3. RISK

SECTION INTRODUCTION

This section provides an overview of IAG's approach to risk and capital management.

IAG is exposed to multiple risks relating to the conduct of its business. IAG does not seek to avoid all risks, but rather assess them in a systematic, structured and timely manner against IAG's Risk Appetite Statement, delegations, authorities and limits, and seeks to manage them appropriately in alignment with IAG's strategy. Risk management arrangements are designed to reflect the scope, scale and complexity of IAG's activities, and where appropriate, capital is held to support these activities.

IAG uses an enterprise-wide approach to risk that includes six risk categories:

- Strategic
- Insurance
- Reinsurance
- Financial
- Operational
- Regulatory Risk and Compliance

The risk categories, their definition and structured arrangements for their management are included in IAG's risk management strategy (RMS). Risks rarely occur, or should be considered, in isolation. The interconnectivity of IAG's six risk categories and the material risks faced are understood and overseen. Material risks and their impact, likelihood, interconnectedness and velocity are considered in IAG's enterprise risk profile (ERP).

NOTE 3.1 RISK AND CAPITAL MANAGEMENT

A. RISK MANAGEMENT OVERVIEW

The Board has responsibility for setting risk strategy. The Risk Committee assists the Board in fulfilling its risk management and compliance responsibilities, oversight of risk management, development of IAG's risk management framework (RMF) and policies and provides advice to the Executives and Board. The Risk Committee also monitors the effectiveness of the Risk Management function. The Group Chief Risk Officer (CRO) oversees risk management across IAG and is supported by a risk function. IAG's CRO and risk function provide regular reports to the Risk Committee on the operation of the RMF, the status of material risks, risk and compliance incidents and risk framework changes.

The RMF is in place to assist the Board and senior executive management in managing risk. The RMF is the totality of systems, structures, policies and processes within IAG that identify, measure, evaluate, monitor, report and control or mitigate all internal and external sources of material risk. The RMF supports management by:

- providing a consistent, structured approach to identifying and managing risk across the Group;
- having appropriate policies, procedures and controls in place to effectively manage risk;
- providing meaningful reporting to the Board to make informed business decisions;
- ensuring adequate oversight of the risk profile; and
- facilitating a strong risk culture.

IAG's documented RMS describes the group-wide RMF and how it is implemented, including risk appetite (i.e. the levels, boundaries and nature of risk the organisation is willing to accept), the risk categories used, the major risk management processes, and the roles and responsibilities for managing risk. The RMS is a Board-approved policy which directly supports the Group's strategic intent, purpose, values and business sustainability activities. IAG uses Group policies and other supporting documents to help ensure the risk management requirements are clear across IAG, and provide context to implement the risk management principles described in the RMS. The RMS must be adhered to, along with the legal, regulatory and prudential requirements in all countries in which the organisation has operations.

Other key documents within IAG's RMF include:

- Reinsurance Management Strategy (ReMS), which describes the systems, processes, procedures, controls and assurance to ensure IAG's reinsurance arrangements are prudently managed;
- Group Risk Appetite Statement (RAS), which articulates the levels, boundaries and nature of risk the Board is willing to accept in pursuit of IAG's strategic objectives; and
- Internal Capital Adequacy Assessment Process (ICAAP) Summary Statement, which summarises IAG's risk assessment processes for capital management and describes the strategy for maintaining adequate capital over time.

The definitions of the risk categories and related mitigation strategies are set out in the subsequent sections.

The RMS is supported by risk culture and conduct that are the foundation for appropriate risk management and business sustainability. IAG is committed to conducting businesses in a manner aligned with IAG's spirit and organisational purpose which is supported by principles developed in conjunction with the Ethics Committee.

B. STRATEGIC RISK

Strategic risk is the risk that internal or external factors compromise our ability to execute our strategic objectives or our strategy.

Strategic risk is managed by the Group Leadership Team with Board oversight. Key elements that support the management of strategic risk include a rigorous approach to identifying and evaluating key strategic risks and having this process integrated with the Group's strategic planning program, with Management and Board reporting forming part of our ongoing monitoring mechanisms. IAG implements active portfolio management of its insurance operations. This involves robust and regular review of the portfolios that leads to informed decisions on the allocation of assets in the most efficient and value-accretive way in order to achieve IAG's strategic objectives. Consideration of both current and future value is critical in the process. Portfolio management can involve the acquisition or divestment of other entities, for which IAG has implemented a merger & acquisitions framework to help ensure the associated risks are appropriately managed. Strategic risk mitigation is further enhanced by the accountabilities of the Customer Labs function operated under the Chief Customer Officer. This function ensures IAG is accessing data-driven customer insights and reacting to such through the innovation of products and services.

C. INSURANCE RISK

Insurance risk arises from:

- inadequate or inappropriate underwriting;
- unforeseen, unknown or unintended liabilities that may eventuate;
- inadequate or inappropriate claims management including reserving; and
- insurance concentration risk (i.e. by locality, segment factor, or distribution).

A fundamental part of IAG's overall risk management approach is the effective governance and management of the risks that affect the amount, timing and certainty of cash flows arising from insurance contracts. The level of insurance risk accepted by IAG is formally documented in its Insurance Business Licences, which are issued to each operating division. The Insurance Business Licence is prepared by the Group Chief Underwriting Officer in consultation with the customer-facing divisions and is approved by the Group CEO. The Insurance Business Licences are reviewed annually or more frequently if required. In addition to Insurance Business Licences, insurance risk is also managed through the implementation of the insurance risk framework and supporting Insurance Risk Principles.

I. Acceptance and pricing of risk

IAG adopts a disciplined approach to the underwriting of risks, rather than a premium volume or market share oriented approach. IAG believes this approach provides the greatest long-term likelihood of being able to meet the objectives of all stakeholders, including policyholders, regulators and shareholders. Significant underwriting and pricing expertise, coupled with data and analytics capability, allow IAG to effectively underwrite policies to the desired level of risk.

The underwriting by IAG of large numbers of less than fully correlated individual risks, predominantly short-tail business, across a range of classes of insurance business in different regions reduces the variability in overall claims experience over time. A risk still remains that the actual amount of claims paid is different to the amount estimated at the time an insurance product was designed and priced. IAG's effective claims management and provisioning, reinsurance and capital management further mitigate the impact of this risk.

As referenced above, business divisions underwrite within set criteria as contained in the Insurance Business Licence. Maximum limits are set for the acceptance of risk both on an individual insurance contract basis and for classes of business and specific risk groupings.

Management information systems are maintained to provide up to date, reliable data on the risks to which the business is exposed at any point in time. Statistical models that combine historical and projected data (pricing, claims and market conditions) are used to calculate premiums and monitor claim patterns for each class of business.

II. Claims management and provisioning

Once an incident has occurred, initial claim estimates are managed by claims officers with the requisite degree of experience and competence with the assistance, where appropriate, of a loss adjustor or other party with specialist knowledge of specific incidents. These case estimates are used to form part of the basis of the claims provisions. It is IAG's intention to respond to and settle all valid claims quickly whenever possible and to pay claims fairly, based on policyholders' full entitlements. Efforts are made, including plain language policy terms, to ensure there is no misalignment between policyholders' perceived benefits when a policy is initially sold and their actual entitlement when a claim is made.

Claims provisions are established using actuarial valuation models, including a risk margin to cover inherent uncertainty in the ultimate cost of claims, to ensure adequate capital is allocated to settle claims that have occurred. Refer to Note 2.2 for further details.

III. Concentrations of insurance risk

Each year IAG sets its tolerance for concentration risk through the use of various models to estimate IAG's maximum exposure to potential natural disasters and other catastrophes. IAG mitigates its exposure to concentrations of insurance risk by holding a portfolio diversified into many classes of business across different regions and by the utilisation of reinsurance, taking into account the cost of reinsurance and capital efficiency. The reinsurance cover limits IAG's financial exposure to a single event with a given probability, and also protects capital. The catastrophe reinsurance cover purchased affects the Insurance Concentration Risk Charge (ICRC) in the APRA capital calculation.

Concentration risk is particularly relevant in the case of catastrophes, usually natural disasters including earthquakes, bushfires, hailstorms, tropical storms and high winds, which generally result in a concentration of policyholders being impacted by the same event. This aggregation of multiple claims arising from a single event creates the most material financial loss potential in the Group. IAG is also exposed to certain large man-made catastrophic events such as industrial accidents and building fires. Catastrophe losses are an inherent risk of the general insurance industry that contribute to potentially material year-to-year fluctuations in the results of operations and financial position. The nature and level of catastrophes in any period cannot be predicted accurately but can be estimated through the utilisation of predictive models. IAG actively monitors its aggregate exposure to catastrophe losses in all regions and limits exposure in regions that are subject to high levels of natural perils. Specific processes for monitoring identified key concentrations are set out below:

RISK	SOURCE OF CONCENTRATION	RISK MANAGEMENT MEASURES
An accumulation of risks arising from a natural peril/catastrophe	Insured property concentrations	Accumulation risk modelling and reinsurance protection
A large property loss	Fire or accident affecting one building or a group of adjacent buildings	Maximum per risk acceptance limits, property risk grading and reinsurance protection
Multiple liability retentions being involved in the same event	Response by a multitude of policies to the one event	Purchase of reinsurance clash protection

The tables below provide an analysis of gross written premium from continuing operations by both region and product, which demonstrates the diversity of IAG's operations and its relatively limited exposure to additional risks associated with long-tail classes of business (where there is increased uncertainty of the ultimate cost of claims due to the additional period of time to settlement):

	2019	2018
	%	%
a. REGION		
Australia	**78**	79
New Zealand	**22**	21
	100	100
b. PRODUCT		
Motor	**32**	32
Home	**29**	29
Short-tail commercial	**22**	22
Compulsory Third Party (motor liability)	**7**	7
Liability	**6**	6
Other short-tail	**1**	1
Workers' compensation	**3**	3
	100	100

D. REINSURANCE RISK

Reinsurance risk is defined as the risk of loss as a result of:

- lack of capacity in the reinsurance market;
- insufficient or inappropriate reinsurance coverage;
- inadequate or inappropriate reinsurance recovery management;
- reinsurance arrangements not being legally binding; and
- reinsurance concentration.

IAG's reinsurance program is an important part of its overall approach to risk and capital management. It is used to limit exposure to large single claims as well as an accumulation of claims that arise from the same or similar events in order to stabilise earnings and protect capital resources. The ReMS outlines IAG's reinsurance principles, including the requirement that reinsurance retention for catastrophe must not exceed 4% of gross earned premium.

IAG purchases catastrophe reinsurance protection to at least the greater of:

- a 1-in-250 year return period for earthquake loss calculated on a whole-of-portfolio basis for Australia; and
- a 1-in-1000 year return period for earthquake loss calculated on a whole-of-portfolio basis for New Zealand.

This is a more conservative view than APRA’s prescribed minimum approach of 1-in-200 year return period loss calculated on a whole-of-portfolio, all perils basis.

Dynamic financial analysis modelling is used to determine the optimal level at which reinsurance should be purchased for capital efficiency, compared with the cost and benefits of covers available in the market.

The amount of reinsurance purchased is determined by reference to the modelled probable maximum loss (PML). Natural perils are inherently uncertain, which presents model risk. As a result, the loss from an actual event could exceed the modelled PML.

To facilitate the reinsurance process, manage counterparty exposure and create economies of scale, IAG has established a centralised reinsurance model across its operations. This is via captive reinsurance entities in Singapore and Labuan and a reinsurance department (or virtual captive) in Australia, collectively referred to as IAG Reinsurance. IAG Reinsurance acts as the interface between the external providers of reinsurance capital and the operating business divisions.

The use of reinsurance introduces credit risk. The management of credit risk includes the monitoring of reinsurers' credit ratings and controlling total exposures to limit counterparty default risk which is further explained in the financial risk section. IAG adopts a sound underwriting approach to the reinsurance program through the expertise provided by IAG Reinsurance. Retained exposures sit within the Board risk appetite and appropriate capital is maintained.

I. Current reinsurance program

The external reinsurance program consists of a combination of the following reinsurance arrangements:

- 32.5% whole-of-account quota share arrangements;
- a Group catastrophe cover which is placed in line with the strategy of buying to the level of at least a 1-in-250 year earthquake event on a whole-of-portfolio basis. IAG's catastrophe reinsurance protection runs to a calendar year and operates on an excess of loss basis, with IAG retaining the first $250 million ($169 million post-quota share) of each loss. It covers all territories in which IAG operates. The limit of catastrophe cover purchased effective 1 January 2019 was $9 billion placed to 67.5%. In a very extreme loss event scenario, IAG could potentially incur a net loss greater than the retention. IAG holds capital to mitigate the impact of this possibility;
- an aggregate sideways cover which protects against a frequency of attritional event losses in Australia, New Zealand and Asia, and operates below the Group catastrophe cover;
- excess of loss reinsurances which provide 'per risk' protection for retained exposures of the commercial property and engineering businesses in Australia, New Zealand and Asia;
- excess of loss reinsurance for all casualty portfolios including Compulsory Third Party (CTP), public liability, workers' compensation and home owners warranty products;
- quota share protection for agency-distributed financial lines products;
- quota share protection for cyber;
- excess of loss reinsurance for all marine portfolios;
- excess of loss reinsurance cover (stop loss) for retained natural peril losses;
- crop quota share and stop loss;
- adverse development cover (ADC) and quota share protection on the CTP portfolio;
- ADC for the February 2011 Canterbury earthquake event; and
- ADC for policies issued prior to 31 December 2015 covering IAG's exposure to asbestos relating to legacy general liability and/or workers' compensation policies.

E. FINANCIAL RISK

Financial risk is defined as the risk of:

- adverse movements in market prices (foreign exchange, equities, credit spreads, interest rates etc) or inappropriate concentration within the investment funds;
- a counterparty failing to meet its obligations (credit risk);
- inadequate liquidity; or
- inappropriate capital management.

Key aspects of the processes established by IAG to monitor and mitigate financial risks include:

- the Board Risk and Audit Committees with Non-Executive Directors as members;
- the Asset and Liability Committee (ALCo) comprising key Executives with relevant oversight responsibilities;
- value at risk analysis and position limits which are regularly monitored, and monthly stress testing which is undertaken to estimate the impact of adverse market movements;
- maintenance of an approved Group Credit Risk Policy, Group Liquidity Policy, Group Foreign Exchange Policy and Group Investment Policy;
- Board-approved Strategic Asset Allocation setting out the overall structure of the investments strategy – asset classes, ranges on asset class exposures and broad limits on active management such as duration limits;
- capital management activities – for further details refer to the capital management section (IV) of this note; and
- implementation of a Derivatives Risk Management Statement that considers the controls in the use of derivatives and sets out the permissible use of derivatives in relation to investment strategies.

I. Market risk

a. FOREIGN EXCHANGE RISK

IAG operates internationally and is exposed to foreign exchange risk from various activities conducted in the normal course of business. Foreign exchange exposure is managed by the IAG Capital Markets function.

The key foreign exchange risk exposures arise from the fluctuation in spot exchange rates between the items denominated in currency other than the Group's functional currency (Australian dollar), which causes the amount of the items to vary. Mitigation strategies are set out below:

EXPOSURE	RISK MANAGEMENT MEASURES
Net investment in foreign operations that have a functional currency other than the Australian dollar (translation of financial position recognised directly in equity and translation of financial performance recognised in profit or loss).	Designated hedging instruments – forward foreign exchange contracts (derivatives).
Interest-bearing liabilities denominated in currencies other than the Australian dollar.	Some designated as hedging instruments where the currency matches the functional currency of investments in foreign operations.
Insurance liabilities denominated in currencies other than the Australian dollar (directly recognised in profit or loss).	Some assets backing technical reserves are held in the same currency as the related insurance liabilities, mitigating any net foreign exchange exposure.
Investments denominated in currencies other than the Australian dollar (directly recognised in profit or loss).	Designated economic hedging instruments – forward foreign exchange contracts (derivatives).

When all relevant criteria are met, the designated hedging instruments noted above will effectively reduce the impact of foreign exchange gains and losses recorded in the foreign currency translation reserve during the period. The Group adopts a policy of targeting between 50% and 100% of the foreign exchange risk exposures associated with net investments in foreign operations (excluding intangible assets for consolidated entities) through designated hedging instruments. For the foreign exchange risk on its investment portfolio, the Group adopts a policy to target a 100% economic hedge.

The table below provides information regarding the impact on the measurement of net investments in foreign operations held at reporting date of an instantaneous 10% depreciation of the Australian dollar compared with selected currencies on equity, net of related derivatives. An appreciation of the Australian dollar would broadly have the opposite impact.

IMPACT OF 10% DEPRECIATION OF AUSTRALIAN DOLLAR	**2019**	2018
	$m	$m
	Impact directly to equity	Impact directly to equity
Net investments in foreign operations and related hedge arrangements		
New Zealand dollar	**56**	63
Malaysian ringgit	**13**	18
Other currencies where considered significant	**8**	5
	77	86

The sensitivity analysis demonstrates the effect of a change in one key assumption while other assumptions remain unchanged (isolated exchange rate movements).

b. PRICE RISK

IAG has exposure to equity price risk through its investments in equities (both directly and through certain trusts), debt/equity hybrids, hedge funds and the use of derivative contracts. The impact on the measurement of the investments held at reporting date of a change in broad equity markets by +10% or -10% on profit before tax, net of related derivatives, is shown in the table below:

IMPACT OF CHANGE IN EQUITY VALUE		**2019**	2018
		$m	$m
		Impact to profit	Impact to profit
Investments – equity, debt/equity hybrids and trust securities and related equity derivatives	+10%	**90**	108
	-10%	**(88)**	(105)

Investments in equities, debt/equity hybrids, trust securities and related equity derivatives are all measured at fair value through profit or loss, there is no direct impact of a change in market prices on equity.

c. INTEREST RATE RISK

Fixed interest rate assets and liabilities are exposed to changes in market value derived from mark-to-market revaluations. Financial assets and liabilities with floating interest rates create cash flow variability.

IAG's interest rate risk arises primarily from fluctuations in the valuation of investments in fixed interest-bearing securities recognised at fair value and from the underwriting of general insurance contracts, which creates exposure to the risk that interest rate movements materially impact the fair value of the insurance liabilities (the insurance liabilities are discounted with reference to the government yields). Movements in interest rates should have minimal impact on the insurance profit or loss due to IAG's policy of investing in assets backing insurance liabilities principally in fixed interest securities that are closely matched to the duration of the insurance liabilities (period to settlement). Therefore, movements in the fair value measurement of the assets broadly offset the impact of movements in the insurance liabilities from changes in interest rates.

The impact on the measurement of investments in fixed interest-bearing securities held at reporting date of a change in interest rates by +1% or -1% on profit before tax, net of related derivatives, is shown in the following table. The sensitivity analysis provided demonstrates the effect of a change in interest rates only, whilst other assumptions remain unchanged. As investments in fixed interest-bearing securities are measured at fair value through profit or loss, there is no direct impact from an interest rate change on equity.

IMPACT OF CHANGE IN INTEREST RATES		**2019**	2018
		$m	$m
		Impact to profit	Impact to profit
Investments – interest-bearing securities and related interest rate derivatives	+1%	**(133)**	(159)
	-1%	**141**	167

Refer to Note 2.2 for details of the impact on the net outstanding claims liabilities before income tax to changes in key actuarial assumptions, including movements in discount rates.

II. Credit risk

Concentrations of credit risk exist where a number of counterparties have similar economic characteristics. IAG's credit risk arises predominantly from investment activities, reinsurance activities, premium debtors, OTC derivatives (currency forwards) and dealings with other intermediaries. IAG maintains a credit risk appetite, which is approved by the Board, and a Group Credit Risk Policy that is consistent with the Board's risk appetite. The policy outlines the framework and procedures in place to ensure an adequate and appropriate level of monitoring and management of credit quality throughout IAG, with the Capital Markets function responsible for implementation. IAG maintains sufficiently diverse credit exposures to avoid a concentration charge being added to the regulatory capital requirement.

The maximum exposure to credit risk loss as at reporting date is the carrying amount of the investments on the balance sheet as they are measured at fair value. For the in-scope receivable balances, maximum exposure to credit risk is considered on initial measurement of the asset, where lifetime expected credit losses are taken into account and provided for where required. Refer to Note 2.6 for further details.

a. INVESTMENTS

IAG is exposed to credit risk from investments in third parties, for example debt or similar securities issued by those companies. At the reporting date, there are material concentrations of credit risk to the banking sector, in particular the four major Australian banks. The credit risk relating to investments is regularly monitored and assessed, with maximum exposures limited by credit rating and counterparty. Sovereign securities denominated in the functional currency are considered risk free and are unconstrained. The assets backing insurance liabilities of $5,950 million (2018: $6,356 million) include predominantly high credit quality investments, such as government securities and other investment grade securities, which reduce the risk of default.

The following table provides information regarding the credit risk relating to the interest-bearing investments based on Standard & Poor's counterparty credit ratings, which demonstrates the very strong overall credit quality of IAG's investment book:

CREDIT RATING OF INTEREST-BEARING INVESTMENTS	**2019**	2018
	$m	$m
AAA	**3,288**	3,520
AA	**3,626**	3,514
A	**250**	482
BBB	**886**	1,264
Below BBB and unrated	**654**	388
	8,704	9,168

b. REINSURANCE RECOVERIES ON PAID CLAIMS

Reinsurance arrangements mitigate insurance risk but expose IAG to credit risk. Reinsurance is placed with counterparties (primarily reinsurance companies) based on an evaluation of their financial strength, terms of coverage and price. At the reporting date, there are material concentrations of credit risk in relation to reinsurance recoverables, in particular to large global reinsurers. IAG has clearly defined policies for the approval and management of credit risk in relation to reinsurers. IAG monitors the financial condition of its reinsurers on an ongoing basis and periodically reviews the reinsurers' ability to fulfil their obligations under respective existing and future reinsurance contracts. Some of the reinsurers are domiciled outside the jurisdictions in which IAG operates, so there is the potential for additional risk such as country risk and transfer risk.

It is IAG policy to only deal with reinsurers with credit ratings of at least Standard & Poor's BBB+ (or other rating agency equivalent) without collateralisation, other than a mandatory placement to meet local regulatory requirements. Where the credit rating of a reinsurer falls below the required quality during the period of risk a contractual right to replace the counterparty exists. Some of the reinsurance protection is purchased on a 'collateralised' basis, where counterparties either deposit funds equivalent to their participation (trust or loss deposits) or provide other forms of collateral (letters of credit).

The following table provides IAG's exposure to reinsurance recoveries receivable on the outstanding claims balance, excluding other recoveries, by counterparty credit rating (Standard & Poor's) and the secured collateral:

CREDIT RATING OF REINSURANCE RECOVERIES ON OUTSTANDING CLAIMS	**2019**		2018	
	$m	**% of total**	$m	% of total
AA	**4,081**	**90**	3,667	89
A	**470**	**10**	456	11
BBB and below	**6**	**-**	11	-
Total	**4,557**	**100**	4,134	100

Of these, approximately $1,128 million (2018: $1,025 million) is secured directly as follows, reducing the credit risk:

- deposits held in trust: $82 million (2018: $23 million);
- letters of credit: $1,045 million (2018: $1,000 million); and
- loss deposits: $1 million (2018: $2 million).

An ageing analysis for reinsurance recoveries on paid claims is provided below:

	NOT OVERDUE		OVERDUE		TOTAL
		<30 days	30-120 days	>120 days	
	$m	$m	$m	$m	$m
2019					
Reinsurance recoveries on paid claims	**76**	**1**	**3**	**2**	**82**
2018					
Reinsurance recoveries on paid claims	70	8	3	11	92

c. PREMIUM RECEIVABLE

The majority of the premium receivable balance relates to policies which are paid on a monthly instalment basis. The late payment of amounts due under such arrangements allows for the cancellation of the related insurance contract eliminating both the credit risk and insurance risk for the unpaid amounts. Upon cancellation of a policy the outstanding premium receivable and revenue is reversed. IAG is also exposed to the credit risk associated with brokers and other intermediaries when premium is collected via these intermediaries. IAG's exposure is regularly monitored by ALCo with reference to aggregated exposure, credit rating, internal credit limits and ageing of receivables by counterparty. Ageing analysis for premium receivable is provided below, with amounts aged according to their original due date, demonstrating IAG's limited exposure:

	NOT OVERDUE		OVERDUE		TOTAL
		<30 days	30-120 days	>120 days	
	$m	$m	$m	$m	$m
2019					
Premium receivable	**3,152**	**276**	**295**	**61**	**3,784**
Provision for impairment	**(3)**	**(3)**	**(8)**	**(23)**	**(37)**
	3,149	**273**	**287**	**38**	**3,747**
2018					
Premium receivable	2,981	315	278	48	3,622
Provision for impairment	(3)	(3)	(7)	(20)	(33)
	2,978	312	271	28	3,589

III. Liquidity risk

IAG's liquidity position is derived from operating cash flows, access to liquidity through related bodies corporate and interest-bearing liabilities (with some denominated in different currencies and with different maturities). IAG complies with its liquidity risk management practices, which include a Group policy, and has the framework and procedures in place to ensure an adequate and appropriate level of monitoring and management of liquidity.

a. OUTSTANDING CLAIMS LIABILITY AND INVESTMENTS

Underwriting insurance contracts exposes IAG to liquidity risk through the obligation to make payment for claims of unknown amounts on unknown dates. The assets backing insurance liabilities can generally be readily sold or exchanged for cash to settle claims and are managed in accordance with the policy of broadly matching the overall maturity profile to the estimated pattern of claim payments.

A maturity analysis is provided below of the estimated net discounted outstanding claims liability (based on the remaining term to payment at the reporting date) and the investments that have a fixed term (provided by expected maturity). The timing of future claim payments is inherently uncertain. Actual maturities may differ from expected maturities because certain counterparties have the right to call or prepay certain obligations with or without penalties.

MATURITY ANALYSIS	NET DISCOUNTED OUTSTANDING CLAIMS LIABILITY		INVESTMENTS	
	2019	2018	**2019**	2018
	$m	$m	**$m**	$m
Floating interest rate (at call)	**-**	-	**1,399**	755
Within 1 year or less	**2,212**	2,446	**1,073**	1,607
Within 1 to 2 years	**726**	920	**165**	773
Within 2 to 5 years	**1,111**	1,200	**2,460**	2,656
Over 5 years	**468**	422	**3,607**	3,377
Total	**4,517**	4,988	**8,704**	9,168

b. INTEREST-BEARING LIABILITIES

The following table provides information about the residual maturity periods of the interest-bearing liabilities of a capital nature based on the contractual maturity dates of cash flows:

	CARRYING VALUE	MATURITY DATES OF CONTRACTUAL UNDISCOUNTED CASH FLOWS					
		Within 1 year	1 - 2 years	2 - 5 years	Over 5 years	Perpetual	Total
	$m	$m	$m	$m	$m	$m	$m
2019							
Principal repayments(1)	**2,089**	**-**	**-**	**-**	**1,135**	**954**	**2,089**
Contractual interest payments(1)		**83**	**83**	**249**	**-**	**-**	**415**
Total contractual undiscounted payments		**83**	**83**	**249**	**1,135**	**954**	**2,504**
2018							
Principal repayments(1)	1,974	-	-	-	1,020	954	1,974
Contractual interest payments(1)		91	91	274	-	-	456
Total contractual undiscounted payments		91	91	274	1,020	954	2,430

(1) All of the liabilities have call, reset or conversion dates which occur prior to any contractual maturity. Detailed descriptions of the instruments are provided in Note 4.1. The contractual interest payments are undiscounted and calculated based on underlying fixed interest rates or prevailing market floating rates as applicable at the reporting date. Interest payments have not been included beyond five years.

IV. Capital management risk

IAG's capital management strategy plays a central role in managing risk to create shareholder value whilst meeting the objective of maintaining an appropriate level of capital to protect policyholders' and lenders' interests, and meet regulatory requirements.

IAG has a documented description of the capital management process (ICAAP) and reports annually on the operation of the ICAAP to the Board, together with a forward-looking estimate of expected capital utilisation (as represented in IAG's Capital Plan) and capital resilience (ICAAP Annual Report). Adequacy of IAG's capital position is judged relative to the Board's Capital RAS, with an internal capital model (ICM) used to assess the risks of breaching the minimum levels established in the Capital RAS. Scenario analysis and stress testing are important adjuncts to the ICM. The amount of capital required varies according to a range of factors including the business underwritten, extent of reinsurance and investment asset allocation.

The target level of capitalisation (risk appetite) for IAG is assessed by consideration of factors including:

- the probability of financial ruin over the next three years;
- the probability of falling below the APRA Prescribed Capital Amount (PCA) over the next three years;
- other stakeholder perspectives on capitalisation, including rating agency capital models and associated ratings; and
- domestic and international levels of capitalisation.

a. REGULATORY CAPITAL

All insurers within IAG that carry on insurance business in Australia are registered with APRA and are subject to APRA's Prudential Standards. It is IAG's policy to ensure that each of the licenced insurers in the Group maintains an adequate capital position.

IAG's long-term target capital ranges set out below remain unchanged:

- a total regulatory capital position equivalent to 1.4 to 1.6 times the PCA, compared to a regulatory requirement of 1.0 times; and
- Common Equity Tier 1 capital of 0.9 to 1.1 times the PCA, compared to a regulatory requirement of 0.6 times.

Internal policies are in place to ensure any significant deviations from the benchmarks are considered by the Board as to how any shortfall should be made good, or any surplus utilised.

IAG uses the standardised framework detailed in the relevant prudential standards (APRA Level 2 Insurance Group requirements) to calculate regulatory capital.

REGULATORY CAPITAL POSITION	**2019** **$m**	2018 $m
Common Equity Tier 1 capital (CET1 capital)	**3,082**	3,114
Additional Tier 1 capital	**569**	624
Total Tier 1 capital	**3,651**	3,738
Tier 2 capital	**1,330**	1,280
Total regulatory capital	**4,981**	5,018
Total PCA	**2,354**	2,468
PCA multiple	**2.12**	2.03
CET1 multiple	**1.31**	1.26

At 30 June 2019, IAG's Insurance Concentration Risk Charge from a catastrophe event was $169 million (2018: $169 million).

Consideration is given to the operational capital needs of the business. Targeting a capital multiple above the minimum regulatory requirement aims to ensure the ongoing strength and security of IAG, while suitably protecting policyholders and lenders.

The capital objectives are achieved through dynamic management of the balance sheet and capital mix, the use of a risk-based capital adequacy framework that relies on explicit quantification of uncertainty or risk and the use of modelling techniques that provide the capacity to understand the risk/return trade-off as well as valuable inputs to the capital management process. The influences on capital, such as product mix, reinsurance program design, catastrophe exposure, investment strategy, profit margins and capital structure, are all assessed using dynamic financial analysis modelling.

An important influence on IAG's capital level is the payment of dividends. IAG targets a dividend payout ratio, measured as a proportion of cash earnings, within a range approved by the Board (refer to Note 4.4).

b. CAPITAL COMPOSITION

The balance sheet capital mix at reporting date is shown in the table below:

CAPITAL MIX	**Target** %	**2019** %	2018 %
Ordinary equity less goodwill and intangible assets	**60-70**	**63.5**	65.7
Interest-bearing liabilities – hybrid securities and debt	**30-40**	**36.5**	34.3
Total capitalisation		**100.0**	100.0

F. OPERATIONAL RISK

Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.

When controls fail, an operational risk incident can cause injury, damage to reputation, have legal or regulatory implications or can lead to financial loss. IAG does not aim to eliminate all operational risks, but manages these by initiating an appropriate control framework and by monitoring and managing potential risks. The Board is responsible for oversight of the operational risk framework and approval of the Operational Risk Management Policy, and any changes to it. The Board and Group Leadership Team believe an effective, documented and structured approach to operational risk is a key part of the broader RMF that is outlined in IAG's RMS.

IAG's operational risk framework, inclusive of the Group Operational Risk Policy, operates within IAG's RMF. The operational risk framework and supporting Operational Risk Policy and procedures aim to ensure that consistent governance mechanisms and practices are in place, and that activities undertaken which involve operational risk are continually assessed and managed with appropriate regard to the Group's RAS and the achievement of IAG's objectives. The operational risk framework is supported by aligned frameworks, policies and procedures for key aspects of operational risk. For example, fraud and business continuity frameworks and policies are in place as are various other operational risk policies.

Management and staff are responsible for identifying, assessing and managing operational risks in accordance with their roles and responsibilities. IAG's Internal Audit function also reviews the effectiveness of controls and processes surrounding operational risk.

G. REGULATORY RISK AND COMPLIANCE

Regulatory Risk and Compliance is defined as the risk of legal, regulatory or reputational impacts arising from failure to manage compliance obligations, or failure to anticipate and prepare for changes in the regulatory environment. IAG engages with regulators and regularly monitors developments across its international operations to assess potential impacts on its ongoing ability to meet the various regulatory requirements. In recent times, the Group has observed an increase in the frequency and scale of regulatory reviews, particularly in relation to financial services entities in Australia. The outcomes and any additional costs associated with these reviews and possible exposures for the Group remain uncertain.

The Final Report of the Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry (Royal Commission) was released on 4 February 2019. The Final Report included 76 specific recommendations aimed at restoring trust and improving outcomes for consumers. Several of the recommendations relate to the general insurance industry and others apply more broadly to the financial services industry and its regulators. In principle, IAG supports the recommendations but it remains too early to predict the nature and extent of the changes and any consequential impact the implementation of the recommendations may have for IAG's businesses.