PUBLIC DISCLOSURE
IN PURSUANCE OF MAS NOTICE 124 "PUBLIC DISCLOSURE REQUIREMENTS" FOR FINANCIAL YEAR ENDED 31 DECEMBER 2019

1. **Information about our company profile, including the nature of the business, a general description of our key products, the external environment in which we operates, our objectives and our strategies in place to achieve these objectives**

   Aviva Ltd (the "Company") is a limited liability company incorporated and domiciled in Singapore. The Company's immediate holding company and ultimate holding company are Aviva Group Holdings Limited and Aviva plc respectively. Both the immediate holding company and ultimate holding company are incorporated in the United Kingdom.

   The principal activities of the Company consist of transacting general and life insurance businesses. The Company's business covers a board spectrum of insurance, including, protection & health, savings and investments, general insurance as well as group insurance.

   For more information on the objectives and strategies of the Company, please refer to the website of Aviva Ltd[1].

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2. **Key features of our corporate governance framework and management controls, including information on the implementation of the framework and controls**

   Please refer to the "Corporate Governance" Section on our Aviva Ltd website[2] as well as the Corporate Governance Report[3].

3. **Quantitative and qualitative information about our enterprise risk management framework including our asset-liability management ("ALM") for our entire business and, where appropriate, at a segmented level as appropriate to the business, the methodology and key assumptions employed in the measurement of assets and liabilities for ALM purposes, and any capital or provisions held as a consequence of a mismatch between assets and liabilities**

   Enterprise Risk Management ("ERM") Framework

   Risk management is key to the Company's success. We accept the risks inherent to our core business lines of life, general, health and protection and asset management. We diversify these risks through our scale, 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. 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.

[1] https://www.aviva.com.sg/en/about-us/
[2] https://www.aviva.com.sg/en/about-us/corporate-governance/
[3] https://www.aviva.com.sg/content/dam/aviva-public/sg/documents/aviva-corporate-governance/coporate-governance-report.pdf

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

For more details, please refer to our risk management framework[4].

Asset-Liability Management

ALM is the practice of managing a business so that decisions and actions taken with respect to all assets and liabilities are coordinated. ALM looks at all risks arising from an insurer's assets in relation to its liabilities, including insurance risk, liquidity risk, market risks and counterparty risk.

As an insurer, the Company accepts the transfer of uncertainty from its policyholders and seeks to add value through the aggregation and management of these risks. The inherent uncertainty in the insurance operation has translated into uncertainty in the Company's cash outflow requirements.

It is the Company's policy to maintain adequate liquidity and sufficient marketable assets to meet its cash outflows requirement at all time.

In order to match the unexpected cash outflow requirements, the Company is cautious in its choice of asset types and holds sufficient liquid and marketable assets which provide the Company with acceptable level of liquidity risk, market risks and counterparty risk, taking into account the Company's risk tolerances and objectives for growth and profit.

The Investment Policy ("IP") itself acts as an ALM Policy as both investment & liability strategy/Policy and Strategy Asset Allocation ("SAA") report / policy are liability-driven investment strategy / policy, that means, without policy liability and products, no investment policy and strategy would be formulated.

The ALM policy/strategy shall include investment and liability strategies adopted by the insurer allow for interaction between assets and liabilities. These are covered by Investment Committee/ Asset Liability Committee ("IC/ALCO") materials, SAA and IP as well as Liquidity Management. These are reviewed and approved by the Board Risk Commitee and Board on a regular basis. Liability Profile and Investment Mandates (assets) of IP for different funds can be found in the Investment Policy.

As for the liability cash flows met by the cash inflows are also monitored through liquidity management and we have already had the policy put in place and reported / presented to IC/ALCO on a regular basis.

[4] https://www.aviva.com/investors/risk-management-framework

4. **Quantitative and qualitative information on all our reasonably foreseeable and relevant material insurance risk exposures, and the management of such risk exposures, including:**
   - **(i) objectives and policies, models and techniques for the management of insurance risk exposures and underwriting process controls;**
   - **(ii) the nature, scale and complexity of risks arising from insurance contracts;**
   - **(iii) the use of reinsurance or other forms of risk transfer;**
   - **(iv) an understanding of the interaction between capital adequacy and risk; and**
   - **(v) a description of risk concentrations;**

The Company follows Aviva Plc's Group Risk policies and Business Standards to manage its risk exposures and how controls are established to mitigate these risks. Please refer to Aviva Plc's latest annual report[5] on the risk and the management of these risks as well as the nature, scale of risks arising from the insurance contracts underwritten by the Group.

Reinsurance

The Company limits its exposure to loss within its insurance operations through the use of reinsurance arrangements. The business ceded is placed on both quota share and surplus basis with retention limits varying by product line and territory. Amounts recoverable from reinsurers are calculated in a manner consistent with the assumptions used for ascertaining policy benefits.

Risk concentrations

The Company write mainly Singapore risks and therefore its risk concentration is almost 100% in Singapore.

[5] Aviva plc's latest annual report is available at https://www.aviva.com/investors/reports/

5. **Quantitative and qualitative information about the determination of technical provisions, including future cash flow assumptions, the rationale for the choice of discount rates, and a description of methodology used to determine technical provisions (e.g. risk adjustment methodology) which shall be presented in appropriate segments.**

<u>Long term insurance provision</u>

Major classes of business written under this category include individual life and retail health (guaranteed renewability) business.

For long term insurance contracts, economic assumptions are continually reviewed and updated. Non-economic assumptions are reviewed at least annually. Non-economic assumptions are presented to the Company's Assumptions Committee and are subject to the committee's approval before these assumptions are adopted in the valuation of the Company's liabilities. Key assumptions are highlighted below:

<u>Mortality and morbidity rates</u>

Mortality and morbidity assumptions will have regard to the Company's and industry's historical experience and rates recommended by reinsurers, where available, and are generally differentiated by sex and policy type.

In general, higher mortality and morbidity assumptions will lead to higher expected claims outgo, which in turn, will lead to an increase in policy liabilities.

Annuity and long term contracts, on the other hand, are sensitive to longevity risks, such that a lower mortality assumption would result in an increase in expected annuity payments, therefore increasing policy liabilities.

<u>Valuation interest rates</u>

The valuation interest rate assumption is the underlying interest rate at which future cash flows are discounted in determining insurance contract liabilities. In calculating the liability for the Minimum Condition Liability of the Company's Participating and Non-participating business and non-unit reserves of Investment-Linked funds, future expected cash flows are discounted at risk-free rates as prescribed under MAS 319. In calculating the Company's Participating Fund liabilities, future cash flows are discounted using the Company's best estimate long-term investment return it expects to earn on its Participating Fund assets.

<u>Expenses and commission rates</u>

Expense studies are conducted regularly and the expense assumptions will reflect both the Company's actual expenses as well as budgeted expenses based on the Company's business plan. Any recommendations resulting from these studies will be reflected in the valuation of policy liabilities subject to the approval of the Company's Assumption Committee.

Commission rates are assumed to be the same as those contracted with the various channels. Higher expense and commission assumptions will increase policy liabilities.

Surrender rates

Surrender rates assumed in the calculation of policy liabilities will reflect the Company's historical experience, and are differentiated by duration in-force and policy type.

Higher surrender rates would tend to lead to a decrease in policy liabilities. However, the impact on policy liabilities will depend on the product design, and whether the surrender value is high relative to other benefits available under the policy.

Bonus rates

Future bonus rates are assumed to be the same as those declared in the latest bonus declaration, with suitable adjustments where necessary to ensure that bonus rates continue to be in line with the Company's Internal Governance Policy on the management of its Participating Fund under changing investment conditions.

Inflation rates

Inflation rates assumption is set to reflect long-term inflation expectations, allowing for the proportion of staff and non-staff expenses.

In general, higher inflation assumptions will lead to higher expected expenses outgo which in turn, will lead to an increase in policy liabilities.

Sensitivities

Sensitivity of Policy Liabilities	Increase/ (decrease) from Base Non-Participating Fund $'000	Unit-Linked Fund $'000	Total $'000
2019			
Mortality and Morbidity – Non-annuities			
+ 5%	**4,052**	-	**4,052**
- 5%	**(2,936)**	1	**2,935**
Mortality and Morbidity – Annuities			
+ 5%	**(1,556)**	-	**(1,556)**
- 5%	**1,650**	-	**1,650**
Expenses			
+ 10%	**968**	**347**	**1,315**
- 10%	**(920)**	**(313)**	**(1,233)**
Surrender			
+ 10%	**(2,515)**	**(106)**	**(2,621)**
- 10%	**5,590**	**124**	**5,714**
Interest rate			
+ 1%	**(18,525)**	**(70)**	**(18,595)**
- 1%	**21,274**	**77**	**21,351**
2018			
Mortality and Morbidity – Non-annuities			
+ 5%	1,307	71	1,378
- 5%	(1,158)	(63)	(1,221)
Mortality and Morbidity – Annuities			
+ 5%	(1,526)	-	(1,526)
- 5%	1,617	-	1,617
Expenses			
+ 10%	1,056	380	1,436
- 10%	(995)	(325)	(1,320)
Surrender			
+ 10%	(561)	(195)	(756)
- 10%	924	227	1,151
Interest rate			
+ 1%	(19,138)	(11)	(19,149)
- 1%	21,410	30	21,440

In accordance with the regulations, the Company values the liabilities of the participating fund based on the value of policy assets of the fund. The above changes in the stated variables will have no impact on the participating fund policy liabilities because the change in assumptions would not cause the policy liabilities to be greater than the policy assets of the fund.

Short term insurance provision

The major classes of business written under this category can be classified broadly into Group Life, Group Accident and Health, yearly (non-guaranteed) renewable Retail Health and General Insurance.

Group Life business includes group term life, group living care and group disability income business. Group Accident and Health business includes group personal accident, group in-patient medical plans and group outpatient medical plans. These risks may be written locally or overseas. Retail Health includes yearly (non-guaranteed) renewable individual medical expense insurance. General Insurance includes motor, travel home content, personal accident and gadget products.

For these contracts, claims provisions (comprising outstanding claims and claims incurred but not reported) are established to cover the ultimate cost of settling the liabilities in respect of claims that have occurred, according to insurance regulations and guidelines.

Outstanding claims provisions are reviewed on a monthly basis and comprise claims reported by policyholders. Claims incurred but not reported provisions are reviewed on a quarterly basis and are updated to reflect the development of claims experience over the quarter, including settlement of claims and new claims reported. Claims provisions are not discounted for future time value of money.

Future claims costs are projected through the use of generally accepted actuarial techniques namely, the Chain Ladder and Bornhuetter Ferguson methods. As prescribed under the local regulations, provisions for adverse deviation is made to provide for claims liabilities at a 75% confidence level. This is determined using Bootstrapping or Mack's method.

Assumptions

The principal assumption underlying the Chain Ladder method is that the development of historical claims pattern will be expected to continue in the future.

The assumptions underlying the Bornhuetter Ferguson method is that the development of historical claims pattern will be expected to continue in the future and the assumed loss ratios are reflective of future claims experience.

No discounting is applied to the claims provisions and hence, no interest assumption is required.

Sensitivities

The claims provision is sensitive to the delays that arise between occurrence of a claim and its subsequent notification and eventual settlement.

6. **Quantitative and qualitative information about capital adequacy to evaluate the objectives, policies and processes for managing capital and to assess our capital adequacy, generic solvency requirements as imposed by legislation or otherwise directed by the Authority, the capital available to cover regulatory capital requirements, and information on any internal model used to determine capital resources and requirements;**

The objective of the Company's Capital Management Policy is to provide the principles to ensure the efficient management of capital for Aviva Ltd, in a way which optimises returns to shareholders in the context of Aviva Group's risk appetite. The group's risk appetite is set by the Aviva plc board and will include consideration of the interests of our policyholders and debt holders. Management of regulatory requirements are key elements of this.

The Company's objective is to maintain effective capital management processes and a prudent level of capital resources, consistent with the risk appetite agreed by the Aviva Ltd Board ("Board") from time to time, to provide assurance that the above risks will not materialise. The IC/ALCO will have primary responsibility for recommending risk appetite to the Board.

Our current long-term capital risk appetite, as derived from Aviva plc's risk appetite, is described below:

- To maintain sufficient regulatory capital, in line with minimum capital requirements prescribed by the regulator, Monetary Authority of Singapore, (MAS). The Company has no appetite for any breach of MAS regulatory requirements and failure to identify and respond to future changes in regulatory capital requirements.

- To hold sufficient local surplus capital, at company level, to withstand a 1-in-5 loss on a one-year basis, in addition to the sufficient regulatory capital described above.

The Company uses the regulatory risk-based capital model to determine it capital resources and requirements.

Pursuant to the Insurance Act and Insurance (Valuation and Capital) Regulations 2004, all Singapore licensed insurers are required to maintain a capital adequacy ratio of not less than a 120% of its total risk requirements or S$5million, whichever is higher, or otherwise as directed by the Authority.

The Company's capital adequacy ratio under the RBC1 frameworkbrc for 31 December 2019 and 2018 were 246% and 212% respectively, which exceeded the minimum regulatory requirement of 120%.

7. **Quantitative and qualitative information about financial instruments and other investments by class, including:**
   - **(i) investment objectives;**
   - **(ii) policies and processes;**
   - **(iii) values, assumptions and methods used for general purpose financial reporting and solvency purposes, as well as an explanation of the differences (where applicable); and**
   - **(iv) information concerning the level of sensitivity to market variables associated with the disclosed amounts;**

<u>Investment objectives</u>
The Company's investment objective is to optimise investment returns whilst ensuring that sufficient assets are held to meet future liabilities and regulatory requirements. The aim is to match the investments held to support a line of business to the nature of the underlying liabilities, whilst at the same time considering local regulatory requirements, the level of risk inherent within different investments, and the desire to generate superior investment returns, where compatible with this stated strategy and risk appetite.

Assets must be managed in a sound and prudent manner taking into account the profile of the liabilities of each fund and the impact on its solvency position. Investments are made in compliance with the prevailing regulatory requirements with due consideration given to the exposures arising from the various financial risks.

An important part of the Company's business activities involves investing policyholders' and shareholder's funds in permitted financial instruments, including equities and permitted debt instruments.

Equity exposures are managed within the approved Strategic Asset Allocation that are set with reference to the overall appetite for market risk. 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.

The Company uses derivative financial instruments to mitigate the impact of adverse market movement and facilitate efficient portfolio management. The Company does not hold derivative financial instruments for speculative purposes.

Derivative financial instruments are classified as held for trading and accounted for at fair value through profit or loss.

<u>Policies and processes</u>
The Company's investment activities are managed in accordance to the Company's Board of Directors (the "Board") approved Investment Policy, which provides guidelines for decision-making regarding the investment of funds in a manner to ensure safety of investments, while managing liquidity to meet the business requirements and policyholder obligations and providing adequate investment return using authorised instruments.

The Board delegates the authority to make all investment decisions to the IC/ALCO. The IC/ALCO meet on a regular basis, at least quarterly, and report to the Board all material investment decisions.

The role of the ALCO/IC is to review and approve the asset allocation of non-linked funds, ensure that the investment policy is consistent with the asset-liability management strategies, ensure investment limits are complied with, decide on whether any investments are inappropriate and ensure that adequate resources are dedicated to the investment functions.

The following sections provide details regarding the Company's exposure to the above-mentioned financial risks and the objectives, policies and processes for the management of these risks.

As the impact of the above-mentioned financial risks on the unit-linked fund (unitised portion) is borne by the policyholders and that the impact on the assets of the participating fund will be offset by a corresponding change in the policy liabilities, the net impact to the Company is assessed to be insignificant. Therefore, the analysis in the following sections will not include these funds.

Sensitivities

Sensitivity of investment valuation to interest rate risk	**+10%**	**-10%**
	Impact on profit or loss	**Impact on profit or loss**
	$'000	$'000
2019	(7,724)	7,724
2018	(9.258)	9,258

Sensitivity of investment valuation to foreign currency risk	**+10%**	**-10%**
	Impact on profit or loss	**Impact on profit or loss**
	$'000	$'000
2019	-	-
2018	-	-

*as almost 100% of our foreign currency denominated investments are hedged, we do not have material exposure to foreign currency risk for our investments.

Sensitivity of investment valuation to market risk	**+10%**	**-10%**
	Impact on profit or loss	**Impact on profit or loss**
	$'000	$'000
2019	13,211	(13,211)
2018	17.487	(17,487)

8. **Quantitative and qualitative information on financial performance in total and at a segmented level, including quantitative source of earnings analysis, claims statistics (including claims development), pricing adequacy, information on returns on investment assets and components of such returns.**

	2019 S$'000	2018 S$'000
Gross premiums	2,363,617	1,844,841
Outward reinsurance premiums	(376,705)	(291,572)
Investment revenue	941,894	(129,574)
Investment expenses	(20,252)	(23,385)
Other income	7,702	10,786
Total Income	**2,916,256**	**1,411,096**
Gross claims settled	(1,709,252)	(902,020)
Reinsurance recoveries	124,765	71,396
Management expenses	(194,053)	(169,594)
Distribution expenses	(262,207)	(55,955)
(Increase)/ decrease in net policy liabilities	(731,593)	(327,782)
Provision for doubtful debts	(113)	(66)
Taxation expenses	(27,648)	(11,200)
Total Outgoing	**(2,800,101)**	**(1,395,221)**
Net Income	**116,155**	**15,875**

The higher net income for 2019 was mainly due to a much improved performance of the investment due to fair value gains on our investments with a better market sentiments at year end. This complement our continuous growth in our premiums across the Company for both new and renewal businesses.

Returns on investment assets and component of such returns

	2019 $'000	2018 $'000
Dividend income	54,753	59,106
Interest income from:		
- Bonds and loan stocks	79,061	86,269
- Government and public authority securities	41,980	36,447
- Fixed deposits, discounted bills and loans	4,063	4,838
- Loan to subsidiary	120	120
Exchange gain/(loss) - net	2,513	904
Other income	7,862	10,793
Gross investment and other income	190,352	198,477
Less: Investment expenses and other charges	(21,819)	(23,584)
Net investment and other income	168,533	174,893

Summary of the development of past years' GI net claims liabilities as at FY2019 ($ '000)

Accident Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
End of Accident Year	3,815	17,092	20,792	20,839	19,393	17,586	15,734	17,278	18,456	19,657
1 Year Later	3,391	15,530	18,659	19,031	18,782	18,126	15,444	15,919	17,305	
2 Years Later	3,506	14,832	18,578	19,249	18,783	17,898	15,248	15,894		
3 Years Later	3,599	14,873	18,589	19,302	18,985	17,942	14,957			
4 Years Later	3,670	14,719	18,429	19,349	19,003	18,141				
5 Years Later	3,635	14,419	18,434	19,626	18,949					
6 Years Later	3,422	14,638	18,487	19,727						
7 Years Later	3,419	14,678	18,521							
8 Years Later	3,423	14,807								
9 Years Later	3,434									

Accident Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Estimate of net claims incurred	3,434	14,807	18,521	19,727	18,949	18,141	14,957	15,894	17,305	19,657	161,391
Cumulative net claims paid	3,408	14,645	18,359	19,315	18,506	17,345	14,439	14,371	14,562	10,605	145,555
Total net claims outstanding	26	162	162	412	443	796	518	1,523	2,743	9,052	15,836
Provision for adverse development											2,333
Total net claims liabilities											18,169