MILLIMAN CLIENT REPORT

DIPAM – Ministry of Finance, Government of India

Report on Indian Embedded Value of the Life Insurance Corporation of India as at 31 March 2021

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Section 1 Introduction

1.1. Background

1.1.1. On 28 March 2015 the Institute of Actuaries of India ("IAI") issued Actuarial Practice Standard 10, Version 1.02 ("APS10"), which sets out various requirements governing the determination and disclosure of the Indian Embedded Value ("IEV"), to be disclosed by life insurance companies in connection with an initial public offering ("IPO").

1.1.2. Pursuant to the letter of appointment (Reference: File No.4/3/2020-DIPAM-II-A-Part(2)) dated 19 March 2021 and the engagement letter dated 26 March 2021 ("EL"), Milliman Advisors LLP ("Milliman", "we", "us", "our") has been engaged by the Department of Investment and Public Asset Management of the Ministry of Finance, Government of India ("DIPAM", "you", "your") to prepare this report ("Report") for disclosure in connection with the planned IPO of the Life Insurance Corporation of India ("LIC", "the Corporation"). Consequently, the methodology, assumptions, results and disclosures set out in this Report are developed to comply with the requirements of APS10.

1.1.3. This Report sets out the components of economic value of the Corporation, comprising the IEV as at 31 March 2020 and 31 March 2021; the value of one year of new business ("VNB") for new business sold during the year ending 31 March 2021; an analysis of the movement of IEV from 31 March 2020 to 31 March 2021; and various sensitivity results of the IEV as at 31 March 2021 and sensitivity results of the VNB for new business sold during the year ending 31 March 2021 (together referred to as the "Results").

1.1.4. The *Insurance Regulatory and Development Authority of India (Issuance of Capital by Indian Insurance Companies transacting Life Insurance Business) Regulations, 2015*, ("Issuance of Capital Regulations") dated 17 December 2015 require an embedded value report to be prepared by an Independent Actuary (the "Reporting Actuary") to support a planned IPO of a life insurance company. APS10 paragraph 2.3 additionally requires a peer review by another actuary (the 'Reviewing Actuary') in line with the requirements of previous Insurance Regulatory and Development Authority of India ("IRDAI") regulations (that were superseded by the Issuance of Capital Regulations). Given that the Issuance of Capital Regulations do not require a Reviewing Actuary, compliance with APS10 has been assessed while disregarding the requirement outlined in paragraph 2.3 of the same.

1.1.5. The opinions expressed in this Report are those of the signatory to this Report, Heerak Basu ("I", "me", "my") who is acting as the Reporting Actuary in the context of APS10. I am a Fellow of the IAI (membership number 11) and hold a Certificate of Practice from the IAI. I have worked alongside Mr. Philip Jackson and Mr. Richard Holloway, who are both Fellows of the IAI and Mr. Nick Dumbreck, a Fellow of the Institute and Faculty of Actuaries in the United Kingdom, who has provided internal peer review support to me.

1.1.6. The figures quoted in this Report make no allowance for any developments after 31 March 2021, except as explicitly mentioned in this Report. Specifically, no value is placed on any new business written or expected to be written after the respective valuation dates at which the IEV results are calculated.

1.1.7. For the avoidance of doubt, in accordance with APS10, none of the results in this Report are intended to represent forward-looking statements for the purposes of Securities and Exchange Board of India ("SEBI") listing rules.

1.1.8. The various amounts specified are expressed in Indian Rupees ("INR").

1.2. Scope and distribution

1.2.1. The final version of this Report may be publicly disclosed in its entirety, provided it is done in connection with the IPO of LIC.

1.2.2. This Report should be read in its entirety, including the reliances and limitations set out in Section 6, as individual sections, if considered in isolation, may be misleading.

1.3. Structure of the Report

1.3.1. The sections of this Report are set out as follows:

- **Section 2: Indian Embedded Value Results** sets out the IEV Results.
- **Section 3: Formal opinion and statements** provides the formal opinion in respect of the Results and the various statements as required by APS10.
- **Section 4: Methodology** describes the methodology adopted in deriving the Results.
- **Section 5: Assumptions** describes the assumptions made in deriving the Results.
- **Section 6: Reliances and limitations** sets out the reliances and limitations applicable to our work and to this Report.
- **Appendix A: Persistency experience and discontinuance rates** provides historical persistency experience of the Corporation and the discontinuance rates assumed in deriving the Results.

1.4. Glossary

1.4.1. The main abbreviations and terms used in this Report are summarised below:

- **ANW**: Adjusted net worth
- **APE**: Annualised premium equivalent
- **APS10:** Actuarial Practice Standard 10, version 1.02
- **CRNHR**: Cost of residual non-hedgeable risks
- **Crores**: A unit of measurement adopted in India, wherein 1 Crore = 10 million
- **DRHP**: Draft red herring prospectus
- **FC**: Frictional cost of capital
- **FFA**: Funds for future appropriation
- **FS**: Free surplus
- **FY**: Financial year e.g. *FY20-21* is the financial year ending 31 March 2021
- **GPV**: Gross premium valuation
- **GS:** M/s. Gokhale and Sathe, Chartered Accountants
- **GST:** Goods and services tax
- **IAI:** Institute of Actuaries of India
- **IEV:** Indian Embedded Value
- **INR**: Indian Rupees
- **IPO**: Initial public offering
- **IRDAI:** Insurance Regulatory and Development Authority of India
- **LIC**: Life Insurance Corporation of India
- **MRC**: Minimum regulatory capital
- **PVFP:** Present value of future profits
- **PVNBP**: Present value of new business premiums
- **RC**: Required capital
- **RHP**: Red herring prospectus

- **SEBI**: Securities and Exchange Board of India
- **TVFOG**: Time value of financial options and guarantees
- **ULIP:** Unit-linked insurance plan
- **VIF**: Value of in-force business
- **VIP**: Variable insurance products
- **VNB**: Value of new business

Section 2 Indian Embedded Value Results

2.1. Background

2.1.1. LIC was formed by amalgamating the business of several life insurance companies through an Act of Parliament in 1956. LIC is currently fully owned by the Government of India.

2.1.2. The Corporation writes its individual business predominantly through an individual tied agency distribution channel, and group business, directly.

2.2. Overview

2.2.1. The Results are in respect of the business of the Corporation itself and of all the life insurance associates, subsidiaries, overseas branches and joint ventures of the Corporation.

2.2.2. The IEV of LIC consists of the Adjusted Net Worth ("ANW") and the value of in-force business ("VIF"). The VIF is a measure of the value of the shareholders' interest in the covered business of the Corporation (where covered business is as defined in Section 2.2.6 below). The VIF represents the present value of the shareholders' interest in the earnings distributable from the assets allocated to the covered business, after making sufficient allowance for the aggregate risks in the covered business. The allowance for risk is calibrated to match the market price for risk, where reliably observable.

2.2.3. The VNB represents the additional value to shareholders created through the activity of writing new covered business during the year ending 31 March 2021.

2.2.4. The IEV only reflects in-force business as at the applicable valuation date. In particular, the value of future new business (i.e. new business that may be written after the valuation date) is excluded from the IEV.

2.2.5. LIC has a diverse portfolio of entities, consisting of several associate companies, subsidiaries, overseas branches and joint ventures. A summary of LIC's entities is set out in Table 2.1.

2.2.6. The covered business is all life insurance and pensions business, accident and health insurance business across both individual and group segments:

a. that has been written by LIC in India; and

b. that has been written by LIC entities outside of India, either through its branches, subsidiaries or joint ventures.

2.2.7. Only the business of those entities where the nature of business is listed as 'Insurance' in Table 2.1 meets the definition of covered business.

Table 2.1: Associate companies, subsidiaries, overseas branches and joint ventures

Name of the entity / country	Nature of entity	Nature of business	As at 31 March 2020 % stake	As at 31 March 2020 Carrying amount	As at 31 March 2021 % stake	As at 31 March 2021 Carrying amount
LIC Pension Fund Limited	Subsidiary	Pension Fund Management	100.0%	30	100.0%	30
IDBI Bank Limited	Until 19 December 2020 – Subsidiary Thereafter - Associate	Banking	51.0%	29,223	49.2%	29,135
LIC Cards Services Limited	Subsidiary	Credit Cards	100.0%	1	100.0%	1
LIC Housing Finance Limited	Associate	Housing Finance	40.3%	986	40.3%	986
LIC HFL Asset Management Limited	Associate	Mutual Fund	5.4%	0	5.4%	0
LIC Mutual Fund Asset Management Limited	Associate	Mutual Fund	45.0%	5	45.0%	5
LIC Mutual Fund Trusteeship Limited	Associate	Mutual Fund	49.0%	0	49.0%	0
IDBI Trusteeship	Associate	Mutual Fund	29.8%	0	29.8%	0
Mauritius	Branch	Insurance	NA	NA	NA	NA
Fiji	Branch	Insurance	NA	NA	NA	NA
United Kingdom	Branch	Insurance	NA	NA	NA	NA
Life Insurance Corporation (International) B.S.C.(c) Bahrain	Subsidiary	Insurance	98.9%	115	98.9%	115
Life Insurance Corporation (Nepal) Ltd	Subsidiary	Insurance	55.0%	12	55.0%	12
Life Insurance Corporation (Lanka) Ltd	Subsidiary	Insurance	80.0%	23	80.0%	23
Life Insurance Corporation (Singapore) Pte Ltd.	Subsidiary	Insurance	100.0%	217	100.0%	217
Life Insurance Corporation (LIC) of Bangladesh Limited	Subsidiary	Insurance	83.3%	44	83.3%	44
Kenindia Assurance Company Ltd	Joint venture	Insurance	10.2%	1	10.2%	1
Saudi Indian Company for Co-operative Insurance	Joint venture	Insurance	5.0%	-[(1)]	5.0%	-[(1)]

Notes: Carrying amounts in INR crores as shown in the audited balance sheet; NA – not applicable.
(1) The amount shown is net of a 100% provision of INR 5.9 crores.

2.2.8. The value attributable to shareholders from business written outside of India is not expected to be material to the Results. Hence, any value arising from this business is reflected in the Results only to the extent of the amount carried in the audited balance sheet of the Corporation.

2.2.9. From LIC's business within India (i.e. from Section 2.2.6 (a) above), LIC has implemented actuarial cash-flow models for 94 products (out of a total of 244 in-force products as at 31 March 2021), and the Results include the value attributable to shareholders from business in respect of these 94 products only. The modelled business represents more than 90% of both the in-force reserves as at 31 March 2021 and the new business annualised premium equivalent ("APE") written during the year ending 31 March 2021. A summary of the total in-force and new business of LIC within India, together with a summary of the business that is included in the calculation of the Results, is set out in Table 2.2.

Table 2.2: Summary of in-force and new business of LIC within India

Line of business	In-force as at 31 March 2020	In-force as at 31 March 2021 and new business APE during the year-ending on that date			Included in the calculation of IEV as at 31 March 2021 and VNB			Modelled proportion	
	Reserves	NoPr	Reserves	APE	NoPr	Reserves	APE	Reserves	APE
Individual participating	2,138,749	138	2,310,032	29,555	71	2,135,524	29,134	92%	99%
Individual non-participating	107,498	55	123,945	2,434	13	107,645	2,221	87%	91%
Individual unit-linked	24,015	21	33,239	281	4	2,226	169	7%	60%
Group annuities	98,478	1	113,552	1,445	1	113,552	1,120	100%	77%
Group funds management and group term	582,728	29	659,737	11,872	5	585,634	9,528	89%	80%
Total	**2,951,469**	**244**	**3,240,507**	**45,588**	**94**	**2,944,581**	**42,170**	**91%**	**93%**

Notes: Monetary amounts in INR crores; Figures may not add up due to rounding. Reserves shown are gross of reinsurance and exclude the global reserves that are not segregated at a policy level; NoPr - Number of products as at the applicable valuation date; Reserves - statutory reserves as at the applicable valuation date; APE - New business APE during the year ending 31 March 2021.

2.2.10. The impact of not including the contribution to the Results from covered business within India that has not been modelled by LIC is within the specified materiality limit set by the Board of Directors of the Corporation as described in Section 3.2.1.

2.2.11. For the non-covered business within India, the value attributable to shareholders is reflected in the Results only to the extent of the value carried in the audited balance sheet of the Corporation.

2.3. Fund structure

2.3.1. Until 30 September 2021, for the purpose of the distribution of surplus between policyholders and shareholders, the Corporation was subject to Section 28 of the *LIC Act, 1956*, as amended by the *LIC (Amendment) Act, 2011* ('Amendment') on 13 January 2012. This Amendment required the Corporation to distribute at least 90% of surplus arising in the policyholders' fund (irrespective of the type of business that generated the surplus) in the form of bonuses to participating policies, before distributing dividends to the shareholders (prior to the Amendment, the Corporation was required to distribute at least 95% of surplus arising to its policyholders, before distributing dividends to its shareholders). Consequently, between 2012 and 2021, shareholders were entitled to at most 10% of the surplus arising from all business. However, despite the Amendment, LIC continued to distribute only 5% of the surplus arising from all business to shareholders, in line with its historical practice prior to the Amendment, with approval from the Government of India.

2.3.2. Furthermore, prior to 30 September 2021, and in line with its practice of distributing to shareholders a uniform percentage of the surplus arising in respect of all policies (irrespective of the type of business), LIC maintained a single policyholders' fund, within which it tracked the revenues, outgoes, assets and liabilities. The Corporation has, however maintained further notional separation of funds within this policyholders' fund (e.g. participating funds, non-participating funds, unit-linked funds etc.).

2.3.3. The introduction of the *Finance Act, 2021* ("Finance Act") on 28 March 2021 amended these provisions, with a requirement for LIC to establish separate funds for participating business and non-participating business, as well as a shareholders' fund. The Finance Act also amended the relevant provisions of the *LIC Act, 1956* covering the distribution of surplus arising between policyholders and shareholders. As per the Finance Act, the maximum share of distributed surplus that is payable to shareholders is 10% for participating business and 100% for non-participating (including unit-linked) business.

2.3.4. In recognition of the changes permitted by the Finance Act, but reflecting its desire to smooth the impact of the change, on 17 September 2021 LIC's Board approved a surplus distribution policy (i.e. the shareholders' share of distributed surplus from various lines of business) for the Corporation as detailed in Table 2.3. These revised surplus sharing proportions are reflected in the financial statements as at 30 September 2021 and have been used in calculating the Results. For participating business, distributed surplus is determined as the cost of reversionary bonuses declared during the relevant financial year plus the associated shareholder proportion, as discussed in Section 4.4.14.

Table 2.3: Proportion of future distributed surplus to be allocated to shareholders

Product type	FY20-21	FY21-22	FY22-23	FY23-24	FY24-25 onwards
Participating business	5%	5%	7.5%	7.5%	10%
Other business	5%	100%	100%	100%	100%

Notes: FY – Financial year e.g. *FY20-21* is the financial year ending 31 March 2021. The proportions shown are by year of surplus emergence for non-participating business and by year of distribution (as explained in Section 2.3.4) for participating business.

2.4. Value of new business

2.4.1. The implication of Table 2.3 is that the VNB derived for new business sold during the year ending 31 March 2021 will not be representative of the profitability of future new business, as the VNB would reflect only 5% of the initial profits/ losses, but a higher percentage (100% for non-participating business and the graded percentage reaching 10% for participating business) of the profits/losses in future years. In view of this, alternative sets of VNB and VNB margins have also been derived, based on alternative patterns for the shareholders' share of surplus, as set out in Table 2.4.

Table 2.4: Assumed proportion of future surplus from new business sold during the year ending 31 March 2021 to be distributed to shareholders

Scenario	Product type	FY20-21	FY21-22	FY22-23	FY23-24	FY24-25 onwards
Base	Participating business	5%	5%	7.5%	7.5%	10%
	Other business	5%	100%	100%	100%	100%
Alternative 1	Participating business	10%	10%	10%	10%	10%
	Other business	100%	100%	100%	100%	100%
Alternative 2	Participating business	5%	5%	5%	5%	5%
	Other business	5%	5%	5%	5%	5%

Notes: FY‐ Financial year e.g. *FY20-21* is the financial year ending 31 March 2021. The proportions shown are by year of surplus emergence for non-participating business and by year of distribution (as explained in Section 2.3.4) for participating business.

2.5. Results

Indian Embedded Value

2.5.1. The IEV of LIC as at 31 March 2020 and 31 March 2021 is set out in Table 2.5.

Table 2.5: Indian embedded value

	As at 31 March 2020	As at 31 March 2021
Free surplus (FS) (A)	746	6,361
Required capital (RC) (B)	-	-
Adjusted net worth (ANW) (C = A + B)	**746**	**6,361**
Present value of future profits (PVFP) (D)	59,682	104,772
Time value of financial options and guarantees (TVFOG) (E)	(1,533)	(1,596)
Frictional cost of required capital (FC) (F)	-	(149)
Cost of residual non-hedgeable risks (CRNHR) (G)	(12,398)	(13,782)
Value of in-force business (VIF) (H = D + E + F + G)	**45,751**	**89,245**
Indian embedded value (IEV) (I = C + H)	**46,497**	**95,605**

Notes: Amounts in INR crores; Figures may not add up due to rounding.

2.5.2. A reconciliation of the ANW to the audited financial statements is provided in Table 4.2.

Value of new business and other performance measures

2.5.3. The VNB, VNB margin and PVNBP margin, in respect of new business sold during the year ending 31 March 2021, are set out in Table 2.6.

Table 2.6: Value of new business

	Base	Alternative 1	Alternative 2
VNB before TVFOG, FC and CRNHR (A)	**6,440**	**7,472**	**1,938**
Individual participating	3,242	3,582	1,744
Individual non-participating and unit-linked	1,973	2,141	107
Group(1)	1,225	1,749	87
TVFOG in respect of new business (B)	(336)	(336)	(336)
FC in respect of new business (C)(2)	(149)	(149)	(149)
CRNHR in respect of new business (D)	(1,788)	(1,788)	(269)
Value of new business (VNB) (= A + B + C + D)	**4,167**	**5,199**	**1,184**
New business annualised premium equivalent ("APE"(3))	**42,170**	**42,170**	**42,170**
Individual participating	29,134	29,134	29,134
Individual non-participating and unit-linked	2,389	2,389	2,389
Group(1)	10,647	10,647	10,647
VNB Margin (= VNB / APE)	**9.9%**	**12.3%**	**2.8%**
Present value of new business premium ("PVNBP"(4))	**289,526**	**289,526**	**289,526**
Individual participating	163,431	163,431	163,431
Individual non-participating and unit-linked	21,914	21,914	21,914
Group(1)	104,181	104,181	104,181
PVNBP Margin (= VNB / PVNBP)	**1.4%**	**1.8%**	**0.4%**

Notes:
Amounts in INR crores; Figures may not add up due to rounding.
(1) 'Group' includes group annuities, group funds management and group term from Table 2.2.
(2) FC has not been recalculated from the base scenario
(3) Annualised Premium Equivalent ("APE") is calculated as 100% of annualised premium for regular and limited-premium plans and 10% of single premium for business sold during the year ending 31 March 2021.
(4) The Present Value of New Business Premium ("PVNBP") at the point of sale for the new business sold during the year ending 31 March 2021 is derived using the methodology set out in Section 4.4.51.

Analysis of movement of IEV

2.5.4. The analysis of movement of the IEV from 31 March 2020 to 31 March 2021 is set out in Table 2.7.

Table 2.7: Analysis of movement

	FS	RC	VIF	IEV
Opening IEV as at 31 March 2020 (A)	**746**	**-**	**45,751**	**46,497**
VNB added during the year (B)	231	-	3,936	4,167
Expected return on existing business				
At reference rate (C)	23	-	3,778	3,801
At expected excess 'real-world' return over reference rate (D)	13	-	5,660	5,673
Expected transfers from VIF and RC to FS (E)	1,810	-	(1,810)	-
Variances in operating experience				
Persistency (F)	570	-	(283)	288
Mortality (G)	(0)	-	33	32
Expenses (H)	(0)	-	87	87
Others (I)	293	-	1,458	1,751
Change in operating assumptions (J)	-	-	1,353	1,353
IEV operating earnings (K = B + C + D + E + F + G + H + I + J)	**2,940**	**-**	**14,211**	**17,151**
Economic variances (L)	(28)	-	25,214	25,186
Change in economic assumptions (M)	-	-	4,069	4,069
IEV total earnings (N = K + L + M)	**2,912**	**-**	**43,494**	**46,406**
Capital contributions[(1)] / (dividends paid out) (O)	2,702	-	-	2,702
Closing IEV as at 31 March 2021 (P = A + N + O)	**6,361**	**-**	**89,245**	**95,605**

Notes: Amounts in INR crores; Figures may not add up due to rounding.
(1) Capital contributions reflect the release of the provision for the FY19-20 dividend between 31 March 2020 and 31 March 2021.

Sensitivity analysis

2.5.5. The sensitivity analysis in respect of the IEV as at 31 March 2021 is set out in Table 2.8.

Table 2.8: IEV Sensitivity analysis

Sensitivity		ANW	VIF	IEV	% Change in IEV as compared to the Base
Base		**6,361**	**89,245**	**95,605**	
1	**Reference rates and assets**				
1a	An increase of 100 bps in the reference rates	6,351	93,444	99,795	4.4%
1b	A decrease of 100 bps in the reference rates	6,372	82,248	88,619	(7.3%)
1c	An increase of 200 bps in the reference rates	6,342	95,630	101,972	6.7%
1d	A decrease of 200 bps in the reference rates	6,384	69,272	75,656	(20.9%)
1e	Equity values decrease by 10%	6,335	83,841	90,175	(5.7%)
1f	Equity values decrease by 20%	6,309	78,436	84,745	(11.4%)
1g	Implied swaption volatilities increase by 25%	6,361	88,181	94,542	(1.1%)
1h	Implied equity volatilities increase by 25%	6,361	85,082	91,443	(4.4%)
2	**Expenses**				
2a	10% increase in maintenance expenses	6,361	86,838	93,198	(2.5%)
2b	10% decrease in maintenance expenses	6,361	91,649	98,010	2.5%
2c	10% increase in acquisition expenses(1)	6,361	89,238	95,599	(0.0%)
2d	10% decrease in acquisition expenses(1)	6,361	89,252	95,612	0.0%
3	**Policy / premium discontinuance rates and partial withdrawal rates (proportionate)**				
3a	10% increase (multiplicative) in the policy / premium discontinuance rates and partial withdrawal rates	6,361	88,602	94,962	(0.7%)
3b	10% decrease (multiplicative) in the policy / premium discontinuance rates and partial withdrawal rates	6,361	89,958	96,319	0.7%
3c	50% increase (multiplicative) in the policy / premium discontinuance rates and partial withdrawal rates	6,361	86,567	92,928	(2.8%)
3d	50% decrease (multiplicative) in the policy / premium discontinuance rates and partial withdrawal rates	6,361	93,691	100,052	4.7%
4	**Policy / premium discontinuance rates (shape change)**				
4a	Mass lapsation(2) of 25% of policies at the end of the surrender penalty period for ULIPs	6,361	89,236	95,596	(0.0%)
4b	Mass lapsation(2) of 50% of policies at the end of the surrender penalty period for ULIPs	6,361	89,223	95,584	(0.0%)
4c	50% increase (multiplicative) in the policy / premium discontinuance rates and partial withdrawal rates for the period after the end of any surrender penalty period(3)	6,361	89,230	95,591	(0.0%)
4d	50% decrease (multiplicative) in the policy / premium discontinuance rates and partial withdrawal rates for the period after the end of any surrender penalty period(3)	6,361	89,300	95,661	0.1%
4e	An absolute increase of 5% in the non-zero policy lapse(4) rates	6,361	89,042	95,402	(0.2%)
4f	An absolute decrease of 5% in the non-zero policy lapse(4) rates (subject to the resulting rates being floored to zero)	6,361	89,449	95,809	0.2%
5	**Insurance risks**				
5a	An increase of 5% (multiplicative) in mortality / morbidity rates	6,361	89,595	95,956	0.4%(5)

Sensitivity		ANW	VIF	IEV	% Change in IEV as compared to the Base
5b	A decrease of 5% (multiplicative) in mortality / morbidity rates	6,361	88,864	95,225	(0.4%)(5)
6	**Required capital**				
	Required capital set equal to the MRC	6,361	89,394	95,754	0.2%
7	**Taxation**				
	Assumed tax rate increased to 34.94%	6,361	63,174	69,535	(27.3%)

Notes: Amounts in INR crores; Figures may not add up due to rounding. Frictional costs have not been adjusted in the sensitivities, except the required capital sensitivity.

(1) 'Acquisition expenses' include all expenses incurred during the first year of an insurance policy for individual business.

(2) Mass lapse rate assumptions (25% or 50%) are reflected by replacing the relevant assumptions made in the base scenario and not as an addition to the assumptions made in the base scenario.

(3) Applicable for ULIPs.

(4) A policy lapse is defined as premium discontinuance, after which a policy will be subject to forcible foreclosure at the end of a revival period, as specified in the policy terms and conditions.

(5) Mortality/morbidity sensitivities include the impact on both assurance and annuity products.

2.5.6. The sensitivity analysis in respect of VNB for business sold during the year ending 31 March 2021 is set out in Table 2.9.

Table 2.9: VNB sensitivity analysis

Sensitivity		VNB	% Change in VNB	VNB margin	Change in VNB margin
Base		**4,167**		**9.9%**	
1	**Reference rates and assets**				
1a	An increase of 100 bps in the reference rates	5,714	37.1%	13.6%	3.7%
1b	A decrease of 100 bps in the reference rates	1,912	(54.1%)	4.5%	(5.3%)
1c	An increase of 200 bps in the reference rates	6,696	60.7%	15.9%	6.0%
1d	A decrease of 200 bps in the reference rates	(2,428)	(158.3%)	(5.8%)	(15.6%)
1e	Equity values decrease by 10%	4,057	(2.6%)	9.6%	(0.3%)
1f	Equity values decrease by 20%	3,947	(5.3%)	9.4%	(0.5%)
1g	Implied swaption volatilities increase by 25%	3,794	(9.0%)	9.0%	(0.9%)
1h	Implied equity volatilities increase by 25%	3,502	(15.9%)	8.3%	(1.6%)
2	**Expenses**				
2a	10% increase in maintenance expenses	3,942	(5.4%)	9.3%	(0.5%)
2b	10% decrease in maintenance expenses	4,389	5.3%	10.4%	0.5%
2c	10% increase in acquisition expenses	4,004	(3.9%)	9.5%	(0.4%)
2d	10% decrease in acquisition expenses	4,330	3.9%	10.3%	0.4%
3	**Policy / premium discontinuance rates and partial withdrawal rates (proportionate)**				
3a	10% increase (multiplicative) in the policy / premium discontinuance rates and partial withdrawal rates	3,983	(4.4%)	9.4%	(0.4%)
3b	10% decrease (multiplicative) in the policy / premium discontinuance rates and partial withdrawal rates	4,356	4.5%	10.3%	0.4%
3c	50% increase (multiplicative) in the policy / premium discontinuance rates and partial withdrawal rates	3,300	(20.8%)	7.8%	(2.1%)
3d	50% decrease (multiplicative) in the policy / premium discontinuance rates and partial withdrawal rates	5,132	23.2%	12.2%	2.3%

Sensitivity		VNB	% Change in VNB	VNB margin	Change in VNB margin
4	**Policy / premium discontinuance rates (shape change)**				
4a	Mass lapsation[1] of 25% of policies at the end of the surrender penalty period for ULIPs	4,165	(0.0%)	9.9%	(0.0%)
4b	Mass lapsation[1] of 50% of policies at the end of the surrender penalty period for ULIPs	4,163	(0.1%)	9.9%	(0.0%)
4c	50% increase (multiplicative) in the policy / premium discontinuance rates and partial withdrawal rates for the period after the end of any surrender penalty period[2]	4,164	(0.1%)	9.9%	(0.0%)
4d	50% decrease (multiplicative) in the policy / premium discontinuance rates and partial withdrawal rates for the period after the end of any surrender penalty period[2]	4,172	0.1%	9.9%	0.0%
4e	An absolute increase of 5% in the non-zero policy lapse[3] rates	3,988	(4.3%)	9.5%	(0.4%)
4f	An absolute decrease of 5% in the non-zero policy lapse[3] rates (subject to the resulting rates being floored to zero)	4,346	4.3%	10.3%	0.4%
5	**Insurance risks**				
5a	An increase of 5% (multiplicative) in mortality / morbidity rates	4,159	(0.2%)	9.9%	(0.0%)
5b	A decrease of 5% (multiplicative) in mortality / morbidity rates	4,173	0.1%	9.9%	0.0%
6	**Required capital**				
	Required capital set equal to the MRC	4,316	3.6%	10.2%	0.4%
7	**Taxation**				
	Assumed tax rate increased to 34.94%	2,339	(43.9%)	5.5%	(4.3%)

Notes:
Amounts in INR crores; Figures may not add up due to rounding. Frictional costs have not been adjusted in the sensitivities, except the required capital sensitivity.
(1) Mass lapse rate assumptions (25% or 50%) are reflected by replacing the relevant assumptions made in the base scenario and not as an addition to the assumptions made in the base scenario.
(2) Applicable for ULIPs.
(3) A policy lapse is defined as premium discontinuance, after which a policy will be subject to forcible foreclosure at the end of a revival period, as specified in the policy terms and conditions.

2.5.7. Interest-rate sensitivities include the impact of a change in the value of assets earmarked to the reserves held in respect of modelled business as at 31 March 2021. For individual non-participating and group annuity business, 100% of the (net of deferred tax liability) change in asset values is reflected in the sensitivities provided in Tables 2.8 and 2.9 in order to be consistent with the change in modelled PVFP/VNB. The contribution of these asset movements to the change in IEV/VNB is given in Table 2.10.

Table 2.10: Contribution to sensitivity from assets backing individual non-participating business and group annuities

Reference rates and assets	in EV sensitivities	in VNB sensitivities
An increase of 100 bps in the reference rates	(18,339)	(2,119)
A decrease of 100 bps in the reference rates	21,842	2,558
An increase of 200 bps in the reference rates	(34,069)	(3,925)
A decrease of 200 bps in the reference rates	47,882	5,630

Notes: Amounts in INR crores; Figures may not add up due to rounding.

Section 3 Formal opinion and statements

3.1. Overview

3.1.1. This section sets out the various formal statements required by APS10 as well as my formal opinion in respect of the Results set out in Section 2.

3.2. Statement of materiality

3.2.1. As required by paragraph 2.6 of APS10, at its meeting held on 20 January 2022, the Board of Directors of the Corporation specified that for the derivation of the embedded value results to be prepared in accordance with the requirements of APS10, as not all in-force products have been implemented by the Corporation in its 'Prophet' actuarial cash-flow projection model, the criterion for aggregate materiality should be set at 8% when expressed as a percentage of IEV as at 31 March 2021.

3.2.2. I note that the Results are based on the requirements of APS10 in all material respects.

3.3. Statements regarding signatory

3.3.1. I am a Fellow of the IAI and have the necessary experience to sign this Report. I am in possession of a Certificate of Practice from the IAI.

3.3.2. I have also had the benefit of technical expertise from staff of other group firms within Milliman Inc., including from Mr. Nick Dumbreck, a Fellow of the Institute and Faculty of Actuaries, who provided internal peer review support, and Mr. Philip Jackson and Mr. Richard Holloway, who are both Fellows of the IAI.

3.4. Statements regarding conflict of interest and independence

3.4.1. I am a partner in Milliman Advisors LLP. I am signing this Report as a Fellow of the IAI.

3.4.2. In accordance with paragraph 3.4 of APS10, I have concluded that I do not have any conflict of interest in signing this Report.

3.5. Statement regarding valuation on a going concern basis

3.5.1. In developing the Results, I have assumed the continuation of the current management of the Corporation and the Results are consistent with the operating record of that management.

3.6. Other advice

3.6.1. In the course of this assignment and producing this Report, Milliman has not rendered any actuarial or non-actuarial advice to the Corporation. However, for the purposes of the IPO, I have provided a supplementary report on the IEV results of the Corporation as at 30 September 2021, which is included as part of the DRHP.

3.7. Statement of compliance with APS10

3.7.1. I have fully complied with APS10 in producing the Results and this Report.

3.8. Policy data

3.8.1. LIC commissioned M/s. Gokhale and Sathe, Chartered Accountants ("GS") to review the policy data used in the calculation of the Results for completeness and accuracy.

3.8.2. We have provided input to the detailed scope of GS's work, and have seen the report dated 28 September 2021 issued by GS to LIC, which sets out GS's findings. Based on our review of GS's report we observe that, due to limitations in LIC's internal systems and the large volume of legacy products, GS has been unable to perform the full range of checks on the policy data specified in its detailed scope. We also observe that there are certain issues pertaining to the completeness and accuracy of the policy data.

3.8.3. We have considered the outcome of the GS review when making allowance for operational risk within the Results, as discussed in Section 4.4.41.

3.9. Formal opinion

3.9.1. Based on the work carried out and subject to the detailed reliances and limitations set out in this Report, I am of the opinion that:

- the methodology used to develop the Results is reasonable;
- the assumptions used to develop the Results are reasonable;
- the Results have been prepared materially in accordance with the methodology and assumptions described in this Report; and
- the Results have been prepared in accordance with the requirements of APS10 and within the materiality limit set by the Board of Directors of the Corporation.

Section 4 Methodology

4.1. Overview

4.1.1. This section sets out the significant aspects of the methodology used in the preparation of the Results.

4.1.2. LIC writes the following major lines of life insurance business, covering both individual and group products:

- **Participating insurance plans**. Policyholders pay premiums in exchange for insurance and savings benefits. Subject to surplus being available in the fund, policyholder benefits may be enhanced by the annual declaration of a reversionary bonus. There may also be a final additional bonus/loyalty addition payment upon termination of the policy or in the event of a claim/surrender.
- **Traditional non-participating insurance plans**. Policyholders pay premiums in exchange for insurance and savings benefits, but the death/maturity/survival benefits paid and premiums due are fixed at the inception of the contract. This line of business includes savings products, term assurances, health assurances and annuities.
- **Unit-linked Insurance Plans**. Premiums net of charges are credited to segregated funds ("Unit Funds") at the prevailing unit price, with the balance attributed to the non-unit policyholders' funds. Investment income on assets held within the Unit Funds is credited to the Unit Funds and is reflected by a change in the unit price. Benefits paid under these plans are a combination of amounts from the accumulated Unit Funds and any additional benefits from the non-unit policyholders' funds.
- **Group funds management business.** Policyholders pay premiums and a policyholder account value is maintained. The policyholder account represents the accumulation of premiums, along with regular interest credits, less any withdrawals.

4.2. Reliance on policy data and other information

4.2.1. We have relied on the policy data and other information provided by the Corporation as outlined in Section 6.1.5. As noted in Section 3.8, we have also reviewed the various checks that have been applied on the policy data used for the calculation of the Results.

4.3. Model checking and reliances

4.3.1. The Results were prepared using actuarial models developed by the Corporation with the help of an external consultant. LIC has reconciled the statutory reserves as calculated by this actuarial model with the reserves as calculated by the pre-existing actuarial models as at 31 March 2020 and 31 March 2021.

4.3.2. The scope of our engagement requires Milliman to check the actuarial models used to develop the Results for plans that represent a significant and material proportion of the total value of the in-force and new business portfolios.

4.3.3. Milliman has performed the following independent checks on the actuarial models used in the preparation of the Results:

- **In respect of IEV and VNB in the base scenario and sensitivities**: We have checked the PVFP (for in-force and new business) at a sample model-point level for all products included in the derivation of the Results; and
- **In respect of the analysis of movement of IEV**: We have checked the contributions to each of the line items in the analysis of movement for sample products and also reviewed the extraction template prepared by the Corporation to verify that the sources and formulae used in the extraction of the results are appropriate.

4.3.4. We were provided with the MS Excel spreadsheet-based aggregations which summarise the results derived from the actuarial models. We have performed reasonableness checks on these templates and the results.

4.3.5. Based on the results of our independent checking process, we are satisfied that the models used to derive the Results follow the methodology and assumptions set out in Section 4 and Section 5 respectively. No errors or issues identified in our checking process, which have a material impact on the Results, remain unresolved at the time of preparation of this Report.

4.4. IEV and VNB

Definition of IEV

4.4.1. The IEV set out in this Report consists of the following components:

- Adjusted net worth ("ANW"), consisting of:
  - Free surplus ("FS"); and
  - Required capital ("RC").
- Value of in-force business ("VIF").

Free Surplus

4.4.2. The FS is the market value of assets allocated to, but not required to support, the in-force covered business as at the applicable valuation date.

4.4.3. The FS has been determined as the adjusted net worth of the Corporation (being the net shareholders' fund as shown in the audited financial statements, adjusted to revalue assets to market value, net of any associated deferred tax liabilities), less the RC as defined below. The adjustment to market value reflected is in respect of assets in the shareholders' fund as at the applicable valuation date. The shareholders' interest in the market value of the assets of the policyholders' fund is not reflected in the FS, but in the VIF.

4.4.4. The Corporation has no subordinated or contingent debt.

4.4.5. The audited Indian statutory balance sheets of the Corporation as at 31 March 2020 and 31 March 2021 are summarised in Table 4.1.

Table 4.1: Audited statutory balance sheet

		As at 31 March 2020	As at 31 March 2021
Sources of funds	**Shareholders' fund**		
	Share Capital	100	100
	Reserves and Surplus	622	6,225
	Credit/(Debit) Fair Value Change Account	18	36
	Sub-Total	**740**	**6,361**
	Policyholders' fund		
	Credit/(Debit) Fair Value Change Account (Net)	(4,341)	272,871
	Policy liabilities	3,081,998	3,403,751
	Funds for discontinued policies	52	51
	Insurance reserves	12,786	12,934
	Provision for linked liabilities	32,498	32,932
	Funds for future appropriations	0	3
	Sub-Total	**3,122,993**	**3,722,542**
	Total	**3,123,732**	**3,728,902**
Application of funds	**Investments**		
	Shareholders	679	714
	Policyholders	2,887,309	3,487,655
	Assets held to cover unit-linked liabilities	32,510	32,950
	Loans	107,823	107,783
	Fixed assets	3,014	3,453
	Net current assets	92,398	96,348
	Total	**3,123,732**	**3,728,902**

Notes: Amounts in INR crores; Figures may not add up due to rounding.

4.4.6. A reconciliation between the ANW and the Indian statutory balance sheet is set out in Table 4.2.

Table 4.2: Derivation of adjusted net worth

Components	As at 31 March 2020	As at 31 March 2021
From the statutory balance sheet		
Share capital (A)	100	100
Reserves and surplus (B)	622	6,225
Net worth (C = A + B)	**722**	**6,325**
Adjustments		
Mark-to-market adjustment of assets, net of deferred tax liability (D)	24	36
Adjusted net worth (ANW) (E = C + D)	**746**	**6,361**

Notes: Amounts in INR crores; Figures may not add up due to rounding.

4.4.7. The adjustment labelled 'mark-to-market adjustment of assets' in Table 4.2 is in respect of assets in the shareholders' fund as reflected in the audited balance sheet and is net of the associated deferred tax liability.

Required Capital

4.4.8. The RC is determined as the amount of assets attributed to the covered business over and above that required to back liabilities for covered business, the distribution of which to shareholders is restricted. The amount of RC is presented from a shareholders' perspective and is net of funding sources other than shareholder resources.

4.4.9. In the audited financial statements, the Corporation has funds for future appropriation ("FFA") in respect of its unit-linked insurance plan ("ULIP") business. The FFA are essentially historically emerged surplus, the distribution of which to either the policyholders or shareholders has not taken place. The policy liabilities/insurance reserves/current liabilities of the Corporation as shown in the audited balance sheet also include provision for amounts required to support the regulatory solvency requirements. A portion of the policyholders' fund, therefore, provides a funding source for RC.

4.4.10. The RC is set equal to the higher of 'Minimum Regulatory Capital' ("MRC" or "solvency capital") and the Corporation's target internal level of capital ("Internal Capital"), less the FFA in respect of ULIP business and less the provisions for solvency margin requirements within the policy liabilities/insurance reserves/current liabilities.

4.4.11. The MRC is 150% of the factor-based solvency requirements as specified by the existing regulations issued by IRDAI, whereas the Corporation aims to maintain Internal Capital in accordance with the schedule in Table 4.3.

Table 4.3: Internal Capital as a percentage of IRDAI factor-based solvency requirements

	Up to 31 March 2021	From 1 April 2021
Internal Capital	150%	160%

4.4.12. The derivation of the RC as at the applicable valuation dates is given in Table 4.4.

Table 4.4: Derivation of Required Capital

Components	As at 31 March 2020	As at 31 March 2021
Internal Capital requirement (A)	146,236	159,056
ULIP FFA (B)	0	3
Provisions for solvency margin within the policy liabilities / insurance reserves / current liabilities (C)	157,044	183,051
RC [= excess, if any, of A over (B + C)]	**-**	**-**

Notes: Amounts in INR crores; Figures may not add up due to rounding.

Value of In-Force business

4.4.13. The VIF consists of the following components:

- the present value of future profits ("PVFP"); adjusted for
- the time value of financial options and guarantees ("TVFOG");
- the frictional costs of required capital ("FC"); and
- the cost of residual non-hedgeable risks ("CRNHR").

Present Value of Future Profits

4.4.14. The PVFP is the present value of projected distributable profits to shareholders arising from the in-force covered business, determined by projecting the post-taxation shareholder cash flows from the covered business and the assets backing the associated liabilities. For the participating business, the projected distributable profits have been taken as the shareholders' share of the cost of reversionary bonuses only (i.e. not including the shareholders' share of the cost of some interim bonuses, non-guaranteed loyalty additions and final additional bonus), consistent with the past practice of the Corporation.

4.4.15. The distributable profits also include the release to shareholders of the amounts from the ULIP FFA and the provisions for solvency margin within the policy liabilities/insurance reserves/current liabilities, calculated based on the policyholder bonuses projected to be declared from such amounts.

4.4.16. The proportion of future surplus that is assumed to be distributed to the shareholders is based on the Board-approved surplus distribution policy as set out in Section 2.3.4. For products with reviewable rates and charges, the projection of future cash flows assumes that the rates and charges as at the applicable valuation date remain unchanged.

4.4.17. The projection of future distributable profits arising from the covered business is carried out using 'best-estimate' non-economic assumptions and market-consistent economic assumptions. Assumptions are discussed further in Section 5.

4.4.18. Distributable profits are calculated by reference to the projected liabilities. These liabilities are calculated using the reserving bases as defined by the Appointed Actuary of the Corporation at the applicable valuation date. These reserving bases have been set by the Appointed Actuary to comply with the Indian statutory requirements for life insurance companies and relevant professional guidance issued by the IAI.

4.4.19. For participating business, where distributable profits are generated upon declaration of policyholder bonuses, any residual undistributed surpluses are assumed to be shared between policyholders and shareholders in the ratio 90:10.

4.4.20. The VIF includes the shareholders' interest in the market value of assets in the policyholders' fund. A mark-to-market adjustment has therefore been calculated where the market value as provided by the Corporation differs from the value of an asset as reported in the financial statements. This mark-to-market adjustment includes adjustments to the value of fixed income assets, equities and properties (both for investment and self-occupied). In the case of self-occupied properties, a deduction to the value of the properties is also included to allow for the cost of future rents forgone as the liabilities run off.

4.4.21. The Corporation holds 'global reserves' (e.g. reserves for incurred but not reported claims, reserves for additional expenses under a 'closure to new business' scenario, etc.) that are calculated outside of its actuarial models. The projected surplus arising from global reserves is calculated by assuming a suitable release pattern of such reserves.

4.4.22. Given that the Corporation maintains a single policyholders' fund as at 31 March 2021, the shareholders' interest in:

- the mark-to-market adjustment of assets in the policyholders' fund; and
- the present value of projected surplus from global reserves,

is assumed to be 10% of their post-tax value.

Time Value of Financial Options and Guarantees

4.4.23. The TVFOG reflects the value of the expected additional cost to shareholders that may arise from the embedded financial options and guarantees in the covered business in the event of future adverse market movements. The intrinsic value (if any) of such options and guarantees is reflected in the PVFP.

4.4.24. APS10 requires that a stochastic approach is used to determine the TVFOG, using methods and assumptions consistent with the underlying embedded value. Economic assumptions are chosen such that projected cash flows are valued in line with the price of similar cash flows that are traded in capital markets.

4.4.25. In accordance with APS10, in arriving at the Results, the TVFOG has been considered for all products that contain financial options and guarantees.

4.4.26. The main types of financial options and guarantees in the Corporation's portfolio are as follows:

- **Participating business**: The sum assured and any accrued bonuses are guaranteed on death and maturity.
- **Non-linked group fund-management products:** A minimum crediting rate applies to account values. In addition, while market-value adjustments may apply on exit, the scope of their application is limited.
- **Individual variable insurance products ("VIP")/universal life:** Interest credits to the policyholder's account value, once declared, are guaranteed.
- **Unit-linked business:**

  a. For the products launched under the *IRDAI (Linked Insurance Products) Regulations, 2013*, the Corporation is required to add 'non-negative clawback additions' to a policy after the fifth policy year if the gap between the yield on the underlying unit fund and the yield earned by the policyholder (ignoring mortality charges) is more than the stipulated levels.

  b. Policies in the 'Discontinued Policy Fund' must be credited with a rate of interest of at least 4% per annum, independent of the performance of the underlying assets.

4.4.27. The TVFOG in respect of unit-linked business is expected to be immaterial given the low proportion of unit-linked business with investment guarantees (INR 4,526 crores of reserve, approximately 0.2% of total reserves as at 31 March 2021). The TVFOG in respect of the individual VIP / universal life business is also expected to be immaterial given the small size of this book (INR 211 crores of reserve, approximately 0.01% of total reserves as at 31 March 2021). Hence, the TVFOG is calculated only in respect of participating business and traditional group fund-management business.

4.4.28. Where a TVFOG is calculated, stochastic methods are used. The economic assumptions underlying the stochastic model used are described in Section 5.

4.4.29. For participating business, regard is had to the potential management actions available to the Corporation, in line with its past practice as described in Section 5.6.1. No other management actions are considered material for the assessment of the TVFOG.

4.4.30. No allowance has been made for dynamic policyholder behaviour under different stochastic scenarios. This simplification is considered to have an insignificant impact on the evaluation of the TVFOG, given that any additional cost of guarantee created by assuming such dynamic policyholder behaviour could be mitigated by refinement of the management actions allowed for in the stochastic model.

4.4.31. For the calculation of VNB, the TVFOG is derived by deducting the TVFOG as at 31 March 2021 in respect of the business that was in-force as at 31 March 2020, from the TVFOG as at 31 March 2021 in respect of the total business in-force at that time.

Frictional Costs

4.4.32. The VIF reflects an allowance for the FC of RC for the covered business. The FC represents the investment management expenses and taxation costs associated with holding the RC.

4.4.33. Since the Internal Capital requirement of the Corporation (which is higher than the MRC) is fully met by the provisions within the policy liabilities/insurance reserves/current liabilities, the RC at both valuation dates is zero. The FC has therefore been derived by recognising the cost of projected Internal Capital requirements in excess of the projected total undistributed surplus. The existing and future statutory surpluses from the modelled business are accumulated and compared with the Internal Capital requirements. Where these Internal Capital requirements are not met by the accumulated statutory surpluses, the expected amount of shareholder support is recognised. Since the projection assumptions do not include an explicit investment expense assumption (all such expenses are reflected as part of the maintenance expenses), the FC represents only taxation costs associated with holding such expected amounts of shareholder support in the future.

4.4.34. For the calculation of VNB, the FC is derived by deducting the FC as at 31 March 2021 in respect of the business that was in-force as at 31 March 2020, from the FC as at 31 March 2021 in respect of the total business in-force at that time.

Cost of Residual Non-Hedgeable Risks

4.4.35. The CRNHR is an allowance for risks to shareholder value to the extent that these are not already allowed for in the TVFOG or the PVFP. In particular, the CRNHR makes allowance for:

- asymmetries in the impact of the risks on shareholder value; and
- risks that are not allowed for in the TVFOG or the PVFP (e.g. operational risk).

4.4.36. As required by paragraph 6.15 of APS10, we have also considered whether an additional allowance is required for uncertainty in the 'best estimate' of shareholder cash flows resulting from non-hedgeable risks (both symmetric and asymmetric).

4.4.37. The material risks identified which are not considered in the calculation of PVFP or TVFOG are:

- mortality mis-estimation risk;
- mortality catastrophe risk;
- morbidity mis-estimation risk;
- persistency mis-estimation risk and mass-lapse risk;
- expense mis-estimation risk;
- operational risk; and
- non-hedgeable investment risks.

4.4.38. Out of these material risks identified, mortality catastrophe risks, operational risks and mass-lapse risks are expected to have an asymmetrical impact on shareholder value.

4.4.39. The CRNHR has been determined for the Results using a cost of capital approach. The CRNHR is the present value of the cost of capital charge levied on the projected capital in respect of the material risks (both symmetric and asymmetric) identified above.

4.4.40. The cost of capital charge is assumed to be 5% per annum, set based on industry benchmarks.

4.4.41. The projection of capital required to calculate the CRNHR is determined as follows:

- As required by paragraph 6.18 of APS10, the capital required as at the applicable valuation date in respect of each non-hedgeable risk was determined using an economic capital model developed by the Corporation. The approach to derive the economic capital is based on the Solvency II Regulations ("Solvency II") applicable in the European Union, as set out in *Delegated Regulation EU 2015/35* published by the European Commission.

- The quantum of capital for each risk factor was determined by considering the impact on the best-estimate liabilities of applying a shock intended to be a reasonable estimate of the 99.5th percentile for that risk over a one-year time horizon. These shocks are based on those specified by the Solvency II standard formula, adjusted in certain cases to reflect the risks faced by the Corporation. Specifically, considering the issues in the completeness and accuracy of the policy data of the Corporation, a factor of five is applied to the projected capital arising from operational risks. The participating business best-estimate liabilities under the shocks allow for the impact of 90:10 surplus sharing, given that the impact of the shocks does not exhaust the assets backing participating business.
- The model evaluates capital in respect of mortality mis-estimation risk, catastrophe risk, morbidity mis-estimation risk, persistency mis-estimation risk, mass-lapse risk, expense mis-estimation risk, as well as operational risk and non-hedgeable investment risk.
- The capital required in respect of each non-hedgeable risk was projected over the remaining life of the in-force portfolio in line with identified drivers of capital requirements for each risk.
- The drivers were selected for each risk separately, and for each of 18 key product categories (e.g. participating assurance, non-participating annuities, etc.). The projected capital at key durations (e.g. years five, ten, etc.) from the actuarial model was compared with various candidate risk drivers. The candidate with the best correlation to the run-off of the capital at the key durations was then selected and used to project the future capital requirements.
- The aggregate capital required in respect of the residual non-hedgeable risks as at the applicable valuation dates and for each of the years in the future was determined after allowing for diversification of these risks using a risk correlation matrix, consistent with that adopted in Solvency II. Allowance was made for diversification only amongst the non-hedgeable risks.

4.4.42. For the calculation of VNB, the CRNHR is derived by deducting the CRNHR as at 31 March 2021 in respect of the business that was in-force as at 31 March 2020, from the CRNHR as at 31 March 2021 in respect of the total business in-force at that time.

4.4.43. The CRNHR by risk as at 31 March 2021 and for new business sold during FY20-21 is given in Table 4.5.

Table 4.5: CRNHR by risk

Risk	As at 31 March 2021	For new business sold during FY20-21
Mortality and morbidity mis-estimation	402	61
Longevity	2,048	547
Mortality catastrophe	109	29
Persistency mis-estimation / mass-lapse(1)	5,072	541
Expense	3,516	142
Non-hedgeable investment	316	35
Total before diversification	**11,464**	**1,354**
Total after diversification	**8,660**	**892**
Operational(2)	5,122	897
Total	**13,782**	**1,788**

Notes: Amounts in INR crores; Figures may not add up due to rounding.
(1) Persistency capital is taken as the higher of an increase, decrease or mass-lapse event in line with the provisions of Solvency II.
(2) A factor of five is applied to the Solvency II operational risk requirements after considering the GS report on policy data.

New business and renewals

4.4.44. The VIF includes the value to shareholders arising from the expected renewal premiums on the in-force business, including any foreseeable variations in the level of renewal premiums, but excludes any value to shareholders relating to future new business (i.e. the new business that may be written after the applicable valuation date).

4.4.45. The VNB calculated reflects the additional value to shareholders created through the activity of writing new business during the year ending 31 March 2021, and includes the value to shareholders arising from the expected renewal premiums on that new business.

4.4.46. The VNB is calculated at the point of sale, with the unwinding of discount rates and expected excess real-world returns up to the year-end included in the expected return on in-force business.

4.4.47. New business does not include top-up premiums received on ULIPs, which are reflected as modifications to existing contracts. The total premiums/contributions received during the year ending 31 March 2021 in respect of group business (group funds, annuity and group annually renewable term) are classified as new business. Also, in the case of individual pension plans, where there is an ‘open market option’ available to the policyholder to decide on the insurer with which the policyholder wishes to annuitise the maturity proceeds, the single premium used to purchase an annuity at the time of retirement is also considered as new business.

4.4.48. The revival/reinstatement of lapsed/reduced paid-up policies during the year ending 31 March 2021 is not included in the new business, but its impact is considered as a variance in IEV.

4.4.49. The VNB is based on the non-economic assumptions applicable as at 31 March 2021. The economic assumptions are based on the reference rates at the start of each month during which the new business is sold.

4.4.50. The VNB considers acquisition commissions and acquisition expenses at the unit cost level incurred in the full year up to 31 March 2021.

4.4.51. Along with the VNB, the “VNB Margin” and Present Value of New Business Premiums (“PVNBP”) are also calculated. These are derived as follows:

- **VNB Margin**: VNB divided by new business APE written during the year ending 31 March 2021. The new business APE is calculated as the instalment premium, multiplied by the frequency of premium payment (i.e. 1 for annual, 2 for semi-annual, 4 for quarterly and 12 for monthly) in respect of the regular premium new business written, plus one-tenth of single premiums for single premium new business written.
- **PVNBP**: This is calculated at the point of sale, by discounting all the premiums payable for the new business written during the year ending 31 March 2021. The discount rates used are the same as those used in the calculation of VNB.

4.5. Analysis of movement of IEV

4.5.1. The various components of the analysis of movement of IEV are derived as set out in Table 4.6. These are presented in the sequence in which the calculations are performed, as opposed to the sequence in which the results are presented in this Report.

Table 4.6: Analysis of movement

Components	Description
Opening IEV as at 31 March 2020	Opening IEV using the opening economic and non-economic assumptions.
Opening adjustments (modelling changes)	None
VNB added during the period	The VNB calculated as per the approach described in Section 4.4.45.
Expected return on existing business	Calculated as: (1) Unwind of the opening VIF and VNB at the opening reference rates; (2) Expected investment income on ANW at opening reference rates; and (3) Impact of expected excess of 'real-world' best-estimate investment return during the year over the opening reference rates on VIF, ANW and VNB. The contribution to the expected return on existing business from (3) includes the shareholders' interest in the excess real-world return over the risk-free rates on the assets backing policyholder liabilities.
Expected transfers from VIF and RC (if any) to FS	Calculated as: (1) Profits / losses that are expected to be generated from the opening VIF during the first projection year that would be transferred to FS; and (2) Change in RC (if any) expected from the opening VIF to closing VIF.
Variances in operating experience	These are analysed at a policy level, by considering the actual change in the policy status from the opening IEV to the closing IEV. The calculation is carried out in the following order as the difference between 'actual' and 'expected': ▪ Mortality / morbidity rates ▪ All policy cancellation / lapse / surrender / reduced paid-up rates (net of reinstatements) ▪ Expenses. A parameter is left at the 'expected' level until the variance from the parameter is analysed, after which it is left at the 'actual' level. At the aggregate level, the modelled cash-flows during the year are compared against the revenue account of the Corporation for the year ending 31 March 2021 for consistency and the differences are allocated as operating variances in different parameters as set out above. Any remaining difference is recognised and shown as 'other variance'. It may be noted that such 'other variance' also includes the overall impact of covered business that is not included in the calculation of Results.
Change in operating assumptions	Change of non-economic assumptions from opening IEV to closing IEV. Also includes all changes in statutory reserving basis from opening IEV to closing IEV.
Economic variances	The impact of the difference between the actual investment return and the expected 'real-world' return during the year ending 31 March 2021.
Capital contributions / (dividends paid out)	Actual capital infusions from / dividends paid to the shareholders (including dividend distribution tax incurred, if any) during the year ending 31 March 2021. This also reflects the release of provisions for the dividend in respect of the year ending 31 March 2020 during the year ending 31 March 2021, as the Corporation no longer expects to pay such a dividend in respect of this period.
Change in economic assumptions	Calculated as the change in the opening modelled VIF and the VNB due to the update of the reference rate yield curves assumed from opening IEV (or month-specific VNB calculations) to closing IEV.
Closing IEV as at 31 March 2021	Calculated using the closing economic and non-economic assumptions.

4.6. Sensitivity results

4.6.1. The various sensitivity analyses are shown in Tables 2.8 and 2.9 of this Report.

4.6.2. The sensitivity analyses are carried out one parameter at a time and do not include changes in other parameters not explicitly mentioned. All sensitivities are carried out for best-estimate assumptions only, with the reserving basis remaining unchanged.

4.6.3. Interest rate sensitivities include the impact of a change in the value of assets earmarked to the reserves held in respect of modelled business as at 31 March 2021. In respect of individual non-participating and group annuity business, 100% of the (net of deferred tax liability) change in asset values is included in the sensitivities for consistency with the change in modelled PVFP/VNB.

Section 5 Assumptions

5.1. Overview

5.1.1. This section provides a detailed description of how each of the assumptions used in the calculation of the Results are derived.

5.1.2. The economic assumptions are chosen so as to be internally consistent and are determined, so far as possible, with the intention that the projected cash flows of LIC are valued in line with the prices of similar cash flows that are traded on the capital markets in India as at the applicable valuation date.

5.1.3. Paragraph 7.1 of APS10 requires that the assessment of appropriate assumptions for future experience should have regard to past, current and expected future experience and to any other relevant data.

5.1.4. The environment in which the Corporation operates is dynamic and has been changing rapidly. Although the Corporation has significant operating experience covering mortality and has indeed performed detailed investigations into historical mortality experience, the mortality experience analysis performed does not reflect the impact of the ongoing COVID-19 pandemic.

5.1.5. Also, considering that the Corporation does not incorporate persistency assumptions in the calculation of statutory reserves, for the purpose of the derivation of the Results, the Corporation has provided high-level persistency investigations. Limitations in the Corporation's internal systems constrain the level of detail in such studies. Similarly, high-level morbidity investigations were performed.

5.1.6. Considering this, in accordance with paragraph 7.3 of APS10, the best-estimate assumptions are set based on a combination of the internal operating experience analysis performed by the Corporation (if considered to be credible) and relevant experience of (and hence the assumptions that are generally adopted by) other life insurers in the industry.

5.1.7. As required by paragraphs 6.14 and 7.1 of APS10, the non-economic projection assumptions are set to reflect the mean expectation of outcomes of a given risk variable and have been determined on a going-concern basis, assuming the continuation of the economic and legal environment currently in place in India and applicable to the Corporation. It may be noted, however, that there is continuing uncertainty regarding the longer-term impact of COVID-19 on the economic, regulatory and business environment in India, and the level and nature of business activity of the Corporation, which could materially impact future non-economic experience and economic parameters.

5.2. Mortality and morbidity

5.2.1. The best-estimate mortality assumptions for assured lives are set based on the Corporation's own experience during the two-year period to 31 December 2020. For annuitants, the mortality assumption is based on the industry mortality table, Indian Individual Annuitant's Mortality (2012-15) ("IIAM 12-15"). The Corporation's experience analysis does not capture the impact of the ongoing COVID-19 pandemic. However, it is assumed that any additional deaths arising due to the pandemic will have a one-off impact and may not impact the long-term best-estimate mortality rates of the Corporation. The Corporation has established a separate reserve as 31 March 2021 for the cost of excess deaths related to COVID-19, and the Results assume no value arising from this reserve.

5.2.2. The assumed mortality rates are based on the standard mortality table for assured lives, Indian Assured Lives Mortality (2012-14) Ultimate ("IALM12-14") for assurance products and annuities during the deferment period and IIAM 12-15 for annuities in payment, for each age and adjusted for the Corporation's own experience for each line of business, gender and other factors.

5.2.3. Allowance is made for future improvement in policyholder longevity for annuities in payment.

5.2.4. In the absence of a detailed historical experience analysis, the best-estimate morbidity rates are set based on the rates quoted by the reinsurers of the Corporation.

5.3. Policy/premium discontinuance rates and revival/reinstatement rates

5.3.1. As discussed above, the Corporation has performed a high-level analysis of policyholder persistency.

5.3.2. Considering this, the best-estimate lapse/surrender/reduced paid-up and revival/reinstatement rates specific to different products and durations in-force, are set based on a combination of the Corporation's own experience (where statistically credible) and our understanding of the experience of/assumptions set by other insurers in the market where relevant (otherwise). These assumptions for the top five products (by contribution to each of VIF and VNB) are summarised in Appendix A.

5.3.3. As required by APS10, the historical persistency rates of the Corporation over the past three years ending 31 March 2021 are also set out in Appendix A.

5.4. Commission and expenses

5.4.1. The expense assumptions are based on the analysis performed by the Corporation for the year ending 31 March 2021, reflecting its Board-approved expense allocation policy, adjusted for the following:

- removal from the expenses of the amount of goods and services tax ("GST") borne by the Corporation in respect of the policies issued prior to 1 January 2012, considering that a separate (explicit) adjustment is reflected for the same;
- removal from the expenses of the amount of costs associated with the amortisation of the past service pension liability of the employees of the Corporation, considering that a separate (explicit) adjustment is reflected for the same in the calculation of VIF and VNB;
- derivation of the maintenance expense loadings based on average in-force portfolio during the year, instead of the year-end in-force portfolio statistics used by the Corporation; and
- application of half a year's inflation to the expense loadings so derived, considering that the loadings are based on expenses incurred, on average, in the middle of the year.

5.4.2. These expenses were apportioned into those relating to the acquisition of new business and those relating to the renewal and maintenance of business. Investment management expenses are not analysed separately by the Corporation and instead they are reflected as part of the maintenance expenses. All expenses incurred by the Corporation have been reflected in the assumed unit costs.

5.4.3. The IEV makes an allowance for all future renewal and other maintenance expenses required to manage the modelled in-force business.

5.4.4. When setting the expense assumptions, no changes in productivity/cost efficiencies have been anticipated after the applicable valuation dates, as per the requirements of APS10.

5.4.5. The explicit adjustment to the VIF/VNB for the past service pension liability reflects the estimated cost of funding this liability as determined by LIC (INR 2,225 crores per annum for each of the five financial years starting in FY19-20), in line with the provisioning for the employee pension scheme as reflected in the current liabilities of the Corporation's balance sheet.

5.4.6. The in-force business volumes of the Corporation contracted between 31 March 2019 and 31 March 2020, as well as between 31 March 2020 and 31 March 2021. As a result, the expense loadings derived based on expenses during FY19-20 were lower than the expense loadings derived based on expenses during FY20-21, even after excluding the effect of cost inflation. For the purpose of this Report we have set the expense assumptions for calculation of the IEV as at both 31 March 2020 and 31 March 2021 based on the analysis of actual expenses incurred during FY20-21. The analysis of movement in IEV reflects the difference between the expected loadings as at 31 March 2021 based on the IEV as at 31 March 2020, and those used in the calculation of IEV as at 31 March 2021. This is shown as 'Change in operating assumptions' in Table 2.7.

5.4.7. The commission rates for different products are based on the actual commission payable to the distributors, if any.

5.4.8. All the expenses for FY20-21 have been reflected in the Results.

5.4.9. As required by Appendix A of APS10, the actual expense levels (excluding commissions) over the past three years ending 31 March 2021 are set out in Table 5.1.

Table 5.1: Actual expenses over the past three years

Expense	FY18-19	FY19-20	FY20-21
Acquisition	10,862	11,679	11,234
Maintenance (including investment expenses and claims expenses)	15,429	18,665	19,776
Sub-total (A)	26,292	30,345	31,010
GST in respect of policies issued prior to 1 January 2012 (B)	2,850	2,908	2,665
Costs associated with amortisation of past service pensions liability of LIC employees (C) [(1)]	-	1,272	1,270
Total expenses as per Schedule 3 of the financial statements plus the expenses in the Profit and Loss Account (D = A + B + C)	**29,142**	**34,525**	**34,946**

Notes: Amounts in INR crores; Figures may not add up due to rounding.

(1) Of the INR 2,225 crores that is to be reflected in the expenses of the Corporation for each of the five financial years starting FY19-20, INR 1,272 crores is reflected as an explicit adjustment to the VIF and VNB covering the five-year period starting FY19-20. The remaining INR 953 crores is reflected in the derivation of the maintenance expense loadings.

5.4.10. As per the *Companies Act 2013* ("Companies Act"), all companies are required to spend 2% of their average net profit for the immediately preceding three years on Corporate Social Responsibility ('CSR') activities. However, the Corporation informed us that this provision is not applicable to LIC as it is not a 'Company' as per the Companies Act. Given this, no allowance for future CSR is made in the derivation of the Results.

5.5. Inflation

5.5.1. There is no deep and liquid market of Indian Rupee index-linked securities, from which a market consistent estimate of future price inflation might be derived. Consequently, the expense inflation assumption is set by considering the long-term salary inflation expected to be incurred by the Corporation.

5.5.2. The assumed expense inflation rate applied to per policy expense loadings is 8% per annum.

5.6. Policyholder bonuses/crediting rates

5.6.1. The Corporation's historical practice has been to declare broadly the maximum bonus possible by considering the statutory surplus arising and the need to maintain the MRC. The Corporation has varied its historical bonus rates in different years, reflecting the then statutory surplus position.

5.6.2. The projected reversionary bonus rates are set to be the same as those most recently declared by the Corporation at the applicable valuation date. Wherever the Corporation has a target loyalty addition/final additional bonus, the same has also been assumed in the projection. In accordance with APS10, we have ensured that these rates are supportable at the assumed RFR, after considering the marked-to-market assets backing the participating business in the policyholders' fund.

5.6.3. For group funds-management business, where an explicit fund-management charge is not specified in the policy documents, we have derived future crediting rates as the expected earned return less an assumed spread based on the historical practice adopted by the Corporation and the Board-approved crediting-rate framework (for those products where this framework is applicable).

5.7. Reinsurance

5.7.1. The cost (and benefit) of reinsurance arrangements is allowed for in the Results based on the reinsurance treaties applicable to the Corporation's business as at the applicable valuation date.

5.8. Asset values

5.8.1. The Results are based on the market value of assets as at the applicable valuation date. No smoothing is applied to the market values.

5.9. Reference rates

5.9.1. The reference rate is a proxy for a risk free rate appropriate to the currency, term and liquidity of the liability cash flows.

5.9.2. The reference rates were derived from the prices of Indian Government securities using the yield curve produced by the Clearing Corporation of India Limited ("CCIL") - (https://www.ccilindia.com/RiskManagement/SecuritiesSegment/Pages/CCILRupeeYieldCurveDaily.aspx). CCIL derives the yields using a Nelson-Siegel-Svensson curve fitting process applied to market data.

5.9.3. The CCIL yield curve is available up to 40 years. Beyond year 40, the forward rates derived based on the CCIL yield curve are assumed to remain the same as those applicable at year 40.

5.9.4. The reference rates used for calculating the VIF were derived as at the applicable valuation date (i.e. either 31 March 2020 or 31 March 2021), whereas those for VNB were derived as at the start of the month in which the new business was sold. The extrapolation methods for the reference rates used in VNB calculations are consistent with those described in Section 5.9.3.

5.9.5. A test has been performed on the yield curves as at 31 March 2020 and 31 March 2021 to ensure that they closely reproduce the market values of the Government securities held by the Corporation.

5.9.6. For the non-participating annuity liabilities, the same reference rate was used as for other business and no illiquidity premium adjustment is reflected. This is considered to be appropriate, given that a large proportion of the annuity contracts (approximately 40% of total annual annuity payments as at 31 March 2021) offer a surrender value to the policyholders and are, therefore, assumed to be liquid liabilities.

5.9.7. The reference rates assumed are set out in Table 5.2.

Table 5.2: Reference rates (one-year forward rates) in percentage (%)

Projection year	For VIF as at 31 March		For VNB in respect of new business sold during the month ending											
	2020	2021	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar -21
1	4.69	3.95	4.69	3.98	3.72	3.57	3.71	3.82	3.90	3.73	3.53	3.54	3.87	3.97
2	5.69	5.31	5.69	5.25	5.04	4.74	4.83	5.20	5.12	4.82	4.64	4.63	4.90	5.29
3	6.52	6.27	6.52	6.18	6.02	5.78	5.72	6.19	6.01	5.67	5.57	5.55	5.71	6.25
5	7.29	7.42	7.29	7.16	7.00	6.98	6.79	7.26	7.09	6.79	6.80	6.79	6.83	7.40
10	7.18	7.97	7.18	7.51	7.31	7.60	7.42	7.63	7.67	7.69	7.75	7.80	7.78	7.97
15	7.03	7.52	7.03	7.30	7.15	7.33	7.23	7.26	7.37	7.55	7.60	7.65	7.60	7.55
20	7.00	7.06	7.00	7.16	7.06	7.07	7.01	6.97	7.05	7.25	7.28	7.28	7.20	7.12
25	7.00	6.76	7.00	7.10	7.03	6.92	6.88	6.83	6.84	7.01	7.03	6.97	6.86	6.84
30	7.00	6.59	7.00	7.08	7.02	6.85	6.81	6.76	6.72	6.85	6.88	6.76	6.66	6.69
35	7.00	6.50	7.00	7.07	7.02	6.82	6.78	6.73	6.67	6.75	6.79	6.63	6.57	6.61
40	7.00	6.46	7.00	7.07	7.02	6.80	6.77	6.72	6.64	6.70	6.74	6.56	6.55	6.57

5.10. Investment returns and discount rates

5.10.1. The PVFP was determined assuming that assets earn, before tax, the reference rates, and discounting all cash flows using reference rates which are gross of tax.

5.10.2. In the analysis of movement of IEV, the assumed ‘real-world’ investment returns for the year ending 31 March 2021 are set by line of business and underlying funds (for ULIPs), based on the best-estimate investment returns internally adopted by the Corporation.

5.11. Stochastic asset model

5.11.1. A risk-neutral stochastic model has been used to evaluate the TVFOG for those products where the TVFOG is material.

5.11.2. Interest rates and equities were covered by the stochastic model. In particular:

- The stochastic interest-rate model is a one-factor Hull-White model. The model is calibrated to the RFR curves as detailed above, using a sigma parameter of 0.88% per annum and mean-reversion of 5.30% per annum, based on an analysis of historic volatility in Indian interest-rate markets.
- The model used for equities is the Black-Scholes model with term-dependent volatility. In the short term, implied volatilities are set with reference to market data as at the applicable valuation date. These implied volatilities then tend to around 22% per annum by year 30 and remain level thereafter.
- The correlation parameter between the equity prices and the bond prices is set to be zero.

5.11.3. The projected interest rates and equity prices were then used to stochastically project the assumed future investment income on assets backing the individual participating business and group funds business, to determine the extent of potential shareholder support in each scenario. In the case of participating business, given the very large number of in-force policies of the Corporation, a subset of ‘model points’ (representing approximately 1.5% of the in-force policies as at each valuation date) was selected for this exercise. The results from these model points were then scaled up to calculate the total TVFOG. The reserves as calculated using the scaled up model point set were reconciled with the total participating reserves of the Corporation to validate the choice of model points as a representative set.

5.12. Taxation

5.12.1. In calculating the Results, allowance has been made for future taxes expected to be incurred by the Corporation. This includes both corporate tax and GST.

5.12.2. The approach adopted in allowing for taxation and the rates of corporate tax and GST applied reflect the Corporation's interpretation of the applicable tax laws and are consistent with its historical practice, which the Corporation intends to continue in the future. This is summarised below:

- The Corporation assumes that the statutory surplus arising, based on which tax is applied, is derived after allowing for any provisions for an increase in the target solvency level.
- Although the surplus arising from the pensions business is exempt under section 10(23AAB) of the Income Tax Act, 1961, the Corporation assumes that a tax is payable on the same.
- The Corporation's assumed tax rates on such surplus from life and pensions business are set to be 12.5% (increased by the tax surcharge of 12% and education cess of 4%). The resulting effective tax rate is 14.56%.
- The profits in the shareholders' fund are taxed at a higher rate of 30% (increased by the tax surcharge of 12% and education cess of 4%). The resulting effective tax rate is 34.94%.

5.12.3. Although the Corporation claims credit on the tax applicable on the dividend income on equity shares under section 80M of the *Income Tax Act, 1961*, thereby allowing it to lower its effective tax rate, this has not been considered in the derivation of the Results as it is not expected to be material.

5.12.4. The Corporation charges GST on premiums from non-linked policies issued from 1 January 2012 onwards and on charges from all ULIPs. The Corporation also receives credit for GST included in the expenses incurred.

5.12.5. The allowance for future GST is reflected in the projection models as follows:

- for non-linked policies issued prior to 1 January 2012, where the Corporation bears the GST on premiums charged to the policyholders, an explicit outgo is considered as part of the expense loadings;
- for all non-linked business, the future renewal premiums are modelled net of GST;
- for ULIPs, the GST on various charges is deducted from the unit fund and is assumed to be an immediate outgo;
- any reinsurance premiums are modelled net of GST;
- the expense loadings are based on net of GST expenses of the Corporation; and
- the distributor commission modelled is based on actual commission payable to the distributor.

5.12.6. The assumed rates of GST are as follows:

- in respect of non-linked policies issued prior to 1 January 2012 for which the Corporation bears the GST (which is reflected explicitly in the expense loadings) – 18% for pure protection plans and riders, 0% for micro-insurance plans and 2.25% for other plans; and
- for all other policies - 18%.

5.13. Statutory reserving and capital requirements

5.13.1. The projections have been prepared assuming the application of and continuation of the valuation basis adopted by the Appointed Actuary of the Corporation as at the applicable valuation date. These are set to comply with the regulations and professional guidance applicable to statutory valuations. The assumptions used by the Appointed Actuary in the statutory valuation are set at a prudent level, incorporating a margin for adverse deviation. The approach adopted by the Appointed Actuary in calculating reserves is broadly described as follows:

- **For ULIPs,** the statutory reserve is set as the sum of the value of units allocated to the policy, plus a non-unit reserve. The non-unit reserve uses a Gross Premium Valuation methodology (“GPV”) considering charges, expenses and any non-unit benefits, subject to a minimum of one month’s unexpired risk charge.
- **For participating plans,** the reserve is the higher of the GPV and surrender value at a policy level, wherein the GPV considers all future premiums, benefits, expenses, future reversionary bonuses and shareholder transfers and taxes based thereon.
- **For traditional non-participating plans,** the reserve is calculated as the greater of a GPV calculation (considering premiums, benefits and expenses) and the surrender value as at the valuation date.
- **For VIP / universal life plans,** the reserve is calculated as the fund value plus the GPV of future cash flows, akin to a non-unit reserve.
- **For Group funds management business,** the reserve is calculated as the policy account value**.**
- **For Group one-year renewable term assurances**, the reserve is calculated as the unexpired premium.

5.13.2. Additional reserves are established for other lines of business and also for other risks identified by the Appointed Actuary such as to provide for incurred but not reported claims, or to provide for additional expenses in a new business discontinuance scenario, or to provide for the risk of strain upon revival of a lapsed policy etc.

5.13.3. The MRC is calculated in accordance with the applicable regulatory requirements.

5.13.4. For the various sensitivity analyses, the reserving basis is kept unchanged from that adopted in the base scenario.

Section 6 Reliances and limitations

6.1. Reliances

6.1.1. Pursuant to the letter of appointment (Reference: File No.4/3/2020-DIPAM-II-A-Part(2)) dated 19 March 2021 and the engagement letter dated 26 March 2021, the scope of our work covers the following:

- to review the methodology and assumptions adopted by the Corporation for compliance with the relevant IEV principles;
- to conduct independent checking of the Corporation's actuarial models for plans that represent a significant proportion of the total value of the in-force and new business portfolios;
- to review the IEV as at 31 March 2020 and 31 March 2021; the analysis of movement of IEV over this period, the VNB for the year ending 31 March 2021 and the various sensitivity analyses as required by APS10;
- to draft this Report; and
- to prepare 'internal documentation' for LIC summarising the work carried out as part of this review.

6.1.2. This Report has been prepared solely for use by DIPAM and the management of LIC for inclusion in the disclosures as part of the IPO process. It should not be relied upon for any other purpose but may be provided to DIPAM's/Corporation's advisors on the IPO for use in conducting and documenting their due diligence of the Corporation, in connection with the offering of securities in the IPO.

6.1.3. This Report is intended to provide certain actuarial information and analyses that would assist a qualified actuary, technically competent in the area of actuarial appraisals, to develop an estimate of the components of economic value as described earlier in this Report. In order to fully comprehend this Report, any user should be advised by an actuary with a substantial level of expertise in areas relevant to this analysis to appreciate the significance of the underlying assumptions and the impact of those assumptions on the Results. This Report must be considered in its entirety as individual sections, if considered in isolation, may be misleading.

6.1.4. In carrying out the work and producing this Report, we have relied on the information supplied by the management and staff of LIC. Reliance was placed on, but not limited to, the general accuracy of all the information provided to us.

6.1.5. In particular, we have relied on:

- the Prophet actuarial model and other models developed by the Corporation to derive the various Results. However, we have applied various checks on the models of the Corporation as set out in Section 4.3;
- the accuracy and completeness of the policy data covering in-force and new business policies, the inter-valuation movements of policy statuses and the various checks applied thereon;
- details of product features, policy terms and conditions including surrender and cash value bases as set out in the plan features documents and other information provided to us by the Corporation for each of the products included in our review of the models;
- information on reinsurance arrangements and terms and conditions as provided to us by the Corporation;

- experience investigations relating to current and historical operating experience of the Corporation;
- information on expense experience analyses performed by the Corporation;
- audited financial statements for the years ending 31 March 2020 and 31 March 2021 as provided to us by the Corporation;
- the Actuarial Report and Abstract and the Appointed Actuary's report on the statutory liability valuation of the Corporation for years ending 31 March 2020 and 31 March 2021;
- asset valuations (book and market value) for investments of the Corporation as set out in the audited financial statements at 31 March 2020 and 31 March 2021, and the market value adjustments as provided to us by the Corporation;
- the Board approved crediting rate framework for group funds business;
- information on the Corporation's practices in determining bonuses on participating business;
- the Board approved surplus distribution policy adopted by the Corporation; and
- the taxation framework adopted by the Corporation.

6.1.6. We have obtained a management representation letter from LIC, stating that the data and information provided to us is accurate and complete and that there are no material inaccuracies and omissions therein and as represented in this Report.

6.1.7. This Report is based on the data and information available to Milliman up to 10 February 2022 and takes no account of the data, information and clarifications received after that date. We are under no obligation to update or correct inaccuracies which may become apparent in this Report as a consequence of this.

6.2. Limitations

6.2.1. Unless explicitly stated, we have performed no audit or independent verification of the information furnished to us. To the extent that there are any material errors in the information provided to us, the Results may be affected as well.

6.2.2. An IEV disclosure necessarily requires assumptions to be made about future operating experience and for these to be reflected in the determination of the components of the IEV. In accordance with APS10, none of the results in this Report are intended to represent forward-looking statements for the purposes of Securities and Exchange Board of India ("SEBI") listing rules.

6.2.3. An actuarial assessment of the components of economic value of a life insurance company will not necessarily be consistent with the value of a life insurance company or a portfolio in the open market and should not be interpreted in that manner. Rather, it is derived from a projection of future earnings and, therefore, reflects the value of the earnings potential of a block of in-force or new business under a specific set of assumptions. The value of any business enterprise is a matter of informed judgment. Different parties will arrive at different values depending upon their outlook, their assessment of the future operating assumptions, and upon the opportunities they see for the enterprise in the future. Judgements as to the contents of this Report should be made only after studying the Report in its entirety, together with the rest of the DRHP, Red Herring Prospectus ("RHP") or Prospectus, as a review of a single section or sections on an isolated basis may not provide sufficient information to draw appropriate conclusions. Milliman does not authorise or cause the issue of the DRHP or RHP and takes no responsibility for its contents other than this Report.

6.2.4. The Results are based on a series of assumptions as to the future operating experience of the Corporation. It should be recognised that actual results will differ from those shown in this Report, on account of changes in the operating and economic environment and natural variations in experience. To the extent actual experience is different from the assumptions underlying this Report, the future projected profits from which the Results are derived will also differ. This Report includes various sensitivity analyses to illustrate how vulnerable the various results are to changes in assumptions for the key risks. The Results are presented at the applicable valuation dates stated in this Report and no warranty is given by Milliman that future experience after these applicable valuation dates will be in line with the assumptions made.

6.2.5. The projections and values presented in this Report have been determined on a 'going concern' basis, and assume a stable economic, legal and regulatory environment going forward. The reader of this Report should be aware that any change in the general operating environment would add a high degree of uncertainty to the Results presented. In particular, there is continuing uncertainty regarding the longer-term impact of COVID-19 on the economic, regulatory and business environment in India, and the level and nature of business activity of the Corporation, which could materially impact future non-economic experience and economic parameters.

6.2.6. Unless explicitly stated, the Results do not consider any external (including regulatory and taxation) developments after 31 March 2021.

6.2.7. None of the values or projections set out in this Report include any allowance for withholding or other taxes (such as dividend distribution tax) that may apply to the payment of future shareholder dividends or on remittances out of India.

6.2.8. The allowance for taxation reflected in the Results is based on Corporation's interpretation of the applicable taxation laws in India. It may be noted that neither Milliman nor its consultants are experts in taxation matters. Given this, we do not make any representation on the appropriateness or otherwise of the approach adopted in allowing for taxation in the Results.

6.2.9. In the Results, no allowance is made for any claims against LIC other than those made by policyholders under the normal terms of life insurance business and reflected in the Corporation's audited financial statements.

6.2.10. In the preparation of this Report, we have had access to other advisors of DIPAM/LIC in connection with the IPO and have discussed this Report with them. We have also reviewed the relevant accompanying statements made by the Board of Directors of the Corporation and information provided to the Securities and Exchange Board of India in the DRHP.

6.3. Distribution

6.3.1. DIPAM/LIC may publicly disclose the final signed version of this Report in its entirety. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work.

Appendix A: Persistency experience and discontinuance rates

A 1 As required by APS10, the historical premium persistency rates for the Corporation as a whole over the past three years ending 31 March 2021 are set out below:

Table A.1: Persistency rates

Month	31 March 2019	31 March 2020	31 March 2021
13	77%	72%	79%
25	71%	67%	70%
37	65%	63%	67%
49	60%	58%	63%
61	63%	54%	59%

Source: LIC public disclosures: L-22 as at 31 March 2021 and 31 March 2020

A 2 The assumed policy discontinuance rates, used in the calculation of the Results for a total of 10 products, covering the top five products (by contribution to PVFP as at 31 March 2021 in respect of in-force business) and top five products (by contribution to PVFP in respect of new business sold during FY20-21) are shown in the tables below:

Table A.2: Assumed lapse/surrender rates by plan number/name

Policy year	149	814	815	836	850	858	936	945	Group annuity	Group superannuation
1	12.0%	21.0%	19.0%	15.0%	-	-	26.0%	17.0%	-	15.0%
2	5.0%	9.0%	7.0%	7.0%	-	-	8.0%	8.0%	-	15.0%
3	4.0%	9.0%	7.0%	7.0%	-	-	3.9%	3.9%	-	15.0%
4	2.0%	3.9%	3.3%	3.3%	-	-	3.3%	3.3%	-	15.0%
5	1.5%	3.3%	2.8%	3.3%	-	-	3.3%	3.3%	-	15.0%
6+	1.5%	3.9%	3.3%	3.9%	-	-	3.9%	3.9%	-	15.0%

Table A.3: Assumed conversion to reduced paid-up status by plan number/name

Policy year	149	814	815	836	850	858	936	945	Group annuity	Group superannuation
1	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	3.2%	3.2%	-	-
4	2.0%	3.2%	2.7%	2.7%	-	-	2.7%	2.7%	-	-
5	1.5%	2.7%	2.3%	2.7%	-	-	2.7%	2.7%	-	-
6+	1.5%	3.2%	2.7%	3.2%	-	-	3.2%	3.2%	-	-

A 3 In addition to the assumed rates of discontinuance detailed above, the Results are calculated assuming that 15% of policies in reduced paid-up status, and 4% of policies in lapsed status as at the applicable valuation date, will revive.