**	**(12,770)**	**13,000**

2019	Own funds £m	SCR £m	Surplus £m
Estimated Solvency II regulatory surplus	28,347	(15,517)	12,830
Adjustments for:			
Fully ring-fenced with-profit funds	(2,501)	2,501	—
Staff pension schemes in surplus	(1,181)	1,181	—
Notional reset of TMTP	—	—	—
Pro forma adjustments[1]	(117)	(75)	(192)
Estimated Solvency II shareholder surplus	24,548	(11,910)	12,638

1 The 31 December 2019 Solvency II position includes three pro forma adjustments that relate to the disposal of FPI (£nil impact on surplus), the disposal of Hong Kong (£nil impact on surplus) and the potential impact of an expected change to Solvency II regulations on the treatment of equity release mortgages (£0.2 billion decrease in surplus as a result of an increase in SCR). The 31 December 2020 Solvency II position does not include proforma adjustments. Note that from 31 December 2020 no pro forma adjustments will be made for planned disposals.

A summary of the shareholder view of the Group's Solvency II position is shown in the table below:

	2020 £m	2019 £m
Own Funds	**25,770**	24,548
Solvency Capital Requirement	**(12,770)**	(11,910)
Estimated Solvency II Shareholder Surplus at 31 December	**13,000**	12,638
Estimated Shareholder Cover Ratio	**202%**	206%

Value of new business on an adjusted Solvency II basis (VNB)

VNB measures the additional value to shareholders created through the writing of new life business in the period. It reflects Solvency II assumptions and allowance for risk, and is defined as the increase in Solvency II own funds resulting from life business written in the period, including the impact of interactions between in-force and new business, adjusted to:

- remove the impact of the contract boundary restrictions under Solvency II;
- include businesses which are not within the scope of Solvency II own funds (e.g. UK and Asia Healthcare, Retail fund management and UK equity release); and
- reflect a gross of tax and non-controlling interests basis, and other differences as set out in the footnote to the table below.

A reconciliation between VNB and the Solvency II own funds impact of new business is provided below:

Full year 2020	UK & Ireland Life £m	Aviva Investors £m	Manage-for-value £m	Group £m
VNB (gross of tax and non-controlling interests)	**675**	**9**	**576**	**1,260**
Solvency II contract boundary restrictions – new business	**(108)**	**—**	**(209)**	**(317)**
Solvency II contract boundary restrictions – increments/renewals on in-force business	**113**	**—**	**96**	**209**
Businesses which are not in the scope of Solvency II own funds	**(106)**	**(9)**	**(5)**	**(120)**
Tax and Other[1]	**(125)**	**—**	**(209)**	**(334)**
Solvency II own funds impact of new business (net of tax and non-controlling interests)	**449**	**—**	**249**	**698**

Full year 2019	UK & Ireland Life £m	Aviva Investors £m	Manage-for-value £m	Group £m
VNB (gross of tax and non-controlling interests)	600	12	612	1,224
Solvency II contract boundary restrictions – new business	(83)	—	(181)	(264)
Solvency II contract boundary restrictions – increments/renewals on in-force business	97	—	99	196
Businesses which are not in the scope of Solvency II own funds	(138)	(12)	(8)	(158)
Tax and Other[1]	(103)	—	(236)	(339)
Solvency II own funds impact of new business (net of tax and non-controlling interests)	373	—	286	659

1 Other includes the impact of 'look through profits' in service companies (where not included in Solvency II) of £(69) million *(2019: £(78) million)*, the reduction in value when moving to a net of non-controlling interests basis of £(37) million *(2019: £(57) million)*, the difference between locally applicable capital requirements for the smaller Asian markets (Indonesia, Vietnam, Hong Kong) and the value of new business on an adjusted Solvency II basis of £(47) million *(2019: £(37) million)*, and the assumed take up of tax-free lump sum payments at retirement (not included in Solvency II Own Funds) on BPAs of £(4) million *(2019: £nil)*

VNB is calculated using economic assumptions as at the point of sale, taken as those appropriate to the start of each quarter. For contracts that are repriced more frequently, weekly or monthly economic assumptions have been used. The economic assumptions follow Solvency II rules for risk-free rates, volatility adjustment and matching adjustment.

The operating assumptions are consistent with the Solvency II balance sheet, when these assumptions are updated, the year-to-date VNB will capture the impact of the assumption change on all business sold that year.

Matching Adjustment (MA)

The matching adjustment is an addition to the rate used to discount Solvency II best-estimate liabilities, to reflect the return on the matching assets used. An MA is applied to certain obligations based on the expected allocation of assets backing new business at each year-end date. This allocation may be different to the MA applied at the portfolio level. Aviva applies an MA to certain obligations in UK Life, using methodology which is set out in the Solvency and Financial Condition Report (SFCR).

The matching adjustment used for 2020 UK new business (where applicable) was 98 bps *(2019: 95 bps)*.

New business margin

New business margin is calculated as value of new business on an adjusted Solvency II basis (VNB) divided by the present value of new business premiums (PVNBP) and expressed as a percentage.

Present value of new business premiums (PVNBP)

PVNBP measures sales in the Group's life insurance business. PVNBP is derived from the present value of new regular premiums expected to be received over the term of the new contracts plus 100% of single premiums from new business written in the financial period and is expressed at the point of sale. The discounted value of regular premiums is calculated using the same methodology as for VNB. PVNBP also includes 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.

The table below presents a reconciliation of sales to IFRS net written premiums.

	2020 £m	2019 £m
Present value of new business premiums	**43,358**	45,665
Investment sales	**5,270**	4,621
General insurance and health net written premiums	**10,232**	10,224
Long-term health and collectives business	**(3,647)**	(3,563)
Total sales	**55,213**	56,947
Effect of capitalisation factor on regular premium long-term business[1]	**(14,686)**	(15,294)
JVs and associates[2]	**(226)**	(286)
Annualisation impact of regular premium long-term business[3]	**(399)**	(327)
Deposits[4]	**(9,936)**	(10,917)
Investment sales[5]	**(5,270)**	(4,621)
IFRS gross written premiums from existing long-term business[6]	**5,066**	5,057
Long-term insurance and savings business premiums ceded to reinsurers	**(3,101)**	(2,879)
Total IFRS net written premiums	**26,661**	27,680
Analysed as:		
IFRS net written premiums from continuing business	**25,377**	26,527
IFRS net written premiums from discontinued operations	**1,284**	1,153
	26,661	27,680
Analysed as:		
Long-term insurance and savings net written premiums	**16,429**	17,456
General insurance and health net written premiums	**10,232**	10,224
	26,661	27,680

1 Discounted value of regular premiums expected to be received over the term of the new contract, adjusted for expected levels of persistency.
2 Total long-term new business sales include our share of sales from joint ventures and associates. Under IFRS, premiums from these sales are excluded.
3 The impact of annualisation is removed in order to reconcile the non-GAAP new business sales to IFRS premiums.
4 Under IFRS, only the margin earned from non-participating investment contracts is recognised in the IFRS income statement.
5 Investment sales included in total sales represent the cash inflows received from customers investing in mutual fund type products such as unit trusts and OEICs.
6 The non-GAAP measure of sales focuses on new business written in the period under review while the IFRS income statement includes premiums received from all business, both new and existing.

Solvency II operating capital generation (OCG)#

Solvency II OCG measures the amount of Solvency II capital the Group generates from operating activities and incorporates an expected return on investments supporting the life and non-life insurance businesses. The Group considers this measure meaningful to stakeholders as it enhances the understanding of the Group's operating performance over time by separately identifying non-operating items.

The expected investment returns assumed within Solvency II OCG are consistent with the returns used for Group adjusted operating profit.

Solvency II OCG includes the effect of variances in experience for non-economic items, such as mortality, persistency and expenses, the effect of changes in non-economic assumptions (for example, longevity), model changes that are non-economic in nature and the impact of capital actions, for example, strategic changes in asset mix including changes in hedging exposure. Consistent with the Group adjusted operating profit APM, Solvency II OCG is determined on start of period economic assumptions and therefore excludes economic variances and economic assumption changes.

An analysis of the components of Solvency II OCG is presented below, including an analysis of Solvency II operating own funds generation which is the own funds component of Solvency II OCG (see the section below):

	2020 £m	2019 £m
Solvency II own funds impact of new business (net of tax and non-controlling interests)	**698**	659
Operating own funds generation from life existing business	**721**	507
Operating own funds generation from non-life	**562**	431
Operating own funds generation from other[1]	**6**	944
Group debt costs	**(296)**	(284)
Solvency II operating own funds generation	**1,691**	2,257
Solvency II operating SCR impact	**241**	2
Solvency II OCG	**1,932**	2,259

1 Other includes the impact of capital actions, non-economic assumption changes and other non-recurring items.

Solvency II OCG is a key component of the movement in Solvency II shareholder surplus. The tables below provide an analysis of the change in Solvency II shareholder surplus.

2020 Shareholder view	**Own funds £m**	**SCR £m**	**Surplus £m**
Group Solvency II shareholder surplus at 1 January	**24,548**	**(11,910)**	**12,638**
Opening restatements[1]	**78**	**(202)**	**(124)**
Operating capital generation	**1,691**	**241**	**1,932**
Non-operating capital generation	**(741)**	**(963)**	**(1,704)**
Dividends[2]	**(549)**	**—**	**(549)**
Hybrid debt	**257**	**—**	**257**
Acquisitions and disposals	**486**	**64**	**550**
Estimated Solvency II shareholder surplus at 31 December	**25,770**	**(12,770)**	**13,000**

1 Opening restatements allows for adjustments to the estimated position presented in the preliminary announcement and the final position in the Solvency and Financial Condition Report (SFCR).
2 Dividends includes £17 million of Aviva plc preference dividends and £21 million of General Accident plc preference dividends, and £511 million for the interim dividends in respect of the 2019 and 2020 financial years.

2019 Shareholder view	Own funds £m	SCR £m	Surplus £m
Group Solvency II shareholder surplus at 1 January	23,551	(11,569)	11,982
Opening restatements[1]	58	6	64
Operating capital generation	2,257	2	2,259
Non-operating capital generation	120	(368)	(248)
Dividends[2]	(1,222)	—	(1,222)
Share buy-back	—	—	—
Hybrid debt repayments	(210)	—	(210)
Acquisitions and disposals	(6)	19	13
Estimated Solvency II shareholder surplus at 31 December	24,548	(11,910)	12,638

1 Opening restatements allows for differences between the shareholder view presented in the 2018 preliminary announcement and the 2018 SFCR.
2 Dividends includes £17 million of Aviva plc preference dividends and £21 million of General Accident plc preference dividends.

Solvency II future surplus emergence

Solvency II future surplus emergence is a projection of the capital generation from existing long-term in-force life business. The projection is a static analysis as at a point in time and hence it does not include the potential impact of future new business or the potential impact of active management of the business (for example, active management of market, demographic and expense risk through investment, hedging, risk transfer, operational risk and expense management), which may affect the actual amount of Solvency II OCG earned from existing business in future periods.

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 projected surplus, which is primarily expected to arise from the release of risk margin (including transitional measures) and solvency capital requirement as the business runs off over time, is expected to emerge through Solvency II OCG in future years. The calculation approach is consistent with prior periods.

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 methodology used in the Group adjusted operating profit.

Solvency II operating own funds generation

Solvency II operating own funds generation measures the amount of Solvency II own funds generated from operating activities. Solvency II operating own funds generation is the own funds component of Solvency II OCG and follows the methodology and assumptions outlined in Solvency II OCG.

Solvency II Return on Equity (RoE)#

Solvency II RoE is calculated as:
- Operating own funds generation less preference dividends, DCI and tier 1 note coupons divided by;
- Opening value of unrestricted tier 1 shareholder own funds

Unrestricted tier 1 shareholder own funds represents the highest quality tier of capital and includes instruments with principal loss absorbing features such as permanence, subordination, undated, absence of redemption incentives, mandatory costs and encumbrances.

The tables below provide a summary of the Group's regulatory Solvency II own funds by tier and a reconciliation between unrestricted tier 1 regulatory own funds and unrestricted tier 1 shareholder own funds:

Regulatory view	2020 £m	2019 £m
Unrestricted regulatory tier 1 own funds	**20,850**	20,377
Restricted Tier 1	**1,317**	1,839
Tier 2	**6,740**	5,794
Tier 3[1]	**355**	337
Estimated Solvency II regulatory own funds	**29,262**	28,347

1 Tier 3 regulatory own funds at 31 December 2020 consists of £259 million subordinated debt *(2019: £259 million)* plus £96 million net deferred tax assets *(2019: £78 million)*.

Shareholder view	2020 £m	2019 £m
Unrestricted regulatory tier 1 own funds	**20,850**	20,377
Adjustments for:		
Fully ring-fenced with-profit funds	**(2,492)**	(2,501)
Staff pension schemes in surplus	**(1,179)**	(1,181)
Notional reset of TMTP	**564**	—
PPE[2]	**(385)**	—
Pro forma adjustments[1]	**—**	(117)
Unrestricted shareholder tier 1 own funds	**17,358**	16,578

1 The 31 December 2019 Solvency II position includes two pro forma adjustments that relate to the disposal of FPI (£0.1 billion reduction in own funds) and the disposal of Hong Kong (£nil impact on own funds).
2 Regulation was introduced in France that allows French insurers to place the Provision pour Participation aux Excedents (PPE) into Solvency II own funds. The PPE has been included in the Group regulatory own funds in 2020 but it is not included in the Group shareholder own funds.

Solvency II RoE provides useful information as it is used as an economic value measure by the Group to assess growth and performance.

The Solvency II RoE is shown below:

	2020 £m	2019 £m
Solvency II operating own funds generation	**1,691**	2,257
Less: preference share dividends	**(38)**	(38)
Less: DCI and tier 1 note coupons	**(27)**	(34)
	1,626	2,185
Opening unrestricted shareholder tier 1 own funds	**16,578**	15,296
Solvency II Return on Equity	**9.8%**	14.3%

Solvency II return on capital

Solvency II return on capital is calculated as Solvency II operating own funds generation excluding the costs of servicing external debt (including direct capital instrument coupons and preference share dividends) divided by opening shareholder Solvency II own funds. It is an unlevered economic value measure as it is used to assess growth and performance in our markets before taking debt into account.

For UK general insurance only, capital held for internal risk appetite purposes is used instead of opening shareholder Solvency II own funds. This removes any distortions arising from our general insurance legal entity structure and therefore ensures consistency in measuring performance across markets. This is only applicable to UK general insurance Solvency II return on capital and not to the aggregated Group Solvency II return on capital and Solvency II return on equity measures.

A reconciliation of Solvency II return on capital by market to the Group level Solvency II return on capital and Solvency II return on equity is provided below.

2020	Solvency II operating own funds generation £m	Opening shareholder own funds £m	Return on capital/equity %
UK & Ireland Life	**1,057**	**14,241**	**7.4%**
UK & Ireland General Insurance[2]	**329**	**2,509**	**13.1%**
Canada	**287**	**1,442**	**19.9%**
Aviva Investors	**67**	**488**	**13.7%**
Manage-for-value markets	**497**	**8,010**	**6.2%**
Group centre costs and Other[2]	**(250)**	**(2,142)**	**N/A**
Solvency II return on capital 31 December	**1,987**	**24,548**	**8.1%**
Less: Senior debt	**(12)**	**—**	**—**
Less: Subordinated debt	**(284)**	**(6,942)**	**—**
Solvency II operating own funds generation at 31 December	**1,691**		
Direct capital instrument	**(27)**	**(500)**	**—**
Preference shares[3]	**(38)**	**(450)**	**—**
Net deferred tax assets	**—**	**(78)**	**—**
Solvency II return on equity at 31 December	**1,626**	**16,578**	**9.8%**
Less: Management actions and other[1]	**(6)**	**—**	**—**
Solvency II return on equity (excluding management actions)	**1,620**	**16,578**	**9.8%**

1 Other includes the impact of capital actions, non-economic assumption changes and other non-recurring items.
2 For UK general insurance only, capital held for internal risk appetite purposes is used instead of opening shareholder Solvency II own funds to ensure consistency in measuring performance across markets. This is only applicable to UK general insurance Solvency II return on capital and not to the aggregated Group Solvency II return on capital and Solvency II return on equity measures, with the reversal of the impact included in Group centre costs and Other opening own funds.
3 Preference shares includes £21 million of dividends and £250 million of capital in respect of General Accident plc.

2019	Solvency II operating own funds generation £m	Opening shareholder own funds £m	Return on capital/equity %
UK & Ireland Life	1,247	13,733	9.1%
UK & Ireland General Insurance[2]	333	2,326	14.3%
Canada	203	1,330	15.3%
Aviva Investors	70	509	13.7%
Manage-for-value markets	850	7,453	11.4%
Group centre costs and Other[2]	(162)	(1,800)	N/A
Solvency II return on capital at 31 December	2,541	23,551	10.8%
Less: Senior debt	(12)	—	—
Less: Subordinated debt	(272)	(6,979)	—
Solvency II operating own funds generation at 31 December	2,257		
Direct capital instrument and Tier 1 notes	(34)	(731)	—
Preference shares[3]	(38)	(450)	—
Net deferred tax assets	—	(95)	—
Solvency II return on equity at 31 December	2,185	15,296	14.3%
Less: Management actions and other[1]	(944)	—	(6.2)%
Solvency II return on equity (excluding management actions)	1,241	15,296	8.1%

1 Other includes the impact of capital actions, non-economic assumption changes and other non-recurring items.
2 For UK general insurance only, capital held for internal risk appetite purposes is used instead of opening shareholder Solvency II own funds to ensure consistency in measuring performance across markets. This is only applicable to UK general insurance Solvency II return on capital and not to the aggregated Group Solvency II return on capital and Solvency II return on equity measures, with the reversal of the impact included in Group centre costs and Other opening own funds.
3 Preference shares includes £21 million of dividends and £250 million of capital in respect of General Accident plc.

Solvency II net asset value (NAV) per share

Solvency II NAV per share is used to monitor the value generated by the Group in terms of the equity shareholders' face value per share investment. This is calculated as the closing unrestricted tier 1 Solvency II shareholder own funds, divided by the actual number of shares in issue as at the balance sheet date. Consistent with Solvency II RoE, it is an economic value measure used by the Group to assess growth.

The Solvency II NAV per share is shown below:

	2020	2019
Unrestricted tier 1 shareholder Solvency II own funds (£m)	**17,358**	16,578
Number of shares in issue at 31 December (in millions)	**3,928**	3,921
Solvency II NAV per share	**442p**	423p

Solvency II debt leverage ratio

Solvency II debt leverage ratio is calculated as total debt expressed as a percentage of Solvency II regulatory own funds plus senior debt and commercial paper. Where Solvency II debt includes subordinated debt, preference share capital and direct capital instrument. The Solvency II debt leverage ratio provides a measure of the Group's financial strength.

	2020 £m	2019 £m
Solvency II regulatory debt	**8,316**	7,892
Senior notes	**1,112**	1,052
Commercial paper	**108**	238
Total debt	**9,536**	9,182
Estimated Solvency II regulatory own funds, senior debt and commercial paper	**30,482**	29,637
Solvency II debt leverage ratio	**31%**	31%

A reconciliation from IFRS subordinated debt to Solvency II regulatory debt is provided below:

	2020 £m	2019 £m
IFRS borrowings	**9,727**	9,067
Less borrowings not classified as Solvency II regulatory debt		
Senior notes	**(1,112)**	(1,052)
Commercial paper	**(108)**	(238)
Operational borrowings	**(1,474)**	(1,571)
IFRS subordinated debt	**7,033**	6,206
Revaluation of subordinated liabilities	**795**	716
Other movements	**38**	20
Solvency II subordinated debt	**7,866**	6,942
Preference share capital and direct capital instrument	**450**	950
Solvency II regulatory debt	**8,316**	7,892

Other APMs

Cash remittances#

Cash paid by our operating businesses to the Group, for the period between March and the end of the month preceding preliminary results announcements, comprised of dividends and interest on internal loans. Dividend payments by operating businesses may be subject to insurance regulations that restrict the amount that can be paid. The business monitors total cash remittances at a Group level and in each of its markets. Cash remittances are considered a useful measure as they support the payments of external dividends.

Cash remittances eliminate on consolidation and hence are not directly reconcilable to the Group's IFRS consolidated statement of cash flows.

Excess centre cash flow

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

These amounts eliminate on consolidation and hence are not directly reconcilable to the Group's IFRS consolidated statement of cash flows.

Centre liquidity

Centre liquidity comprises cash and liquid assets and represents amounts as at the end of the month preceding preliminary results announcements. It provides meaningful information because it shows the liquidity at the Group centre available to meet debt interest and central costs and to pay dividends to shareholders.

Annual Premium Equivalent (APE)

APE is a measure of sales in our life insurance business. APE is calculated as the sum of new regular premiums plus 10% of new single premiums written in the period. This provides useful information on sales and new business when considered alongside VNB.

Spread margin

The spread margin represents the return made on the Group's annuity and other non-linked business, based on the expected investment return, less amounts credited to policyholders. The expected investment returns assumed within the spread margin are consistent with the returns used for Group adjusted operating profit. The spread margin is a useful indicator of the expected investment return arising on this business.

Underwriting margin

The underwriting margin represents the release of reserves held to cover claims, surrenders and administrative expenses less the cost of actual claims and surrenders in the period.

Unit-linked margin

The unit-linked margin represents the annual management charges on unit-linked business. This is an indicator of the return arising on this business.

Aviva Investors revenue

Aviva Investors revenue represents segmental profit before tax excluding controllable expenses. It is a useful measure of the revenue earned from fund management activities, adjusted for fee and commission expenses.