

[Risk and risk management](#)

Risk and risk management

Risk management is key to Aviva's success. We accept the risks inherent to our core business lines of life, accident and 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 in order 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.

Looking forward, these risks may be magnified or dampened by current and emerging external trends which may impact upon our current and longer term profitability and viability, in particular our ability to write profitable new business.

This includes the risk of failing to adapt our business model to take advantage of these trends. The 'Principal risk trends and causal factors' table in this section describe what these trends are, their impact, future outlook and how we manage these risks.

How we manage risk

Rigorous and consistent risk management is embedded across the Group through our Risk Management Framework, comprising our systems of governance, risk management processes and risk appetite framework.

Our governance

This includes risk policies and business standards, risk oversight committees and roles and responsibilities. Line management in the business is accountable for risk management which, together with the risk function and internal audit, form our 'three lines of defence' of risk management. The roles and responsibilities of the Board Governance, Audit and Risk Committees and Management Disclosure, Asset Liability and Operational Risk Committees in the oversight of risk management and internal control is set out in the 'Directors' and corporate governance report' in the Annual report and accounts.

Our process

This comprises the processes we use to identify, measure, manage, monitor and report risks, including the use of our risk models and stress and scenario testing. Having identified and measured the risks of our business, depending on our risk appetite, we either accept these risks or take action to reduce, transfer or mitigate them.

Our risk appetite framework

This refers to the risks that we select in pursuit of return, the risks we accept but seek to minimise and the risks we seek to avoid or transfer, including quantitative expressions of the level of risk we can support (e.g. the amount of capital we are prepared to put at risk).

Types of risk inherent to our business model

Risks customers transfer to us

- Life insurance risk includes longevity risk (annuitants living longer than we expect), mortality risk (customers with life protection), critical illness risk, expense risk (the amount it costs us to administer policies) and persistency risk (customers lapsing or surrendering their policies)
- General insurance risk is the risk arising from loss events (fire, flooding, windstorms, accidents etc)
- Accident and Health insurance risk covers healthcare costs and loss of earnings arising from customers falling ill

Risks arising from our investments

- Credit risks (actual defaults and market expectation of defaults) create uncertainty in our ability to offer a minimum investment return on our investments
- Liquidity risk is the risk of not being able to make payments as they become due because there are insufficient assets in cash form
- Market risks result from fluctuations in asset values, including equity prices, property prices, foreign exchange, inflation and interest rates

Risks from our operations and other business risks

- 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
- Asset management risk is the risk of customers redeeming funds, not investing with us, or switching funds, resulting in reduced fee income

Principal risk types

The types of risk to which the Group is exposed, described in the table below, have not changed significantly over the year. All of the risks below, and in particular operational risks, may have an adverse impact on our brand and reputation.

Risk type	Risk preference	Mitigation
Credit risk <ul style="list-style-type: none"> • Credit spread¹ • Credit default 	We like credit risk as we believe we have the expertise to manage it and the structural investment advantages conferred to insurers with long-dated, relatively illiquid liabilities enable us to earn superior investment returns.	<ul style="list-style-type: none"> • Risk appetites set to limit overall level of credit risk • Credit limit framework imposes limits on credit concentration by issuer, sector and type of instrument • Investment restrictions on sovereign and corporate exposure to certain Eurozone countries • Credit risk hedging programme • Specific asset de-risking
Market risk <ul style="list-style-type: none"> • Equity price¹ • Property • Interest rate • Foreign exchange • Inflation 	We actively seek some market risks as part of our investment and product strategy. We have a limited appetite for interest rate, foreign exchange and inflation risks as we do not believe that these are adequately rewarded.	<ul style="list-style-type: none"> • Risk appetites set to limit exposures to key market risks • Active asset management and hedging in business units • Scalable Group-level equity and foreign exchange hedging programme • Pension fund de-risking • Asset and liability duration matching limits impact of interest rate changes and actions taken to manage guarantee risk, through product design
Life insurance risk <ul style="list-style-type: none"> • Longevity¹ • Persistency • Mortality • Expenses 	We take measured amounts of life insurance risk provided we have the appropriate core skills in underwriting and pricing. We like longevity risk as it diversifies well (i.e. has little/no correlation) against other risks we retain.	<ul style="list-style-type: none"> • Risk selection and underwriting on acceptance of new business • Aviva's staff pension scheme longevity swap covering approximately £5 billion of pensioner in payment scheme liabilities • Product design that ensures products and propositions meet customer needs • Use of reinsurance to mitigate mortality/morbidity risks
General insurance risk <ul style="list-style-type: none"> • GI catastrophe • GI reserving (latent and non-latent) • GI underwriting • Expenses 	We take general insurance risk in measured amounts for explicit reward, in line with our core skills in underwriting and pricing. We have a preference for those risks that we understand well, that are intrinsically well managed and where there is a spread of risks in the same category. GI risk diversifies well with our Life Insurance and other risks.	<ul style="list-style-type: none"> • Use of reinsurance to reduce the financial impact of a catastrophe and manage earnings volatility • Application of robust and consistent reserving framework to derive best estimate with results subject to internal and external review, including independent reviews and audit reviews • Extensive use of data, financial models and analysis to improve pricing and risk selection • Underwriting and claims management disciplines • Underwriting appetite framework linked to delegations of authority that govern underwriting decisions • Product development and management framework that ensures products and propositions meet customer needs • Formal and documented claims management philosophies and procedures
Liquidity risk²	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.	<ul style="list-style-type: none"> • Maintaining committed borrowing facilities (£1.65 billion) from banks • Asset liability matching methodology develops optimal asset portfolio maturity structures in our businesses to ensure cash flows are sufficient to meet liabilities • Commercial paper issuance • Use of the limit framework covering minimum liquidity cover ratio and minimum central liquidity • Contingency Funding Plan in place to address liquidity funding requirements in a significant stress scenario
Asset management risk <ul style="list-style-type: none"> • Fund performance, liquidity and margin, Product, and Persistency risks 	Risks specific to asset management should generally be reduced to as low a level as is commercially sensible, on the basis that taking-on these risks will rarely provide us with an upside.	<ul style="list-style-type: none"> • Product development and review process • Investment performance and risk management oversight and review process • Propositions based on customer needs • Client relationship teams managing client retention risk
Operational risk <ul style="list-style-type: none"> • Conduct • Legal & regulatory • People • Process • Data security • Technology 	Operational risk should generally be reduced to as low a level as is commercially sensible, on the basis that taking operational risk will rarely provide us with an upside.	<ul style="list-style-type: none"> • Application of enhanced business standards covering key processes • Our Operational Risk & Control Management Framework which includes the tools, processes and standardised reporting necessary to identify, measure, manage, monitor and report on the operational risks and the controls in place to mitigate those risks within centrally set tolerances • Enhanced scenario based approach to determine appropriate level of capital for operational risks • On-going investment in simplifying our technology estate to improve the resilience and reliability of our systems

¹ Top three risks ranked by diversified Solvency II Solvency Capital Requirement

² Not quantifiable in terms of economic capital

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Principal risk trends and causal factors

This table describes the external trends and causal factors impacting our inherent risks, their impact, future outlook and how we take action to manage these risks:

Key trends and movement	Risk management	Outlook
<p>Uncertain interest rate environment – if current low interest rates continue for a prolonged period it will adversely affect the return we earn on our investments, as well as the attractiveness of the returns we can offer to new customers.</p> <p>Trend: Reducing</p> <p>Risks impacted: Credit risk, Market risks, Liquidity risk</p>	<p>Over the last few years we have taken significant steps to reduce the sensitivity of our balance sheet to interest rates. Our exposure to interest rates movements is mitigated by investing in fixed interest securities which closely match the interest rate sensitivity of our liabilities. Actions taken include close asset liability matching, reducing sales of products with guarantees (in particular in Italy and France), and shifting our sales towards protection and unit-linked products.</p>	<p>While interest rates are still well below pre-financial crisis levels, during 2017, the US Fed raised interest rates on three occasions, the Bank of England reversed its 2016 rate reduction and the ECB has begun to reduce its asset purchases. Although rates may remain below pre-2008 financial crisis levels in the EU and UK for some time to come, there is a risk that a rapid increase in rates could result in a collapse in bond prices, widening spreads and reducing asset prices.</p>
<p>UK-EU relations (Brexit uncertainty) – 18 months since the referendum result there remains considerable uncertainty over the UK's future relationship with the EU, economic growth and productivity, as well as the status of EU employees working in the UK and longer term implications for financial services regulation, including Solvency II.</p> <p>Trend: Volatile</p> <p>Risks impacted: Credit risk, Market risks, Operational risk</p>	<p>Brexit does not have a significant operational impact on Aviva. We are actively engaged to ensure the interests of our customers, the company and the industry are appropriately taken into account. Our plans to address the loss of the ability for UK firms to passport business into the EU are currently in progress. Given our corporate structure, this is not a major risk. We are also reviewing our data arrangements to ensure that adequate measures are in place to allow continued uninterrupted flow of personal data. Our Financial Event Response Plan ensures that we will be able to respond swiftly and effectively to any severe adverse financial event.</p>	<p>In December 2017, the UK and EU agreed separation terms, reducing the risk of a sudden departure in March 2019. In 2018, negotiations will begin on transitional arrangements and a future trade agreement. Uncertainty over the ultimate outcome is heightened by the UK Government's lack of parliamentary majority.</p>
<p>Medical advances and healthier life styles – these contribute to an increase in life expectancy of our annuitants and thus future payments over their lifetime may be in excess of the amounts we currently expect.</p> <p>Trend: Stable</p> <p>Risks impacted: Life insurance risk (longevity)</p>	<p>We monitor our own experience carefully and analyse external population data to identify emerging trends. Detailed analysis of the factors that influence mortality informs our pricing and reserving policies. We add qualitative medical expert inputs to our statistical analysis and analyse factors influencing mortality and trends in mortality by cause of death. Aviva's Staff Pension Scheme hedges its longevity risk covering £5 billion of pensioner in payment liabilities. Since 2016 we have used longevity reinsurance for bulk purchase annuities and Aviva guaranteed annuity options. We continue to evaluate emerging reinsurance market solutions.</p>	<p>There is considerable uncertainty over the extent that improvements in life expectancy experienced over the last 40 years will continue into the future e.g. despite continued medical advances emerging, lifestyle changes and strains on public health services may begin to slow or even reverse this trend.</p>
<p>Climate change – potentially resulting in higher than expected weather-related claims (including business continuity claims) and inaccurate pricing of general insurance risk, as well as adversely impacting economic growth and investment markets.</p> <p>Trend: Increasing</p> <p>Risks impacted: General insurance risk, Credit risk, Market risk</p>	<p>We are actively engaged in public policy debate on the risks and impacts of climate change to our business and customers. We use reinsurance to reduce the financial impact of catastrophic weather events. Our flood mapping analytics helps us identify properties most at risk and improve our risk selection. Our responsible investment strategy ensures climate change, as well as other environmental and social issues are integrated into our investment decisions. Read more in respect of the physical, transition and liability risks we face as an asset owner, insurer and asset manager in our 'Climate-related financial disclosure'.</p>	<p>Global average temperatures over the last four years have been the hottest on record. Despite the UNFCCC Paris agreement, the current trend of increasing CO₂ emissions is expected to continue with global temperatures likely to exceed pre-industrial levels by at least 2°C and weather events (floods, droughts, windstorms) increasing in frequency (with a possibility of more cluster events) and severity. Disclosure of impacts against various climate scenarios and time horizons will become increasingly common for all companies.</p>

Key trends and movement	Risk management	Outlook
<p>Impact of new technologies – failure to understand and react to the impact of new technology and its effect on customer behaviour and how we distribute products could potentially result in our business model becoming obsolete. While failure to keep pace with the use of data to price more accurately and to detect insurance fraud could lead to loss of competitive advantage and underwriting losses.</p> <p>Trend: Increasing</p> <p>Risks impacted: Operational risk (developing the right strategy)</p>	<p>Aviva's strategy is focussed on transformation into a digital leader by taking a bold and enterprise-wide approach to digital and automation. Four years ago Aviva announced its strategic framework and embarked on a digital strategy using predictive analytics, automation and digital sales channels. We are currently integrating data analytics into our operations, enabling new means of underwriting, personalised customer propositions and operational efficiency now and in the futuresuch as our Ask it Never initiatives. Refer to 'Our strategy' for further information on our digital strategy.</p>	<p>There is expected to be a five-fold growth in digital data between now and 2020. Big data is becoming a critical driver of competitive advantage for insurers.</p> <p>Artificial intelligence and robotic automation are likely to increasingly transform the efficiency of insurance operations such as underwriting and claims and will transform the customer experience and build deeper customer relationships.</p>
<p>Changes in public policy – any change in public policy (government or regulatory) could influence the demand for, and profitability of, our products. In some markets there are (or could be in the future) restrictions and controls on premium rates, rating factors and charges.</p> <p>Trend: Volatile</p> <p>Risks impacted: Operational risk (developing the right strategy, regulatory compliance)</p>	<p>We actively engage with governments and regulators in the development of public policy and regulation. We do this to understand how public policy may change and to help ensure better outcomes for our customers and the company. The Group's multi-channel distribution and product strategy and geographic diversification underpin the Group's adaptability to public policy risk, and often provides a hedge to the risk. For example, since the end of compulsory annuitisation in 2015 in the UK we have compensated for falling sales of individual annuities by increasing sales of other life and pension products including bulk purchase annuities.</p>	<p>The UK Government's lack of parliamentary majority increases the possibility of a general election and change of government resulting in a shift in public policy with consequences for the products we sell and our investment strategy. In other markets in which we operate: a general election will be held in Italy in March 2018; in Poland we face heightened uncertainty on public policy on pension reform; and in Ontario, Canada, further regulatory reform focussed on providing affordable motor insurance is required.</p>
<p>Cyber crime – criminals may attempt to access our IT systems to steal or utilise company and customer data, or plant malware viruses, in order to access customer or company funds, and/or damage our reputation and brand.</p> <p>Trend: Increasing</p> <p>Risks impacted: Operational risk (fraud, business interruption)</p>	<p>We are not complacent. We continue to invest significantly in IT Security, introducing additional automated controls to protect our data, detect and prevent cyber-attacks. In addition to implementing secure development practices we employ our own 'white hat' hackers to regularly test our IT security defences. We undertake regular activities with our people to promote awareness of cyber and data security, including: employee phishing exercises, computer based training and more regular communications about specific threats as they are identified.</p>	<p>In 2017 there were a number of high profile cyber security incidents for corporates in the UK and elsewhere (most notably the global Wannacry attack), and we expect this to increase in 2018 as cyber criminals and rogue states become ever more sophisticated and given the growing importance of digital automation in business strategy.</p>
<p>Changes in customer behaviour – will impact how customers wish to interact with us and the product offering they expect from us, including the exercise of options embedded in contracts already sold by us.</p> <p>Trend: Stable</p> <p>Risks impacted: Operational risk (developing the right strategy, regulatory compliance)</p>	<p>Not only do we listen to our customers to ensure we meet their needs, we also seek to transform the customer experience through our digital strategy, creating an effortless customer experience. For information on how we are mitigating this risk through the execution of Digital First and True Customer Composite strategies refer to 'Our strategy', with further examples provided in the 'Market review' section.</p>	<p>We expect customers will be much more in control, expecting to self-service and self-solve. They will want to access data and insight and use it to guide their own decisions.</p>
<p>Outsourcing – we rely on a number of outsourcing providers for business processes, customer servicing, investment operations and IT support. The failure of a critical outsourcing provider could significantly disrupt our operations.</p> <p>Trend: Stable</p> <p>Risks impacted: Operational Risk</p>	<p>Our businesses are required to identify business critical outsourced functions (internal and external) and for each to have exit and termination plans and business continuity and disaster recovery plans in the event of supplier failure, which are reviewed annually. Business continuity and disaster recovery plans are subject to annual testing. We also carry out supplier financial stability reviews at least annually.</p>	<p>The recent insolvency of Carillion, which was not a direct supplier of services to Aviva, has brought added focus to this risk and we expect regulatory scrutiny of outsourcing arrangements to increase.</p>