Milliman Advisors LLP
B/712, 215 ATRIUM
Chakala, Andheri-Kurla Road
Andheri (E), Mumbai 400 059

Tel + 91 (22) 6784 8484
Fax + 91 (22) 6784 8401

milliman.com
LLPIN: AAF-5603

10 February 2022

The Secretary
Department of Investment and Public Asset Management
Ministry of Finance, Government of India
Room No. 429, Block No.11 / 14, CGO Complex
New Delhi - 110003

Results of Indian Embedded Value of the Life Insurance Corporation of India as at 30 September 2021

Dear Sir

1. Introduction

1.1 Pursuant to the letter of appointment (Reference: File No.4/3/2020-DIPAM-II-A-Part(2)) dated 19 March 2021 ("LoA") 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 a report for disclosure purposes in connection with the planned initial public offering ("IPO") of the Life Insurance Corporation of India ("LIC", "the Corporation").

1.2 Accordingly, the report entitled '*Report on Indian Embedded Value of the Life Insurance Corporation of India as at 31 March 2021*' dated 10 February 2022, which is developed in line with the requirements of Actuarial Practice Standard 10, Version 1.02 ("APS10") issued by the Institute of Actuaries of India ("IAI") (referred to as the "APS10 Report") was submitted for inclusion in the IPO disclosures.

1.3 You have also requested us to prepare a report ("Supplementary Report"), which sets out the components of economic value of the Corporation, viz. Indian Embedded Value ("IEV") as at 30 September 2021 and the value of new business ("VNB") for new business sold during the six months ending 30 September 2021, as well as sensitivity analyses in respect of the IEV as at 30 September 2021 and the VNB for new business sold during the six months ending 30 September 2021 (the "Supplementary Results").

1.4 For the Supplementary Results, the materiality limit is the same as that specified by the Corporation's Board of Directors as noted in the APS10 Report, i.e. the criterion for materiality should be set at 8% of IEV at an aggregate level. We estimate that the IEV as at 30 September 2021 diverges from the requirements of APS10 by less than 2.5%.

1.5 The Supplementary Results have been prepared using a methodology and assumptions consistent with the framework set out in APS10. However, we have not included all disclosures as required by APS10 in this Supplementary Report. Consequently, this Supplementary Report should not be considered an APS10 disclosure. Moreover, this Supplementary Report should be read in conjunction with the APS10 Report and be read in its entirety, including the reliances and limitations, as this Supplementary Report or individual sections, if considered in isolation, may be misleading.

1.6 This Supplementary Report is subject to the terms and conditions as per the LoA and EL specified earlier.

2. Methodology

2.1 The methodology used to derive the Supplementary Results is consistent with that detailed in Section 4 of the APS10 Report, with the following changes/clarifications:

a. **Present Value of Future Profits ("PVFP"):** Whereas (as detailed in Section 4.4.22 of the APS10 Report), at 31 March 2021 the Corporation had a single policyholders' fund, on 30 September 2021 it completed the bifurcation of that fund into separate participating and non-participating funds (see details as set out in the section entitled "Changes in surplus distribution policy and bifurcation of funds" of the Draft Red Herring Prospectus, "DRHP"). Therefore, in the Supplementary Results, the shareholders' interest in both:

- the mark-to-market adjustment of asset values (i.e. excess of market value over the carrying value of assets in the financial statements) in the non-participating funds; and
- the present value of projected surplus from non-participating global reserves,

is assumed to be 100% of their post-tax value.

b. **Cost of Residual Non-Hedgeable Risks ("CRNHR")**: The CRNHR is calculated using the projected values of various risk drivers as at 30 September 2021, although the risk drivers selected for each risk, and the factors applied to these risk drivers to determine the projected capital are the same as those used as at 31 March 2021.

c. **Value of New Business ("VNB")**: In the APS10 report we included a base VNB scenario and two alternative scenarios to show the impact of the change in surplus sharing structure at the end of that reporting period. As at 30 September 2021 we present the Supplementary Results using only the 'base' scenario as described in Table 2.1.

Table 2.1: Assumed proportion of future distributed surplus from new business sold during the six months ending 30 September 2021 to be allocated to shareholders

Financial year	FY21-22	FY22-23	FY23-24	FY24-25 onwards
Participating business	5%	7.5%	7.5%	10%
Other business	100%	100%	100%	100%

Notes: FY – Financial year e.g. FY21-22 is the financial year ending 31 March 2022. 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 of the APS10 Report) for participating business.

3. Assumptions

3.1 The assumptions used to derive the Supplementary Results are the same as the assumptions detailed in Section 5 of the APS10 Report, with the following adjustments:

a. **Reference rates**: The reference rates used for the calculation of the Supplementary Results have been derived from the same source as detailed in the APS10 Report (i.e. Clearing Corporation of India Limited) on the applicable dates. The reference rates are set out in Table 3.1.

Table 3.1: Reference rates (one-year forward rates) in percentage (%)

Year	For VIF as at 30 September 2021	For VNB in respect of new business sold during the month of					
		Apr-21	May-21	Jun-21	July-21	Aug-21	Sep-21
1	3.95	3.95	3.85	3.87	3.87	3.85	3.90
2	5.17	5.31	5.23	5.32	5.40	5.31	5.21
3	6.02	6.27	6.12	6.16	6.39	6.31	6.08
5	7.17	7.42	7.23	7.22	7.43	7.45	7.26
10	8.19	7.97	7.95	7.95	7.99	8.20	8.26
15	8.10	7.52	7.62	7.67	7.72	7.98	8.17
20	7.78	7.06	7.17	7.25	7.43	7.68	7.87
25	7.49	6.76	6.82	6.92	7.25	7.47	7.61
30	7.28	6.59	6.60	6.70	7.15	7.34	7.43
35	7.15	6.50	6.48	6.58	7.11	7.28	7.32
40	7.07	6.46	6.41	6.50	7.08	7.25	7.26

b. **Stochastic asset model**: The stochastic model was recalibrated to the reference rates, short-term implied volatilities and asset mix as at 30 September 2021.

c. **Expenses**: Expenses and expense inflation assumptions as at 30 September 2021 are the same as those used to derive the results in the APS10 Report, except in the case of the per-policy maintenance expense assumptions, where six months of inflation have been applied.

d. **Statutory reserving basis:** Distributable profits continue to be calculated by reference to the projected liabilities, which are calculated using the reserving basis as determined by the Appointed Actuary of the Corporation as at 30 September 2021.

4. Model checks and reliances

4.1 We have relied on the policy data and other information provided by the Corporation as outlined in the reliances and limitations at the end of this Supplementary Report. No external review of the policy data used in the calculation of the Supplementary Results has been performed.

4.2 The Supplementary Results were prepared using actuarial models developed by the Corporation. The scope of our engagement requires Milliman to independently check the actuarial models used to develop the Supplementary Results for plans that represent a significant and material proportion of the total value of the in-force and new business portfolios.

4.3 Milliman has performed independent checking of the PVFP in respect of both in-force business as at 30 September 2021 and the new business sold during the six months ending 30 September 2021 at a sample model point level, for all products included in the derivation of the Supplementary Results. Other checks performed are consistent with those set out in the APS10 Report.

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

5. Supplementary Results

5.1 The IEV of LIC as at 30 September 2021 is set out in Table 5.1, calculated in accordance with the methodology and assumptions as described above. For comparison, we also show the IEV as at 31 March 2021 as set out in the APS10 Report.

Table 5.1: Indian embedded value

Components of IEV	As at 31 March 2021(1)	As at 30 September 2021
Free surplus (FS) (A)	6,361	8,203
Required capital (RC) (B)	-	-
Adjusted net worth (ANW) (C = A + B)	**6,361**	**8,203**
Present value of future profits (PVFP) (D)	104,772	546,992
Time value of financial options and guarantees (TVFOG) (E)	(1,596)	(1,208)
Frictional cost of required capital (FC) (F)	(149)	(656)
Cost of residual non-hedgeable risks (CRNHR) (G)	(13,782)	(13,645)
Value of in-force business (VIF) (H = D + E + F + G)	**89,245**	**531,483**
Indian embedded value (IEV) (I = C + H)	**95,605**	**539,686**

Notes: Amounts in INR crores; Figures may not add up due to rounding.
(1) The 31 March 2021 figures are as set out in Table 2.5 of the APS10 Report.

5.2 The IEV computed as at 30 September 2021 is Rs 539,686 crores. For comparative purposes the IEV (i.e. before the impact of the fund bifurcation) calculated based on the same fund structure (i.e. a single policyholders' fund) as that reflected in the APS10 Report would be INR 124,767 crores. The increase in IEV is due to the shareholders' interest in the non-participating funds increasing to 100% (as described in Section 2.1), following the decision of the Board of Directors of the Corporation on 8 January 2022 for the bifurcation of the single policyholders' fund into participating and non-participating funds on 30 September 2021. This reflects the assets backing the statutory liabilities, provisions for solvency margin and non-participating global reserves residing in the non-participating funds.

5.3 The VNB, VNB Margin and PVNBP Margin as at 30 September 2021, in respect of new business sold during the six months ending 30 September 2021, are set out in Table 5.2.

Table 5.2: Value of new business

	For new business sold during the six months ending 30 September 2021
VNB before TVFOG, FC and CRNHR (A)	**3,064**
Individual participating	1,406
Individual non-participating	885
Group(1)	773
TVFOG in respect of new business (B)	(101)
FC in respect of new business (C)	(643)
CRNHR in respect of new business (D)	(736)
Value of new business (VNB) (= A + B + C + D)	**1,583**
New business annualised premium equivalent (“APE”(2))	**17,074**
Individual participating	10,925
Individual non-participating	750
Group(1)	5,399
VNB Margin (= VNB / APE)	**9.3%**
Present value of new business premium (“PVNBP”(3))	**118,181**
Individual participating	60,800
Individual non-participating	6,612
Group(1)	50,770
PVNBP Margin (= VNB / PVNBP)	**1.3%**

Notes: Amounts in INR crores; Figures may not add up due to rounding.
(1) ‘Group’ includes group annuities, group funds management and group term
(2) APE is calculated as 100% of annualised premium for regular and limited premium plans and 10% of single premium for business sold during the six months ending 30 September 2021
(3) The Present Value of New Business Premium (“PVNBP”) at the point of sale for the new business sold during the six months ending 30 September 2021

5.4 The sensitivity analysis in respect of IEV as at 30 September 2021 is set out in Table 5.3.

Table 5.3: IEV sensitivity analysis

Sensitivity		ANW	VIF	IEV	% Change in IEV as compared to the base
Base		**8,203**	**531,483**	**539,686**	
1	**Reference rates and assets**				
1a	An increase of 100 bps in the reference rates	8,083	527,731	535,815	(0.7%)
1b	A decrease of 100 bps in the reference rates	8,335	534,285	542,620	0.5%
1c	An increase of 200 bps in the reference rates	7,974	524,297	532,271	(1.4%)
1d	A decrease of 200 bps in the reference rates	8,481	535,110	543,591	0.7%
1e	Equity values decrease by 10%	7,969	495,313	503,282	(6.7%)
1f	Equity values decrease by 20%	7,735	459,143	466,878	(13.5%)
2	**Expenses**				
2a	10% increase in maintenance expenses	8,203	529,123	537,326	(0.4%)
2b	10% decrease in maintenance expenses	8,203	533,840	542,043	0.4%
2c	10% increase in acquisition expenses(1)	8,203	531,478	539,681	(0.0%)
2d	10% decrease in acquisition expenses(1)	8,203	531,487	539,691	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	8,203	530,638	538,841	(0.2%)
3b	10% decrease (multiplicative) in the policy/premium discontinuance rates and partial withdrawal rates	8,203	532,393	540,596	0.2%
3c	50% increase (multiplicative) in the policy/premium discontinuance rates and partial withdrawal rates	8,203	527,834	536,037	(0.7%)
3d	50% decrease (multiplicative) in the policy/premium discontinuance rates and partial withdrawal rates	8,203	536,668	544,871	1.0%
4	**Insurance risks**				
4a	An increase of 5% (multiplicative) in mortality/morbidity rates	8,203	531,735	539,938	0.0%(2)
4b	A decrease of 5% (multiplicative) in mortality/morbidity rates	8,203	531,206	539,409	(0.1%)(2)
5	**Required capital**				
	Required capital set equal to the minimum required capital	8,203	532,090	540,293	0.1%
6	**Taxation**				
	Assumed tax rate increased to 34.94%	8,203	399,845	408,048	(24.4%)

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

5.5 The sensitivity analysis in respect of VNB for business sold during the six months ending 30 September 2021 is set out in Table 5.4.

Table 5.4: VNB sensitivity analysis

	Sensitivity	VNB	% Change in VNB	VNB margin	Change in VNB margin
Base		**1,583**		**9.3%**	
1	**Reference rates and assets**				
1a	An increase of 100 bps in the reference rates	1,879	18.7%	11.0%	1.7%
1b	A decrease of 100 bps in the reference rates	987	(37.7%)	5.8%	(3.5%)
1c	An increase of 200 bps in the reference rates	2,147	35.6%	12.6%	3.3%
1d	A decrease of 200 bps in the reference rates	94	(94.1%)	0.6%	(8.7%)
1e	Equity values decrease by 10%	1,515	(4.3%)	8.9%	(0.4%)
1f	Equity values decrease by 20%	1,448	(8.6%)	8.5%	(0.8%)
2	**Expenses**				
2a	10% increase in maintenance expenses	1,515	(4.3%)	8.9%	(0.4%)
2b	10% decrease in maintenance expenses	1,652	4.3%	9.7%	0.4%
2c	10% increase in acquisition expenses	1,524	(3.7%)	8.9%	(0.3%)
2d	10% decrease in acquisition expenses	1,642	3.7%	9.6%	0.3%
3	**Policy / premium discontinuance rates and partial withdrawal rates (proportionate)**				
3a	10% increase (multiplicative) in the policy/premium discontinuance rates and partial withdrawal rates	1,500	(5.2%)	8.8%	(0.5%)
3b	10% decrease (multiplicative) in the policy/premium discontinuance rates and partial withdrawal rates	1,669	5.4%	9.8%	0.5%
3c	50% increase (multiplicative) in the policy/premium discontinuance rates and partial withdrawal rates	1,202	(24.1%)	7.0%	(2.2%)
3d	50% decrease (multiplicative) in the policy/premium discontinuance rates and partial withdrawal rates	2,036	28.6%	11.9%	2.7%
4	**Insurance risks**				
5a	An increase of 5% (multiplicative) in mortality/morbidity rates	1,583	0.0%	9.3%	0.0%(1)
5b	A decrease of 5% (multiplicative) in mortality/morbidity rates	1,582	(0.0%)	9.3%	(0.0%)(1)
5	**Required capital**				
	Required capital set equal to the minimum required capital	2,142	35.3%	12.5%	3.3%
6	**Taxation**				
	Assumed tax rate increased to 34.94%	796	(49.7%)	4.7%	(4.6%)

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

6. Conclusion and opinion

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

- the methodology used to develop the Supplementary Results is reasonable;
- the assumptions used to develop the Supplementary Results are reasonable;
- the Supplementary Results have been prepared materially in accordance with the methodology and assumptions described in the Supplementary Report; and
- the Supplementary 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 as discussed in Section 1.4.

7. Reliances and Limitations

Reliances

7.1 The scope of this Supplementary Report covers the following:

a. to review the methodology and assumptions adopted by the Corporation; and

b. to review the IEV as at 30 September 2021 and the VNB for the six months ending 30 September 2021 and 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.

7.2 Although this Supplementary Report provides the Supplementary Results following the framework as set out in APS10, we have not included all disclosures as required by APS10 in this Supplementary Report. Consequently, this Supplementary Report should not be considered to be an APS10 disclosure.

7.3 This Supplementary 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.

7.4 This Supplementary 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 Supplementary Report. In order to fully comprehend this Supplementary 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 Supplementary Results. This Supplementary Report must be considered in its entirety and along with the full APS10 Report, as individual sections of either report, if considered in isolation, may be misleading.

7.5 In carrying out the work and producing this Supplementary Report, we have relied on 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.

7.6 In particular we have relied on:

a. the Prophet actuarial model and other models developed by the Corporation to derive the various Supplementary Results. However, we have applied various checks on the models of the Corporation as set out in Section 4;

b. 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;

c. 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;

d. information on reinsurance arrangements and terms and conditions as provided to us by the Corporation;

e. experience investigations relating to current and historical operating experience of the Corporation;

f. information on expense experience analyses performed by the Corporation;

g. audited financial statements for the six months ending 30 September 2021 as provided to us by the Corporation;

h. the Appointed Actuary's statutory liability valuation of the Corporation as at 30 September 2021 and confirmation by the Corporation of the methodology / assumptions adopted in the statutory valuation of liabilities as at that date;

i. the appropriateness and completeness of the governance arrangements surrounding the bifurcation of the single policyholders' fund into separate participating and non-participating funds;

j. asset valuations (book and market value) for investments of the Corporation as set out in the audited financial statements at 30 September 2021, and the market value adjustments as provided to us by the Corporation;

k. the Board approved crediting rate framework for group funds business;

l. information on the Corporation's practices in determining bonuses on participating business;

m. the Board approved surplus distribution policy adopted by the Corporation; and

n. the taxation framework adopted by the Corporation.

7.7 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 Supplementary Report.

7.8 This Supplementary 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 Supplementary Report as a consequence of this.

Limitations

7.9 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 Supplementary Results may be affected as well.

7.10 An embedded value disclosure necessarily requires assumptions to be made about future operating experience and for these to be reflected in the determination of the components of economic value. None of the Supplementary Results are intended to represent forward-looking statements for the purposes of Securities and Exchange Board of India ("SEBI") listing rules.

7.11 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 Supplementary Report should be made only after studying the Supplementary Report in its entirety, together with the APS10 Report, 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 from which 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 Supplementary Report.

7.12 The Supplementary 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 Supplementary 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 Supplementary Report, the future projected profits from which the Supplementary Results are derived will also differ. This Supplementary Report includes various sensitivity analyses to illustrate how vulnerable the various results are to changes in assumptions for the key risks. The Supplementary Results shown are presented at 30 September 2021 and no warranty is given by Milliman that future experience after this date will be in line with the assumptions made.

7.13 The projections and values presented in this Supplementary Report have been determined on a 'going concern' basis, and assume a stable economic, legal and regulatory environment going forward. The reader of this Supplementary Report should be aware that any change in the general operating environment would add a high degree of uncertainty to the Supplementary 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.

7.14 Unless explicitly stated, the Supplementary Results do not consider any external (including regulatory and taxation) developments after 30 September 2021.

7.15 None of the values or projections set out in this Supplementary 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.

7.16 The allowance for taxation reflected in the Supplementary Results is based on the 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 Supplementary Results.

7.17 In the Supplementary 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.

7.18 In the preparation of this Report, we have had access to other advisors of DIPAM/LIC in connection with the IPO and have discussed the 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.

Distribution

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

Yours sincerely

Heerak Basu FIAI
Partner