



LIFE, AND ACCIDENT AND HEALTH COMPANIES/FRATERNAL BENEFIT SOCIETIES - ASSOCIATION EDITION

# ANNUAL STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 2021  
OF THE CONDITION AND AFFAIRS OF THE

## MML Bay State Life Insurance Company

NAIC Group Code 0435 0435 NAIC Company Code 70416 Employer's ID Number 43-0581430  
(Current) (Prior)

Organized under the Laws of Connecticut, State of Domicile or Port of Entry CT

Country of Domicile United States of America

Licensed as business type: Life, Accident and Health [ X ] Fraternal Benefit Societies [ ]

Incorporated/Organized 04/01/1935 Commenced Business 07/01/1894

Statutory Home Office 100 Bright Meadow Boulevard, Enfield, CT, US 06082  
(Street and Number) (City or Town, State, Country and Zip Code)

Main Administrative Office 1295 State Street  
(Street and Number)

Springfield, MA, US 01111 413-788-8411  
(City or Town, State, Country and Zip Code) (Area Code) (Telephone Number)

Mail Address 1295 State Street, Springfield, MA, US 01111  
(Street and Number or P.O. Box) (City or Town, State, Country and Zip Code)

Primary Location of Books and Records 1295 State Street  
(Street and Number)

Springfield, MA, US 01111 413-788-8411  
(City or Town, State, Country and Zip Code) (Area Code) (Telephone Number)

Internet Website Address www.massmutual.com

Statutory Statement Contact Trevor Wade Gordon, 617-695-4321  
(Name) (Area Code) (Telephone Number)

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(E-mail Address) (FAX Number)

### OFFICERS

President and Chief Executive Officer Roger William Crandall Treasurer Julieta Giselle Sinisgalli #  
Secretary Akintokunbo Akinbajo Appointed Actuary Vy Quoc Ho

### OTHER

Elizabeth Ward Chicares, Executive Vice President and Chief Financial Officer Michael Robert Fanning, Executive Vice President Melvin Timothy Corbett, Executive Vice President

### DIRECTORS OR TRUSTEES

Roger William Crandall - Chairman Michael Robert Fanning Elizabeth Ward Chicares  
Michael James O'Connor

State of Massachusetts SS  
County of Hampden

The officers of this reporting entity being duly sworn, each depose and say that they are the described officers of said reporting entity, and that on the reporting period stated above, all of the herein described assets were the absolute property of the said reporting entity, free and clear from any liens or claims thereon, except as herein stated, and that this statement, together with related exhibits, schedules and explanations therein contained, annexed or referred to, is a full and true statement of all the assets and liabilities and of the condition and affairs of the said reporting entity as of the reporting period stated above, and of its income and deductions therefrom for the period ended, and have been completed in accordance with the NAIC Annual Statement Instructions and Accounting Practices and Procedures manual except to the extent that: (1) state law may differ; or, (2) that state rules or regulations require differences in reporting not related to accounting practices and procedures, according to the best of their information, knowledge and belief, respectively. Furthermore, the scope of this attestation by the described officers also includes the related corresponding electronic filing with the NAIC, when required, that is an exact copy (except for formatting differences due to electronic filing) of the enclosed statement. The electronic filing may be requested by various regulators in lieu of or in addition to the enclosed statement.

Roger William Crandall  
President and Chief Executive Officer

Akintokunbo Akinbajo  
Secretary

Julieta Giselle Sinisgalli  
Treasurer

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_

- a. Is this an original filing? ..... Yes [ X ] No [ ]  
b. If no,  
1. State the amendment number.....  
2. Date filed.....  
3. Number of pages attached.....

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**ASSETS**

	Current Year			Prior Year
	1 Assets	2 Nonadmitted Assets	3 Net Admitted Assets (Cols. 1 - 2)	4 Net Admitted Assets
1. Bonds (Schedule D) .....	218,728,243		218,728,243	243,446,730
2. Stocks (Schedule D):				
2.1 Preferred stocks .....				
2.2 Common stocks .....	12,060		12,060	
3. Mortgage loans on real estate (Schedule B):				
3.1 First liens .....	1,771,148		1,771,148	
3.2 Other than first liens .....				2,090,393
4. Real estate (Schedule A):				
4.1 Properties occupied by the company (less \$ .....				
encumbrances) .....				
4.2 Properties held for the production of income (less				
\$ .....				
encumbrances) .....				
4.3 Properties held for sale (less \$ .....				
encumbrances) .....				
5. Cash (\$ .....7,111,307 , Schedule E - Part 1), cash equivalents				
(\$ .....107,988,780 , Schedule E - Part 2) and short-term				
investments (\$ .....5,999,418 , Schedule DA) .....	121,099,505		121,099,505	103,615,595
6. Contract loans (including \$ ..... premium notes) .....	90,670,570		90,670,570	92,724,451
7. Derivatives (Schedule DB) .....				
8. Other invested assets (Schedule BA) .....				
9. Receivables for securities .....				
10. Securities lending reinvested collateral assets (Schedule DL) .....				
11. Aggregate write-ins for invested assets .....				
12. Subtotals, cash and invested assets (Lines 1 to 11) .....	432,281,526		432,281,526	441,877,170
13. Title plants less \$ ..... charged off (for Title insurers				
only) .....				
14. Investment income due and accrued .....	3,865,212	18,814	3,846,398	4,048,880
15. Premiums and considerations:				
15.1 Uncollected premiums and agents' balances in the course of collection .....				
15.2 Deferred premiums and agents' balances and installments booked but				
deferred and not yet due (including \$ .....				
earned but unbilled premiums) .....	(3,803,929)		(3,803,929)	(2,277,498)
15.3 Accrued retrospective premiums (\$ ..... ) and				
contracts subject to redetermination (\$ ..... ) .....				
16. Reinsurance:				
16.1 Amounts recoverable from reinsurers .....	7,715,214		7,715,214	7,479,473
16.2 Funds held by or deposited with reinsured companies .....				
16.3 Other amounts receivable under reinsurance contracts .....	41,218,338		41,218,338	35,715,673
17. Amounts receivable relating to uninsured plans .....				
18.1 Current federal and foreign income tax recoverable and interest thereon .....	4,164,238		4,164,238	3,991,574
18.2 Net deferred tax asset .....	4,011,897	2,200,318	1,811,579	1,970,108
19. Guaranty funds receivable or on deposit .....	118,464		118,464	159,879
20. Electronic data processing equipment and software .....				
21. Furniture and equipment, including health care delivery assets				
(\$ ..... ) .....				
22. Net adjustment in assets and liabilities due to foreign exchange rates .....				
23. Receivables from parent, subsidiaries and affiliates .....	203,186		203,186	173,473
24. Health care (\$ ..... ) and other amounts receivable .....				
25. Aggregate write-ins for other than invested assets .....	460,735		460,735	149,210
26. Total assets excluding Separate Accounts, Segregated Accounts and				
Protected Cell Accounts (Lines 12 to 25) .....	490,234,880	2,219,132	488,015,749	493,287,942
27. From Separate Accounts, Segregated Accounts and Protected Cell				
Accounts .....	4,974,831,570		4,974,831,570	4,858,831,848
28. Total (Lines 26 and 27) .....	5,465,066,450	2,219,132	5,462,847,319	5,352,119,790
<b>DETAILS OF WRITE-INS</b>				
1101. ....				
1102. ....				
1103. ....				
1198. Summary of remaining write-ins for Line 11 from overflow page .....				
1199. Totals (Lines 1101 thru 1103 plus 1198)(Line 11 above) .....				
2501. Miscellaneous other assets .....	460,735		460,735	149,210
2502. ....				
2503. ....				
2598. Summary of remaining write-ins for Line 25 from overflow page .....				
2599. Totals (Lines 2501 thru 2503 plus 2598)(Line 25 above) .....	460,735		460,735	149,210

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**LIABILITIES, SURPLUS AND OTHER FUNDS**

	1 Current Year	2 Prior Year
1. Aggregate reserve for life contracts \$ ..... 143,285,875 (Exh. 5, Line 9999999) less \$ ..... included in Line 6.3 (including \$ ..... 127,043,147 Modco Reserve) .....	143,285,875	143,124,981
2. Aggregate reserve for accident and health contracts (including \$ ..... Modco Reserve) .....	15,980,530	13,771,784
3. Liability for deposit-type contracts (Exhibit 7, Line 14, Col. 1) (including \$ ..... Modco Reserve) .....		
4. Contract claims:		
4.1 Life (Exhibit 8, Part 1, Line 4.4, Col. 1 less sum of Cols. 9, 10 and 11) .....	9,928,290	7,542,397
4.2 Accident and health (Exhibit 8, Part 1, Line 4.4, sum of Cols. 9, 10 and 11) .....		
5. Policyholders' dividends/refunds to members \$ ..... and coupons \$ ..... due and unpaid (Exhibit 4, Line 10) .....		
6. Provision for policyholders' dividends, refunds to members and coupons payable in following calendar year - estimated amounts:		
6.1 Policyholders' dividends and refunds to members apportioned for payment (including \$ ..... Modco) .....		
6.2 Policyholders' dividends and refunds to members not yet apportioned (including \$ ..... Modco) .....		
6.3 Coupons and similar benefits (including \$ ..... Modco) .....		
7. Amount provisionally held for deferred dividend policies not included in Line 6 .....		
8. Premiums and annuity considerations for life and accident and health contracts received in advance less \$ ..... discount; including \$ ..... accident and health premiums (Exhibit 1, Part 1, Col. 1, sum of lines 4 and 14) .....		
9. Contract liabilities not included elsewhere:		
9.1 Surrender values on canceled contracts .....		
9.2 Provision for experience rating refunds, including the liability of \$ ..... accident and health experience rating refunds of which \$ ..... is for medical loss ratio rebate per the Public Health Service Act .....	10,055,259	20,144,004
9.3 Other amounts payable on reinsurance, including \$ ..... assumed and \$ ..... 16,781,392 ceded .....	16,781,392	8,434,112
9.4 Interest maintenance reserve (IMR, Line 6) .....	1,206,859	606,773
10. Commissions to agents due or accrued-life and annuity contracts \$ ..... 16,615 accident and health \$ ..... and deposit-type contract funds \$ ..... 16,615 .....	16,615	20,643
11. Commissions and expense allowances payable on reinsurance assumed .....		
12. General expenses due or accrued (Exhibit 2, Line 12, Col. 7) .....		
13. Transfers to Separate Accounts due or accrued (net) (including \$ ..... (408,912) accrued for expense allowances recognized in reserves, net of reinsured allowances) .....	16,974,112	13,792,358
14. Taxes, licenses and fees due or accrued, excluding federal income taxes (Exhibit 3, Line 9, Col. 6) .....	136,806	171,288
15.1 Current federal and foreign income taxes, including \$ ..... on realized capital gains (losses) .....		
15.2 Net deferred tax liability .....		
16. Unearned investment income .....		
17. Amounts withheld or retained by reporting entity as agent or trustee .....	7,455	61,388
18. Amounts held for agents' account, including \$ ..... agents' credit balances .....		
19. Remittances and items not allocated .....	(2,518,716)	1,352,348
20. Net adjustment in assets and liabilities due to foreign exchange rates .....		
21. Liability for benefits for employees and agents if not included above .....		
22. Borrowed money \$ ..... and interest thereon \$ .....		
23. Dividends to stockholders declared and unpaid .....		
24. Miscellaneous liabilities:		
24.01 Asset valuation reserve (AVR, Line 16, Col. 7) .....	6,056,250	7,192,889
24.02 Reinsurance in unauthorized and certified (\$ ..... ) companies .....		
24.03 Funds held under reinsurance treaties with unauthorized and certified (\$ ..... ) reinsurers .....		
24.04 Payable to parent, subsidiaries and affiliates .....	4,310,158	2,169,121
24.05 Drafts outstanding .....		
24.06 Liability for amounts held under uninsured plans .....		
24.07 Funds held under coinsurance .....		
24.08 Derivatives .....		
24.09 Payable for securities .....		
24.10 Payable for securities lending .....		
24.11 Capital notes \$ ..... and interest thereon \$ .....		
25. Aggregate write-ins for liabilities .....	365,273	394,330
26. Total liabilities excluding Separate Accounts business (Lines 1 to 25) .....	222,586,158	218,778,416
27. From Separate Accounts Statement .....	4,974,831,570	4,858,831,848
28. Total liabilities (Lines 26 and 27) .....	5,197,417,728	5,077,610,264
29. Common capital stock .....	2,500,200	2,500,200
30. Preferred capital stock .....		
31. Aggregate write-ins for other than special surplus funds .....		
32. Surplus notes .....		
33. Gross paid in and contributed surplus (Page 3, Line 33, Col. 2 plus Page 4, Line 51.1, Col. 1) .....	143,736,914	143,736,914
34. Aggregate write-ins for special surplus funds .....		
35. Unassigned funds (surplus) .....	119,192,476	128,272,412
36. Less treasury stock, at cost:		
36.1 ..... shares common (value included in Line 29 \$ ..... ) .....		
36.2 ..... shares preferred (value included in Line 30 \$ ..... ) .....		
37. Surplus (Total Lines 31+32+33+34+35-36) (including \$ ..... 0 in Separate Accounts Statement) .....	262,929,391	272,009,326
38. Totals of Lines 29, 30 and 37 (Page 4, Line 55) .....	265,429,591	274,509,526
39. Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3) .....	5,462,847,319	5,352,119,790
<b>DETAILS OF WRITE-INS</b>		
2501. Miscellaneous liabilities .....	245,103	193,420
2502. Funds awaiting escheat .....	120,170	200,910
2503. ....		
2598. Summary of remaining write-ins for Line 25 from overflow page .....		
2599. Totals (Lines 2501 thru 2503 plus 2598)(Line 25 above) .....	365,273	394,330
3101. ....		
3102. ....		
3103. ....		
3198. Summary of remaining write-ins for Line 31 from overflow page .....		
3199. Totals (Lines 3101 thru 3103 plus 3198)(Line 31 above) .....		
3401. ....		
3402. ....		
3403. ....		
3498. Summary of remaining write-ins for Line 34 from overflow page .....		
3499. Totals (Lines 3401 thru 3403 plus 3498)(Line 34 above) .....		

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SUMMARY OF OPERATIONS**

	1 Current Year	2 Prior Year
1. Premiums and annuity considerations for life and accident and health contracts (Exhibit 1, Part 1, Line 20.4, Col. 1, less Col. 11) .....	11,403,237	(4,338,246)
2. Considerations for supplementary contracts with life contingencies .....	302,218	3,860
3. Net investment income (Exhibit of Net Investment Income, Line 17) .....	12,821,868	15,179,564
4. Amortization of Interest Maintenance Reserve (IMR, Line 5) .....	274,299	173,503
5. Separate Accounts net gain from operations excluding unrealized gains or losses .....		
6. Commissions and expense allowances on reinsurance ceded (Exhibit 1, Part 2, Line 26.1, Col. 1) .....	10,396,525	10,226,565
7. Reserve adjustments on reinsurance ceded .....	(78,829,689)	(70,012,768)
8. Miscellaneous Income:		
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts .....	68,296,970	67,246,889
8.2 Charges and fees for deposit-type contracts .....		
8.3 Aggregate write-ins for miscellaneous income .....	(27,023)	(886,736)
9. Total (Lines 1 to 8.3) .....	24,638,404	17,592,631
10. Death benefits .....	76,520,023	38,973,328
11. Matured endowments (excluding guaranteed annual pure endowments) .....		
12. Annuity benefits (Exhibit 8, Part 2, Line 6.4, Cols. 4 + 8) .....	1,003,671	1,838,913
13. Disability benefits and benefits under accident and health contracts .....	397,745	353,305
14. Coupons, guaranteed annual pure endowments and similar benefits .....		
15. Surrender benefits and withdrawals for life contracts .....	4,299,356	3,793,836
16. Group conversions .....		
17. Interest and adjustments on contract or deposit-type contract funds .....	1,241,960	1,420,055
18. Payments on supplementary contracts with life contingencies .....	42,724	39,899
19. Increase in aggregate reserves for life and accident and health contracts .....	160,895	(2,201,567)
20. Totals (Lines 10 to 19) .....	83,666,373	44,217,769
21. Commissions on premiums, annuity considerations, and deposit-type contract funds (direct business only) (Exhibit 1, Part 2, Line 31, Col. 1) .....	1,972,212	2,045,004
22. Commissions and expense allowances on reinsurance assumed (Exhibit 1, Part 2, Line 26.2, Col. 1) .....		
23. General insurance expenses and fraternal expenses (Exhibit 2, Line 10, Cols. 1, 2, 3, 4 and 6) .....	7,767,022	8,547,919
24. Insurance taxes, licenses and fees, excluding federal income taxes (Exhibit 3, Line 7, Cols. 1 + 2 + 3 + 5) .....	1,174,357	735,043
25. Increase in loading on deferred and uncollected premiums .....	(9,474)	56
26. Net transfers to or (from) Separate Accounts net of reinsurance .....	(89,497,513)	(49,934,367)
27. Aggregate write-ins for deductions .....	(1,998,713)	(1,550,537)
28. Totals (Lines 20 to 27) .....	3,074,263	4,060,886
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28) .....	21,564,141	13,531,746
30. Dividends to policyholders and refunds to members .....		
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30) .....	21,564,141	13,531,746
32. Federal and foreign income taxes incurred (excluding tax on capital gains) .....	2,976,391	1,012,978
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32) .....	18,587,750	12,518,768
34. Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital gains tax of \$ 39,345 (excluding taxes of \$ 232,431 transferred to the IMR) .....	(51,270)	(133,507)
35. Net income (Line 33 plus Line 34) .....	18,536,480	12,385,260
<b>CAPITAL AND SURPLUS ACCOUNT</b>		
36. Capital and surplus, December 31, prior year (Page 3, Line 38, Col. 2) .....	274,509,526	293,454,322
37. Net income (Line 35) .....	18,536,480	12,385,260
38. Change in net unrealized capital gains (losses) less capital gains tax of \$ 5,236 .....	19,696	(140,180)
39. Change in net unrealized foreign exchange capital gain (loss) .....		
40. Change in net deferred income tax .....	(180,399)	(256,559)
41. Change in nonadmitted assets .....	17,076	84,989
42. Change in liability for reinsurance in unauthorized and certified companies .....		
43. Change in reserve on account of change in valuation basis, (increase) or decrease .....		600,000
44. Change in asset valuation reserve .....	1,136,639	(907,693)
45. Change in treasury stock (Page 3, Lines 36.1 and 36.2, Col. 2 minus Col. 1) .....		
46. Surplus (contributed to) withdrawn from Separate Accounts during period .....		
47. Other changes in surplus in Separate Accounts Statement .....		
48. Change in surplus notes .....		
49. Cumulative effect of changes in accounting principles .....		
50. Capital changes:		
50.1 Paid in .....		
50.2 Transferred from surplus (Stock Dividend) .....		
50.3 Transferred to surplus .....		
51. Surplus adjustment:		
51.1 Paid in .....		
51.2 Transferred to capital (Stock Dividend) .....		
51.3 Transferred from capital .....		
51.4 Change in surplus as a result of reinsurance .....		
52. Dividends to stockholders .....	(27,000,000)	(29,000,000)
53. Aggregate write-ins for gains and losses in surplus .....	(1,609,427)	(1,710,613)
54. Net change in capital and surplus for the year (Lines 37 through 53) .....	(9,079,935)	(18,944,796)
55. Capital and surplus, December 31, current year (Lines 36 + 54) (Page 3, Line 38) .....	265,429,591	274,509,526
<b>DETAILS OF WRITE-INS</b>		
08.301. Management and administrative fees .....	(1,841,568)	(1,684,923)
08.302. Revenue sharing .....	1,118,249	972,717
08.303. Miscellaneous .....	696,296	(174,530)
08.398. Summary of remaining write-ins for Line 8.3 from overflow page .....		
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398)(Line 8.3 above) .....	(27,023)	(886,736)
2701. Reinsurance ceded adjustment .....	(1,609,427)	(1,710,613)
2702. Miscellaneous charges to operations .....	(389,286)	160,076
2703. .....		
2798. Summary of remaining write-ins for Line 27 from overflow page .....		
2799. Totals (Lines 2701 thru 2703 plus 2798)(Line 27 above) .....	(1,998,713)	(1,550,537)
5301. Reinsurance ceded adjustment .....	(1,609,427)	(1,710,613)
5302. .....		
5303. .....		
5398. Summary of remaining write-ins for Line 53 from overflow page .....		
5399. Totals (Lines 5301 thru 5303 plus 5398)(Line 53 above) .....	(1,609,427)	(1,710,613)

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**CASH FLOW**

	1	2
	Current Year	Prior Year
<b>Cash from Operations</b>		
1. Premiums collected net of reinsurance .....	3,170,054	820,981
2. Net investment income .....	12,856,801	15,788,731
3. Miscellaneous income .....	9,539,345	(4,994,848)
4. Total (Lines 1 through 3) .....	25,566,200	11,614,864
5. Benefit and loss related payments .....	88,522,573	52,146,733
6. Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts .....	(92,363,691)	(61,647,092)
7. Commissions, expenses paid and aggregate write-ins for deductions .....	8,770,837	12,218,371
8. Dividends paid to policyholders .....		
9. Federal and foreign income taxes paid (recovered) net of \$ ..... (232,405) tax on capital gains (losses) .....	3,420,831	725,317
10. Total (Lines 5 through 9) .....	8,350,550	3,443,329
11. Net cash from operations (Line 4 minus Line 10) .....	17,215,650	8,171,535
<b>Cash from Investments</b>		
12. Proceeds from investments sold, matured or repaid:		
12.1 Bonds .....	33,483,635	76,001,682
12.2 Stocks .....		
12.3 Mortgage loans .....	311,249	262,098
12.4 Real estate .....		
12.5 Other invested assets .....		
12.6 Net gains or (losses) on cash, cash equivalents and short-term investments .....	558	7,570
12.7 Miscellaneous proceeds .....		
12.8 Total investment proceeds (Lines 12.1 to 12.7) .....	33,795,442	76,271,350
13. Cost of investments acquired (long-term only):		
13.1 Bonds .....	7,437,278	12,522,067
13.2 Stocks .....		
13.3 Mortgage loans .....	735	951
13.4 Real estate .....		
13.5 Other invested assets .....		
13.6 Miscellaneous applications .....		
13.7 Total investments acquired (Lines 13.1 to 13.6) .....	7,438,013	12,523,018
14. Net increase (decrease) in contract loans and premium notes .....	(2,176,191)	(4,025,405)
15. Net cash from investments (Line 12.8 minus Line 13.7 minus Line 14) .....	28,533,620	67,773,737
<b>Cash from Financing and Miscellaneous Sources</b>		
16. Cash provided (applied):		
16.1 Surplus notes, capital notes .....		
16.2 Capital and paid in surplus, less treasury stock .....		
16.3 Borrowed funds .....		
16.4 Net deposits on deposit-type contracts and other insurance liabilities .....	1,793,464	(3,414,901)
16.5 Dividends to stockholders .....	27,000,000	29,000,000
16.6 Other cash provided (applied) .....	(3,058,823)	(386,834)
17. Net cash from financing and miscellaneous sources (Lines 16.1 to 16.4 minus Line 16.5 plus Line 16.6) .....	(28,265,360)	(32,801,735)
<b>RECONCILIATION OF CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS</b>		
18. Net change in cash, cash equivalents and short-term investments (Line 11, plus Lines 15 and 17) .....	17,483,910	43,143,537
19. Cash, cash equivalents and short-term investments:		
19.1 Beginning of year .....	103,615,595	60,472,058
19.2 End of year (Line 18 plus Line 19.1) .....	121,099,505	103,615,595
<b>Note: Supplemental disclosures of cash flow information for non-cash transactions:</b>		
20.0001. Stock conversions .....	4,641	
20.0002. Bond conversions and refinancing .....	435	1,749,327

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company  
**ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - SUMMARY**

	1	2	3	4	5	6	7	8	9
	Total	Individual Life	Group Life	Individual Annuities	Group Annuities	Accident and Health	Fraternal	Other Lines of Business	YRT Mortality Risk Only
1. Premiums and annuity considerations for life and accident and health contracts .....	11,403,237	11,387,237		16,000					
2. Considerations for supplementary contracts with life contingencies .....	302,218	XXX	XXX	302,218		XXX	XXX		XXX
3. Net investment income .....	12,821,868	11,960,284	353,047	508,537					
4. Amortization of Interest Maintenance Reserve (IMR) .....	274,299	244,504	12,209	17,586					
5. Separate Accounts net gain from operations excluding unrealized gains or losses .....							XXX		
6. Commissions and expense allowances on reinsurance ceded .....	10,396,525	4,025,440	6,371,086				XXX		
7. Reserve adjustments on reinsurance ceded .....	(78,829,689)	(67,941,804)	(10,887,885)				XXX		
8. Miscellaneous Income:									
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts .....	68,296,970	61,492,506	6,205,653	598,811			XXX		
8.2 Charges and fees for deposit-type contracts .....						XXX	XXX		
8.3 Aggregate write-ins for miscellaneous income .....	(27,024)	908,130	(1,023,040)	87,886					
9. Totals (Lines 1 to 8.3) .....	24,638,404	22,076,296	1,031,069	1,531,039					
10. Death benefits .....	76,520,023	76,520,023				XXX	XXX		
11. Matured endowments (excluding guaranteed annual pure endowments) .....						XXX	XXX		
12. Annuity benefits .....	1,003,671	XXX	XXX	1,003,671		XXX	XXX		XXX
13. Disability benefits and benefits under accident and health contracts .....	397,745	397,745					XXX		
14. Coupons, guaranteed annual pure endowments and similar benefits .....							XXX		
15. Surrender benefits and withdrawals for life contracts .....	4,299,356	954,588		3,344,768		XXX	XXX		
16. Group conversions .....							XXX		
17. Interest and adjustments on contract or deposit-type contract funds .....	1,241,960	606,433	216,414	419,113			XXX		
18. Payments on supplementary contracts with life contingencies .....	42,724			42,724		XXX	XXX		
19. Increase in aggregate reserves for life and accident and health contracts .....	160,895	(101,502)	120,000	142,397			XXX		
20. Totals (Lines 10 to 19) .....	83,666,373	78,377,286	336,414	4,952,673			XXX		
21. Commissions on premiums, annuity considerations and deposit-type contract funds (direct business only) .....	1,972,212	780,549	1,149,627	42,037					XXX
22. Commissions and expense allowances on reinsurance assumed .....							XXX		
23. General insurance expenses and fraternal expenses .....	7,767,022	7,055,251	527,955	183,817					
24. Insurance taxes, licenses and fees, excluding federal income taxes .....	1,174,357	1,152,099	11,750	10,508					
25. Increase in loading on deferred and uncollected premiums .....	(9,474)	(9,474)					XXX		
26. Net transfers to or (from) Separate Accounts net of reinsurance .....	(89,497,513)	(75,625,749)	(9,626,102)	(4,245,663)			XXX		
27. Aggregate write-ins for deductions .....	(1,998,713)	(1,830,703)	4,510	(172,521)					
28. Totals (Lines 20 to 27) .....	3,074,264	9,899,259	(7,595,846)	770,851					
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28) .....	21,564,141	12,177,037	8,626,915	760,188					
30. Dividends to policyholders and refunds to members .....							XXX		
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30) .....	21,564,141	12,177,037	8,626,915	760,188					
32. Federal income taxes incurred (excluding tax on capital gains) .....	2,976,391	1,680,735	1,190,731	104,925					
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32) .....	18,587,750	10,496,302	7,436,185	655,263					
34. Policies/certificates in force end of year .....	30,257	26,618	3,041	598			XXX		
<b>DETAILS OF WRITE-INS</b>									
08.301. Management and administrative fees .....	(1,841,568)	(818,529)	(1,023,039)						
08.302. Revenue Sharing .....	1,118,249	1,030,361		87,889					
08.303. Miscellaneous .....	696,296	696,299	(1)	(2)					
08.398. Summary of remaining write-ins for Line 8.3 from overflow page .....									
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398) (Line 8.3 above) .....	(27,024)	908,130	(1,023,040)	87,886					
2701. Reinsurance ceded adjustment .....	(1,609,427)	(1,609,427)							
2702. Miscellaneous charges to operations .....	(389,285)	(221,275)	4,510	(172,521)					
2703. .....									
2798. Summary of remaining write-ins for Line 27 from overflow page .....									
2799. Totals (Lines 2701 thru 2703 plus 2798) (Line 27 above) .....	(1,998,713)	(1,830,703)	4,510	(172,521)					

**ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company**  
**ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - INDIVIDUAL LIFE INSURANCE (b)**

	1	2	3	4	5	6	7	8	9	10	11	12
	Total	Industrial Life	Whole Life	Term Life	Indexed Life	Universal Life	Universal Life With Secondary Guarantees	Variable Life	Variable Universal Life	Credit Life (c)	Other Individual Life	YRT Mortality Risk Only
1. Premiums for life contracts (a)	11,387,237							597,533	10,789,704			
2. Considerations for supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
3. Net investment income	11,960,284							743,018	11,217,266			
4. Amortization of Interest Maintenance Reserve (IMR)	244,504							22,075	222,429			
5. Separate Accounts net gain from operations excluding unrealized gains or losses												
6. Commissions and expense allowances on reinsurance ceded	4,025,440								4,025,440			
7. Reserve adjustments on reinsurance ceded	(67,941,804)								(67,941,804)			
8. Miscellaneous Income:												
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	61,492,506							263,243	61,229,262			
8.2 Charges and fees for deposit-type contracts												
8.3 Aggregate write-ins for miscellaneous income	908,130							(3)	908,133			
9. Totals (Lines 1 to 8.3)	22,076,296							1,625,867	20,450,429			
10. Death benefits	76,520,023							36,343	76,483,680			
11. Matured endowments (excluding guaranteed annual pure endowments)												
12. Annuity benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
13. Disability benefits and benefits under accident and health contracts	397,745							7,463	390,281			
14. Coupons, guaranteed annual pure endowments and similar benefits												
15. Surrender benefits and withdrawals for life contracts	954,588							954,588				
16. Group conversions												
17. Interest and adjustments on contract or deposit-type contract funds	606,433							255	606,178			
18. Payments on supplementary contracts with life contingencies												
19. Increase in aggregate reserves for life and accident and health contracts	(101,502)							453,451	(554,953)			
20. Totals (Lines 10 to 19)	78,377,286							1,452,100	76,925,186			
21. Commissions on premiums, annuity considerations and deposit-type contract funds (direct business only)	780,549							669	779,879			XXX
22. Commissions and expense allowances on reinsurance assumed												
23. General insurance expenses	7,055,251							807,468	6,247,783			
24. Insurance taxes, licenses and fees, excluding federal income taxes	1,152,099							276,213	875,886			
25. Increase in loading on deferred and uncollected premiums	(9,474)							(9,474)				
26. Net transfers to or (from) Separate Accounts net of reinsurance	(75,625,749)							(633,764)	(74,991,985)			
27. Aggregate write-ins for deductions	(1,830,703)							(544)	(1,830,159)			
28. Totals (Lines 20 to 27)	9,899,259							1,892,669	8,006,590			
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28)	12,177,037							(266,802)	12,443,839			
30. Dividends to policyholders and refunds to members												
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	12,177,037							(266,802)	12,443,839			
32. Federal income taxes incurred (excluding tax on capital gains)	1,680,735							(36,825)	1,717,561			
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	10,496,302							(229,977)	10,726,279			
34. Policies/certificates in force end of year	26,618							254	26,364			
<b>DETAILS OF WRITE-INS</b>												
08.301. Revenue sharing	1,030,361								1,030,361			
08.302. Miscellaneous	696,299							(3)	696,302			
08.303. Management and administrative fees	(818,529)								(818,529)			
08.398. Summary of remaining write-ins for Line 8.3 from overflow page												
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398) (Line 8.3 above)	908,130							(3)	908,133			
2701. Reinsurance ceded adjustment	(1,609,427)								(1,609,427)			
2702. Ceded income on funds withheld	(221,275)							(544)	(220,732)			
2703.												
2798. Summary of remaining write-ins for Line 27 from overflow page												
2799. Totals (Lines 2701 thru 2703 plus 2798) (Line 27 above)	(1,830,703)							(544)	(1,830,159)			

(a) Include premium amounts for preneed plans included in Line 1

(b) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

(c) Individual and Group Credit Life are combined and included on page. (Indicate whether included with Individual or Group.)

**ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company**  
**ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - GROUP LIFE INSURANCE (c)**

	1	2	3	4	5	6	7	8	9
	Total	Whole Life	Term Life	Universal Life	Variable Life	Variable Universal Life	Credit Life (d)	Other Group Life (a)	YRT Mortality Risk Only
1. Premiums for life contracts <sup>(b)</sup>									
2. Considerations for supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
3. Net investment income	353,047					353,047			
4. Amortization of Interest Maintenance Reserve (IMR)	12,209					12,209			
5. Separate Accounts net gain from operations excluding unrealized gains or losses									
6. Commissions and expense allowances on reinsurance ceded	6,371,086					6,371,086			
7. Reserve adjustments on reinsurance ceded	(10,887,885)					(10,887,885)			
8. Miscellaneous Income:									
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	6,205,653					6,205,653			
8.2 Charges and fees for deposit-type contracts									
8.3 Aggregate write-ins for miscellaneous income	(1,023,040)					(1,023,040)			
9. Totals (Lines 1 to 8.3)	1,031,069					1,031,069			
10. Death benefits									
11. Matured endowments (excluding guaranteed annual pure endowments)									
12. Annuity benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
13. Disability benefits and benefits under accident and health contracts									
14. Coupons, guaranteed annual pure endowments and similar benefits									
15. Surrender benefits and withdrawals for life contracts									
16. Group conversions									
17. Interest and adjustments on contract or deposit-type contract funds	216,414					216,414			
18. Payments on supplementary contracts with life contingencies									
19. Increase in aggregate reserves for life and accident and health contracts	120,000					120,000			
20. Totals (Lines 10 to 19)	336,414					336,414			
21. Commissions on premiums, annuity considerations and deposit-type contract funds (direct business only)	1,149,627					1,149,627			XXX
22. Commissions and expense allowances on reinsurance assumed									
23. General insurance expenses	527,955					527,955			
24. Insurance taxes, licenses and fees, excluding federal income taxes	11,750					11,750			
25. Increase in loading on deferred and uncollected premiums									
26. Net transfers to or (from) Separate Accounts net of reinsurance	(9,626,102)					(9,626,102)			
27. Aggregate write-ins for deductions	4,510					4,510			
28. Totals (Lines 20 to 27)	(7,595,846)					(7,595,846)			
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28)	8,626,915					8,626,915			
30. Dividends to policyholders and refunds to members									
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	8,626,915					8,626,915			
32. Federal income taxes incurred (excluding tax on capital gains)	1,190,731					1,190,731			
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	7,436,185					7,436,185			
34. Policies/certificates in force end of year	3,041					3,041			
<b>DETAILS OF WRITE-INS</b>									
08.301. Management and administrative fees	(1,023,039)					(1,023,039)			
08.302. Miscellaneous	(1)					(1)			
08.303.									
08.398. Summary of remaining write-ins for Line 8.3 from overflow page									
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398) (Line 8.3 above)	(1,023,040)					(1,023,040)			
2701. Miscellaneous charges to operations	4,510					4,510			
2702.									
2703.									
2798. Summary of remaining write-ins for Line 27 from overflow page									
2799. Totals (Lines 2701 thru 2703 plus 2798) (Line 27 above)	4,510					4,510			

(a) Includes the following amounts for FEGLI/SGLI: Line 1 \_\_\_\_\_, Line 10 \_\_\_\_\_, Line 16 \_\_\_\_\_, Line 23 \_\_\_\_\_, Line 24 \_\_\_\_\_

(b) Include premium amounts for preneed plans included in Line 1 \_\_\_\_\_

(c) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected. \_\_\_\_\_

(d) Individual and Group Credit Life are combined and included on \_\_\_\_\_ page. (Indicate whether included with Individual or Group.)



ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company  
**ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - INDIVIDUAL ANNUITIES (a)**

	1 Total	Deferred				6 Life Contingent Payout (Immediate and Annuitizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities with Guarantees	5 Variable Annuities Without Guarantees		
1. Premiums for individual annuity contracts .....	16,000			16,000			
2. Considerations for supplementary contracts with life contingencies .....	302,218	XXX	XXX	XXX	XXX	302,218	XXX
3. Net investment income .....	508,537			129,209			379,328
4. Amortization of Interest Maintenance Reserve (IMR) .....	17,586			4,468			13,118
5. Separate Accounts net gain from operations excluding unrealized gains or losses .....							
6. Commissions and expense allowances on reinsurance ceded .....							
7. Reserve adjustments on reinsurance ceded .....							
8. Miscellaneous Income:							
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts .....	598,811			598,811			
8.2 Charges and fees for deposit-type contracts .....							
8.3 Aggregate write-ins for miscellaneous income .....	87,886			87,888			(2)
9. Totals (Lines 1 to 8.3) .....	1,531,038			836,376		302,218	392,444
10. Death benefits .....							
11. Matured endowments (excluding guaranteed annual pure endowments) .....							
12. Annuity benefits .....	1,003,671			1,003,671			
13. Disability benefits and benefits under accident and health contracts .....							
14. Coupons, guaranteed annual pure endowments and similar benefits .....							
15. Surrender benefits and withdrawals for life contracts .....	3,344,768			3,344,768			
16. Group conversions .....							
17. Interest and adjustments on contract or deposit-type contract funds .....	419,113			3,831			415,282
18. Payments on supplementary contracts with life contingencies .....	42,724					42,724	
19. Increase in aggregate reserves for life and accident and health contracts .....	142,397			142,397			
20. Totals (Lines 10 to 19) .....	4,952,673			4,494,666		42,724	415,282
21. Commissions on premiums, annuity considerations and deposit-type contract funds (direct business only) .....	42,037			42,037			
22. Commissions and expense allowances on reinsurance assumed .....							
23. General insurance expenses .....	183,817			89,354			94,463
24. Insurance taxes, licenses and fees, excluding federal income taxes .....	10,508			6,650			3,858
25. Increase in loading on deferred and uncollected premiums .....							
26. Net transfers to or (from) Separate Accounts net of reinsurance .....	(4,245,663)			(4,245,663)			
27. Aggregate write-ins for deductions .....	(172,521)			(172,525)		5	
28. Totals (Lines 20 to 27) .....	770,851			214,519		42,729	513,603
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28) .....	760,188			621,858		259,489	(121,159)
30. Dividends to policyholders and refunds to members .....							
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30) .....	760,188			621,858		259,489	(121,159)
32. Federal income taxes incurred (excluding tax on capital gains) .....	104,925			85,832			19,093
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32) .....	655,263			536,026		259,489	(140,252)
34. Policies/certificates in force end of year .....	598			500			98
<b>DETAILS OF WRITE-INS</b>							
08.301. Revenue sharing .....	87,889			87,889			
08.302. Miscellaneous .....	(3)			(1)			(2)
08.303. ....							
08.398. Summary of remaining write-ins for Line 8.3 from overflow page .....							
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398) (Line 8.3 above) .....	87,886			87,888			(2)
2701. Miscellaneous charges to operations .....	(172,521)			(172,525)		5	
2702. ....							
2703. ....							
2798. Summary of remaining write-ins for Line 27 from overflow page .....							
2799. Totals (Lines 2701 thru 2703 plus 2798) (Line 27 above) .....	(172,521)			(172,525)		5	

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

Analysis of Operations by Lines of Business - Group Annuities

**N O N E**

Analysis of Operations by Lines of Business - Accident and Health

**N O N E**

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company  
**ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - INDIVIDUAL LIFE INSURANCE (a)**

	1	2	3	4	5	6	7	8	9	10	11	12
	Total	Industrial Life	Whole Life	Term Life	Indexed Life	Universal Life	Universal Life With Secondary Guarantees	Variable Life	Variable Universal Life	Credit Life <sup>(b)</sup> (N/A Fraternal)	Other Individual Life	YRT Mortality Risk Only
<b>Involving Life or Disability Contingencies (Reserves)</b> (Net of Reinsurance Ceded)												
1. Reserve December 31 of prior year .....	138,762,887							2,946,535	135,816,352			
2. Tabular net premiums or considerations .....	1,718,849							597,533	1,121,316			
3. Present value of disability claims incurred .....												
4. Tabular interest .....	4,645,076							96,411	4,548,665			
5. Tabular less actual reserve released .....												
6. Increase in reserve on account of change in valuation basis .....												
6.1 Change in excess of VM-20 deterministic/stochastic reserve over net premium reserve .....		XXX								XXX		
7. Other increases (net) .....	(2,731,544)							58,747	(2,790,291)			
8. Totals (Lines 1 to 7) .....	142,395,268							3,699,226	138,696,042			
9. Tabular cost .....	26,570,175							218,874	26,351,301			
10. Reserves released by death .....	57,433,133								57,433,133			
11. Reserves released by other terminations (net) .....	43,187,244							977,373	42,209,871			
12. Annuity, supplementary contract and disability payments involving life contingencies .....												
13. Net transfers to or (from) Separate Accounts .....	(123,456,669)							(897,007)	(122,559,662)			
14. Total Deductions (Lines 9 to 13) .....	3,733,883							299,240	3,434,643			
15. Reserve December 31 of current year .....	138,661,385							3,399,986	135,261,399			
<b>Cash Surrender Value and Policy Loans</b>												
16. CSV Ending balance December 31, current year .....	145,107,552							3,055,054	142,052,498			
17. Amount Available for Policy Loans Based upon Line 16 CSV .....	116,086,041							2,444,043	113,641,998			

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

(b) Individual and Group Credit Life are combined and included on ..... page. (Indicate whether included with Individual or Group.)

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company  
**ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - GROUP LIFE INSURANCE (a)**  
**(N/A Fraternal)**

	1 Total	2 Whole Life	3 Term Life	4 Variable Life	5 Universal Life	6 Variable Universal Life	7 Credit Life <sup>(b)</sup>	8 Other Group Life	9 YRT Mortality Risk Only
<b>Involving Life or Disability Contingencies (Reserves)</b> (Net of Reinsurance Ceded)									
1. Reserve December 31 of prior year .....	1,850,000					1,850,000			
2. Tabular net premiums or considerations .....									
3. Present value of disability claims incurred .....									
4. Tabular interest .....	55,500					55,500			
5. Tabular less actual reserve released .....									
6. Increase in reserve on account of change in valuation basis .....									
7. Other increases (net) .....	158,477					158,477			
8. Totals (Lines 1 to 7) .....	2,063,977					2,063,977			
9. Tabular cost .....	5,079,200					5,079,200			
10. Reserves released by death .....	10,022,654					10,022,654			
11. Reserves released by other terminations (net) .....									
12. Annuity, supplementary contract and disability payments involving life contingencies .....									
13. Net transfers to or (from) Separate Accounts .....	(15,007,877)					(15,007,877)			
14. Total Deductions (Lines 9 to 13) .....	93,977					93,977			
15. Reserve December 31 of current year .....	1,970,000					1,970,000			
<b>Cash Surrender Value and Policy Loans</b>									
16. CSV Ending balance December 31, current year .....									
17. Amount Available for Policy Loans Based upon Line 16 CSV .....									

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

(b) Individual and Group Credit Life are combined and included on ..... page. (Indicate whether included with Individual or Group.)

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company  
**ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - INDIVIDUAL ANNUITIES (a)**

	1 Total	Deferred				6 Life Contingent Payout (Immediate and Annuitizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities with Guarantees	5 Variable Annuities without Guarantees		
<b>Involving Life or Disability Contingencies (Reserves)</b> (Net of Reinsurance Ceded)							
1. Reserve December 31 of prior year .....	2,512,094			2,512,094			
2. Tabular net premiums or considerations .....	16,000			16,000			
3. Present value of disability claims incurred .....	XXX	XXX	XXX	XXX	XXX	XXX	XXX
4. Tabular interest .....	93,615			93,615			
5. Tabular less actual reserve released .....	(349,860)			(349,860)			
6. Increase in reserve on account of change in valuation basis .....							
7. Other increases (net) .....	324,749			324,749			
8. Totals (Lines 1 to 7) .....	2,596,598			2,596,598			
9. Tabular cost .....							
10. Reserves released by death .....	XXX	XXX	XXX	XXX	XXX	XXX	XXX
11. Reserves released by other terminations (net) .....	3,344,768			3,344,768			
12. Annuity, supplementary contract and disability payments involving life contingencies .....	845,511			845,511			
13. Net transfers to or (from) Separate Accounts .....	(4,248,171)			(4,248,171)			
14. Total Deductions (Lines 9 to 13) .....	(57,892)			(57,892)			
15. Reserve December 31 of current year .....	2,654,490			2,654,490			
<b>Cash Surrender Value and Policy Loans</b>							
16. CSV Ending balance December 31, current year .....	2,207,757			2,207,757			
17. Amount Available for Policy Loans Based upon Line 16 CSV .....							

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company  
**ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - GROUP ANNUITIES (a)**  
**(N/A Fraternal)**

	1	Deferred			6 Life Contingent Payout (Immediate and Annuityizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities with Guarantees		
	Total					
<b>Involving Life or Disability Contingencies (Reserves)</b> (Net of Reinsurance Ceded)						
1. Reserve December 31 of prior year .....						
2. Tabular net premiums or considerations .....						
3. Present value of disability claims incurred .....	.xxx	.xxx	.xxx	.xxx	.xxx	.xxx
4. Tabular interest .....						
5. Tabular less actual reserve released .....						
6. Increase in reserve on account of change in valuation basis .....						
7. Other increases (net) .....						
8. Totals (Lines 1 to 7) .....						
9. Tabular cost .....						
10. Reserves released by death .....	.xxx		.xxx	.xxx	.xxx	.xxx
11. Reserves released by other terminations (net) .....						
12. Annuity, supplementary contract and disability payments involving life contingencies .....						
13. Net transfers to or (from) Separate Accounts .....						
14. Total Deductions (Lines 9 to 13) .....						
15. Reserve December 31 of current year .....						
<b>Cash Surrender Value and Policy Loans</b>						
16. CSV Ending balance December 31, current year .....						
17. Amount Available for Policy Loans Based upon Line 16 CSV .....						

NONE

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected. ....

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**EXHIBIT OF NET INVESTMENT INCOME**

	1 Collected During Year	2 Earned During Year
1. U.S. Government bonds	(a) 21,437	23,202
1.1 Bonds exempt from U.S. tax	(a)	
1.2 Other bonds (unaffiliated)	(a) 8,671,234	8,540,190
1.3 Bonds of affiliates	(a) 132	
2.1 Preferred stocks (unaffiliated)	(b)	
2.11 Preferred stocks of affiliates	(b)	
2.2 Common stocks (unaffiliated)		7,322
2.21 Common stocks of affiliates		
3. Mortgage loans	(c) 83,883	83,883
4. Real estate	(d)	
5. Contract loans	4,939,904	4,889,829
6. Cash, cash equivalents and short-term investments	(e) 245,379	245,379
7. Derivative instruments	(f)	
8. Other invested assets		
9. Aggregate write-ins for investment income		
10. Total gross investment income	13,961,970	13,789,806
11. Investment expenses		(g) 961,884
12. Investment taxes, licenses and fees, excluding federal income taxes		(g) 6,054
13. Interest expense		(h)
14. Depreciation on real estate and other invested assets		(i)
15. Aggregate write-ins for deductions from investment income		
16. Total deductions (Lines 11 through 15)		967,938
17. Net investment income (Line 10 minus Line 16)		12,821,868
<b>DETAILS OF WRITE-INS</b>		
0901.		
0902.		
0903.		
0998. Summary of remaining write-ins for Line 9 from overflow page		
0999. Totals (Lines 0901 thru 0903 plus 0998) (Line 9, above)		
1501.		
1502.		
1503.		
1598. Summary of remaining write-ins for Line 15 from overflow page		
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15, above)		

- (a) Includes \$ 513,258 accrual of discount less \$ 293,028 amortization of premium and less \$ 3,148 paid for accrued interest on purchases.
- (b) Includes \$ accrual of discount less \$ amortization of premium and less \$ paid for accrued dividends on purchases.
- (c) Includes \$ (6,782) accrual of discount less \$ 1,949 amortization of premium and less \$ paid for accrued interest on purchases.
- (d) Includes \$ for company's occupancy of its own buildings; and excludes \$ interest on encumbrances.
- (e) Includes \$ 245,379 accrual of discount less \$ amortization of premium and less \$ paid for accrued interest on purchases.
- (f) Includes \$ accrual of discount less \$ amortization of premium.
- (g) Includes \$ investment expenses and \$ investment taxes, licenses and fees, excluding federal income taxes, attributable to segregated and Separate Accounts.
- (h) Includes \$ interest on surplus notes and \$ interest on capital notes.
- (i) Includes \$ depreciation on real estate and \$ depreciation on other invested assets.

**EXHIBIT OF CAPITAL GAINS (LOSSES)**

	1	2	3	4	5
	Realized Gain (Loss) On Sales or Maturity	Other Realized Adjustments	Total Realized Capital Gain (Loss) (Columns 1 + 2)	Change in Unrealized Capital Gain (Loss)	Change in Unrealized Foreign Exchange Capital Gain (Loss)
1. U.S. Government bonds					
1.1 Bonds exempt from U.S. tax					
1.2 Other bonds (unaffiliated)	1,106,259	(11,926)	1,094,333	17,513	
1.3 Bonds of affiliates					
2.1 Preferred stocks (unaffiliated)					
2.11 Preferred stocks of affiliates					
2.2 Common stocks (unaffiliated)				7,419	
2.21 Common stocks of affiliates					
3. Mortgage loans					
4. Real estate					
5. Contract loans					
6. Cash, cash equivalents and short-term investments	558		558		
7. Derivative instruments					
8. Other invested assets					
9. Aggregate write-ins for capital gains (losses)					
10. Total capital gains (losses)	1,106,817	(11,926)	1,094,891	24,932	
<b>DETAILS OF WRITE-INS</b>					
0901.					
0902.					
0903.					
0998. Summary of remaining write-ins for Line 9 from overflow page					
0999. Totals (Lines 0901 thru 0903 plus 0998) (Line 9, above)					

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**EXHIBIT - 1 PART 1 - PREMIUMS AND ANNUITY CONSIDERATIONS FOR LIFE AND ACCIDENT AND HEALTH CONTRACTS**

	Insurance											11 Aggregate of All Other Lines of Business	12 Fraternal (Fraternal Benefit Societies Only)
	1 Total	2 Industrial Life	3 Ordinary		5 Credit Life (Group and Individual)	6 Group		8 Accident and Health					
			3 Life Insurance	4 Individual Annuities		6 Life Insurance	7 Annuities	8 Group	9 Credit (Group and Individual)	10 Other			
<b>FIRST YEAR (other than single)</b>													
1. Uncollected													
2. Deferred and accrued													
3. Deferred, accrued and uncollected:													
3.1 Direct													
3.2 Reinsurance assumed													
3.3 Reinsurance ceded													
3.4 Net (Line 1 + Line 2)													
4. Advance													
5. Line 3.4 - Line 4													
6. Collected during year:													
6.1 Direct													
6.2 Reinsurance assumed													
6.3 Reinsurance ceded													
6.4 Net													
7. Line 5 + Line 6.4													
8. Prior year (uncollected + deferred and accrued - advance)													
9. First year premiums and considerations:													
9.1 Direct													
9.2 Reinsurance assumed													
9.3 Reinsurance ceded													
9.4 Net (Line 7 - Line 8)													
<b>SINGLE</b>													
10. Single premiums and considerations:													
10.1 Direct													
10.2 Reinsurance assumed													
10.3 Reinsurance ceded													
10.4 Net													
<b>RENEWAL</b>													
11. Uncollected													
12. Deferred and accrued													
13. Deferred, accrued and uncollected:													
13.1 Direct													
13.2 Reinsurance assumed													
13.3 Reinsurance ceded													
13.4 Net (Line 11 + Line 12)													
14. Advance													
15. Line 13.4 - Line 14													
16. Collected during year:													
16.1 Direct													
16.2 Reinsurance assumed													
16.3 Reinsurance ceded													
16.4 Net													
17. Line 15 + Line 16.4													
18. Prior year (uncollected + deferred and accrued - advance)													
19. Renewal premiums and considerations:													
19.1 Direct													
19.2 Reinsurance assumed													
19.3 Reinsurance ceded													
19.4 Net (Line 17 - Line 18)													
<b>TOTAL</b>													
20. Total premiums and annuity considerations:													
20.1 Direct													
20.2 Reinsurance assumed													
20.3 Reinsurance ceded													
20.4 Net (Lines 9.4 + 10.4 + 19.4)													



ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**EXHIBIT - 1 PART 2 - POLICYHOLDERS' DIVIDENDS, REFUNDS TO MEMBERS AND COUPONS APPLIED, REINSURANCE COMMISSIONS AND EXPENSE ALLOWANCES AND COMMISSIONS INCURRED (Direct Business Only)**

	Insurance											
	1	2	Ordinary		5	Group		Accident and Health			11	12
			3	4		6	7	8	9	10		
Total	Industrial Life	Life Insurance	Individual Annuities	Credit Life (Group and Individual)	Life Insurance	Annuities	Group	Credit (Group and Individual)	Other	Aggregate of All Other Lines of Business	Fraternal (Fraternal Benefit Societies Only)	
<b>POLICYHOLDERS' DIVIDENDS, REFUNDS TO MEMBERS AND COUPONS APPLIED (included in Part 1)</b>												
21. To pay renewal premiums .....												
22. All other .....												
<b>REINSURANCE COMMISSIONS AND EXPENSE ALLOWANCES INCURRED</b>												
23. First year (other than single):												
23.1 Reinsurance ceded .....												
23.2 Reinsurance assumed .....												
23.3 Net ceded less assumed .....												
24. Single:												
24.1 Reinsurance ceded .....												
24.2 Reinsurance assumed .....												
24.3 Net ceded less assumed .....												
25. Renewal:												
25.1 Reinsurance ceded .....	10,396,525		4,025,440			6,371,085						
25.2 Reinsurance assumed .....												
25.3 Net ceded less assumed .....	10,396,525		4,025,440			6,371,085						
26. Totals:												
26.1 Reinsurance ceded (Page 6, Line 6) .....	10,396,525		4,025,440			6,371,085						
26.2 Reinsurance assumed (Page 6, Line 22) .....												
26.3 Net ceded less assumed .....	10,396,525		4,025,440			6,371,085						
<b>COMMISSIONS INCURRED (direct business only)</b>												
27. First year (other than single) .....	16,490		16,490									
28. Single .....												
29. Renewal .....	1,955,722		764,059	42,037		1,149,626						
30. Deposit-type contract funds .....												
31. Totals (to agree with Page 6, Line 21) .....	1,972,212		780,549	42,037		1,149,626						

**ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company**  
**EXHIBIT 2 - GENERAL EXPENSES**

	Insurance				5 Investment	6 Fraternal	7 Total
	1 Life	2 Accident and Health		4 All Other Lines of Business			
		2 Cost Containment	3 All Other				
1. Rent	210,285				4,852		215,137
2. Salaries and wages	3,430,139				79,152		3,509,291
3.11 Contributions for benefit plans for employees	249,710				5,762		255,472
3.12 Contributions for benefit plans for agents	347,936				8,029		355,965
3.21 Payments to employees under non-funded benefit plans							
3.22 Payments to agents under non-funded benefit plans							
3.31 Other employee welfare	25,225				582		25,807
3.32 Other agent welfare							
4.1 Legal fees and expenses	67,117				1,549		68,666
4.2 Medical examination fees	55,269				1,275		56,544
4.3 Inspection report fees							
4.4 Fees of public accountants and consulting actuaries	14,958				345		15,303
4.5 Expense of investigation and settlement of policy claims	12,356				285		12,641
5.1 Traveling expenses	24,952				576		25,528
5.2 Advertising	175,002				4,038		179,041
5.3 Postage, express, telegraph and telephone	55,999				1,292		57,291
5.4 Printing and stationery	30,042				693		30,735
5.5 Cost or depreciation of furniture and equipment	86,889				2,005		88,894
5.6 Rental of equipment	67,002				1,546		68,548
5.7 Cost or depreciation of EDP equipment and software	313,638				7,237		320,875
6.1 Books and periodicals	28,767				664		29,431
6.2 Bureau and association fees	17,253				398		17,651
6.3 Insurance, except on real estate	37,574				867		38,441
6.4 Miscellaneous losses	40,393				932		41,325
6.5 Collection and bank service charges	17,549				405		17,954
6.6 Sundry general expenses	11,167				258		11,424
6.7 Group service and administration fees	837,020				19,315		856,335
6.8 Reimbursements by uninsured plans							
7.1 Agency expense allowance	850,694				19,630		870,324
7.2 Agents' balances charged off (less \$ recovered)							
7.3 Agency conferences other than local meetings	26,114				603		26,717
8.1 Official publication (Fraternal Benefit Societies Only)	XXX	XXX	XXX	XXX	XXX		
8.2 Expense of supreme lodge meetings (Fraternal Benefit Societies Only)	XXX	XXX	XXX	XXX	XXX		
9.1 Real estate expenses							
9.2 Investment expenses not included elsewhere					797,920		797,920
9.3 Aggregate write-ins for expenses	733,972				1,674		735,646
10. General expenses incurred	7,767,022				961,884	(b)	(a) 8,728,906
11. General expenses unpaid Dec. 31, prior year	1,907,804				261,318		2,169,123
12. General expenses unpaid Dec. 31, current year	3,835,199				474,959		4,310,158
13. Amounts receivable relating to uninsured plans, prior year							
14. Amounts receivable relating to uninsured plans, current year							
15. General expenses paid during year (Lines 10+11-12-13+14)	5,839,627				748,243		6,587,870
<b>DETAILS OF WRITE-INS</b>							
09.301. Management Services Income	661,432						661,432
09.302. Miscellaneous	72,541				1,674		74,215
09.303.							
09.398. Summary of remaining write-ins for Line 9.3 from overflow page							
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)	733,973				1,674		735,647

(a) Includes management fees of \$ 8,067,474 to affiliates and \$ to non-affiliates.

(b) Show the distribution of this amount in the following categories (Fraternal Benefit Societies Only):

1. Charitable \$ ; 2. Institutional \$ ; 3. Recreational and Health \$ ; 4. Educational \$ ; 5. Religious \$ ; 6. Membership \$ ; 7. Other \$ ; 8. Total \$

**EXHIBIT 3 - TAXES, LICENSES AND FEES (EXCLUDING FEDERAL INCOME TAXES)**

	Insurance			4 Investment	5 Fraternal	6 Total
	1 Life	2 Accident and Health	3 All Other Lines of Business			
1. Real estate taxes						
2. State insurance department licenses and fees	82,173					82,173
3. State taxes on premiums	413,994					413,994
4. Other state taxes, including \$ for employee benefits	136,512					136,512
5. U.S. Social Security taxes	541,677			6,054		547,731
6. All other taxes						
7. Taxes, licenses and fees incurred	1,174,356			6,054		1,180,410
8. Taxes, licenses and fees unpaid Dec. 31, prior year	170,014			1,275		171,288
9. Taxes, licenses and fees unpaid Dec. 31, current year	136,105			702		136,806
10. Taxes, licenses and fees paid during year (Lines 7 + 8 - 9)	1,208,265			6,627		1,214,892

**EXHIBIT 4 - DIVIDENDS OR REFUNDS**

	1 Life	2 Accident and Health
	1. Applied to pay renewal premiums	
2. Applied to shorten the endowment or premium-paying period		
3. Applied to provide paid-up additions		
4. Applied to provide paid-up annuities		
5. Total Lines 1 through 4		
6. Paid in cash		
7. Left on deposit		
8. Aggregate write-ins for dividend or refund options		
9. Total Lines 5 through 8		
10. Amount due and unpaid		
11. Provision for dividends or refunds payable in the following calendar year		
12. Terminal dividends		
13. Provision for deferred dividend contracts		
14. Amount provisionally held for deferred dividend contracts not included in Line 13		
15. Total Lines 10 through 14		
16. Total from prior year		
17. Total dividends or refunds (Lines 9 + 15 - 16)		
<b>DETAILS OF WRITE-INS</b>		
0801.		
0802.		
0803.		
0898. Summary of remaining write-ins for Line 8 from overflow page		
0899. Totals (Lines 0801 thru 0803 plus 0898) (Line 8 above)		

**NONE**

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company  
**EXHIBIT 5 - AGGREGATE RESERVE FOR LIFE CONTRACTS**

1	2	3	4	5	6
Valuation Standard	Total <sup>(a)</sup>	Industrial	Ordinary	Credit (Group and Individual)	Group
0100001. 58 CET NLP 4.00% .....	1,014,042		1,014,042		
0100002. 58 CSO CRVM 4.50% .....	835		835		
0100003. 58 CSO Mod CRVM 4.00% .....	11,545		11,545		
0100004. 80 CSO CRVM 4.50% .....	90,360,114		90,360,114		
0100005. 80 CSO CRVM 5.50% .....	57,095,384		57,095,384		
0100006. 80 CSO NLP 4.00% .....	2,203		2,203		
0100007. 2001 CSO CRVM 4.00% .....	300,000		300,000		
0100008. 80 CSO 3.00% .....	1,970,000				1,970,000
0100009. 80 CSO 4.00% .....	9,150		9,150		
0199997. Totals (Gross)	150,763,273		148,793,273		1,970,000
0199998. Reinsurance ceded	20,879,534		20,879,534		
0199999. Life Insurance: Totals (Net)	129,883,739		127,913,739		1,970,000
0200001. 1994 MGDB Table 1Y/FIG DEF .....	2,207,836	XXX	2,207,836	XXX	
0200002. a-2000 4.50% BOTH .....	140	XXX	140	XXX	
0200003. a-2012 1.50% BOTH .....	117,725	XXX	117,725	XXX	
0200004. a-2012 1.75% BOTH .....	206,164	XXX	206,164	XXX	
0200005. a-2012 2.25% BOTH .....	35,967	XXX	35,967	XXX	
0200006. a-2012 3.00% BOTH .....	1,844	XXX	1,844	XXX	
0200007. a-2012 3.50% BOTH .....	18,505	XXX	18,505	XXX	
0200008. a-2012 3.75% BOTH .....	32,348	XXX	32,348	XXX	
0200009. a-2012 4.00% BOTH .....	30,671	XXX	30,671	XXX	
0299997. Totals (Gross)	2,651,201	XXX	2,651,201	XXX	
0299998. Reinsurance ceded		XXX		XXX	
0299999. Annuities: Totals (Net)	2,651,201	XXX	2,651,201	XXX	
0399998. Reinsurance ceded					
0399999. SCWLC: Totals (Net)					
0400001. 59 ADB & 58 CSO 4.50% .....	1,912		1,912		
0499997. Totals (Gross)	1,912		1,912		
0499998. Reinsurance ceded					
0499999. Accidental Death Benefits: Totals (Net)	1,912		1,912		
0500001. 35-39 INTERCO + 2001 CSO 4.00% .....	27,688		27,688		
0500002. 35-39 INTERCO + 58 CSO 3.50% .....	2,203		2,203		
0599997. Totals (Gross)	29,891		29,891		
0599998. Reinsurance ceded					
0599999. Disability-Active Lives: Totals (Net)	29,891		29,891		
0600001. MOD 52 DISAB TABLE BEN 5 4.00% .....	275,046		275,046		
0600002. MOD 52 DISAB TABLE BEN 5 4.50% .....	6,026,934		6,026,934		
0600003. MOD 52 DISAB TABLE BEN 5 5.50% .....	2,049,328		2,049,328		
0699997. Totals (Gross)	8,351,308		8,351,308		
0699998. Reinsurance ceded					
0699999. Disability-Disabled Lives: Totals (Net)	8,351,308		8,351,308		
0700001. MIN. DEATH BENEFIT .....	122,273		122,273		
0700002. POLICY LOANS .....	2,029,467		2,029,467		
0700003. TERM COST RESERVE .....	410		410		
0700004. VLI COI .....	212,385		212,385		
0700005. VM-21 Reserve .....	3,289		3,289		
0799997. Totals (Gross)	2,367,824		2,367,824		
0799998. Reinsurance ceded					
0799999. Miscellaneous Reserves: Totals (Net)	2,367,824		2,367,824		
9999999. Totals (Net) - Page 3, Line 1	143,285,875		141,315,875		1,970,000

(a) Included in the above table are amounts of deposit-type contracts that originally contained a mortality risk. Amounts of deposit-type contracts in Column 2 that no longer contain a mortality risk are Life Insurance \$ ..... ; Annuities \$ ..... ; Supplementary Contracts with Life Contingencies \$ ..... ; Accidental Death Benefits \$ ..... ; Disability - Active Lives \$ ..... ; Disability - Disabled Lives \$ ..... ; Miscellaneous Reserves \$ .....

**EXHIBIT 5 - INTERROGATORIES**

- 1.1 Has the reporting entity ever issued both participating and non-participating contracts?..... Yes [ ] No [ X ]
- 1.2 If not, state which kind is issued.  
 Non-participating .....
- 2.1 Does the reporting entity at present issue both participating and non-participating contracts?..... Yes [ ] No [ X ]
- 2.2 If not, state which kind is issued.  
 Non-participating .....
- 3. Does the reporting entity at present issue or have in force contracts that contain non-guaranteed elements?..... Yes [ X ] No [ ]  
 If so, attach a statement that contains the determination procedures, answers to the interrogatories and an actuarial opinion as described in the instructions.
- 4. Has the reporting entity any assessment or stipulated premium contracts in force? ..... Yes [ ] No [ X ]  
 If so, state:  
 4.1 Amount of insurance? ..... \$ .....  
 4.2 Amount of reserve? ..... \$ .....  
 4.3 Basis of reserve:  
 .....  
 4.4 Basis of regular assessments:  
 .....  
 4.5 Basis of special assessments:  
 .....  
 4.6 Assessments collected during the year ..... \$ .....
- 5. If the contract loan interest rate guaranteed in any one or more of its currently issued contracts is less than 5%, not in advance, state the contract loan rate guarantees on any such contracts.  
 .....
- 6. Does the reporting entity hold reserves for any annuity contracts that are less than the reserves that would be held on a standard basis? ..... Yes [ ] No [ X ]  
 6.1 If so, state the amount of reserve on such contracts on the basis actually held: ..... \$ .....  
 6.2 That would have been held (on an exact or approximate basis) using the actual ages of the annuitants; the interest rate(s) used in 6.1; and the same mortality basis used by the reporting entity for the valuation of comparable annuity benefits issued to standard lives. If the reporting entity has no comparable annuity benefits for standard lives to be valued, the mortality basis shall be the table most recently approved by the state of domicile for valuing individual annuity benefits: ..... \$ .....  
 Attach statement of methods employed in their valuation.
- 7. Does the reporting entity have any Synthetic GIC contracts or agreements in effect as of December 31 of the current year? ..... Yes [ ] No [ X ]  
 7.1 If yes, state the total dollar amount of assets covered by these contracts or agreements ..... \$ .....  
 7.2 Specify the basis (fair value, amortized cost, etc.) for determining the amount:  
 .....  
 7.3 State the amount of reserves established for this business: ..... \$ .....  
 7.4 Identify where the reserves are reported in the blank:  
 .....
- 8. Does the reporting entity have any Contingent Deferred Annuity contracts or agreements in effect as of December 31 of the current year? ..... Yes [ ] No [ X ]  
 8.1 If yes, state the total dollar amount of account value covered by these contracts or agreements: ..... \$ .....  
 8.2 State the amount of reserves established for this business: ..... \$ .....  
 8.3 Identify where the reserves are reported in the blank:  
 .....
- 9. Does the reporting entity have any Guaranteed Lifetime Income Benefit contracts, agreements or riders in effect as of December 31 of the current year? ..... Yes [ ] No [ X ]  
 9.1 If yes, state the total dollar amount of any account value associated with these contracts, agreements or riders: ..... \$ .....  
 9.2 State the amount of reserves established for this business: ..... \$ .....  
 9.3 Identify where the reserves are reported in the blank:  
 .....

**EXHIBIT 5A - CHANGES IN BASES OF VALUATION DURING THE YEAR**

1	Valuation Basis		4
Description of Valuation Class	2 Changed From	3 Changed To	Increase in Actuarial Reserve Due to Change
<b>NONE</b>			
9999999 - Total (Column 4, only)			

Exhibit 6 - Aggregate Reserves for Accident and Health Contracts

**N O N E**

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**EXHIBIT 7 - DEPOSIT TYPE CONTRACTS**

	1	2	3	4	5	6
	Total	Guaranteed Interest Contracts	Annuities Certain	Supplemental Contracts	Dividend Accumulations or Refunds	Premium and Other Deposit Funds
1. Balance at the beginning of the year before reinsurance .....	13,771,784		284,612	13,487,172		
2. Deposits received during the year .....	4,004,620			4,004,620		
3. Investment earnings credited to the account .....	415,282			415,282		
4. Other net change in reserves .....			(75,210)	75,210		
5. Fees and other charges assessed .....						
6. Surrender charges .....						
7. Net surrender or withdrawal payments .....	2,211,156			2,211,156		
8. Other net transfers to or (from) Separate Accounts .....						
9. Balance at the end of current year before reinsurance (Lines 1+2+3+4-5-6-7-8) .....	15,980,530		209,402	15,771,128		
10. Reinsurance balance at the beginning of the year .....						
11. Net change in reinsurance assumed .....						
12. Net change in reinsurance ceded .....						
13. Reinsurance balance at the end of the year (Lines 10+11-12) .....						
14. Net balance at the end of current year after reinsurance (Lines 9 + 13)	15,980,530		209,402	15,771,128		

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company  
**EXHIBIT 8 - CLAIMS FOR LIFE AND ACCIDENT AND HEALTH CONTRACTS**

**PART 1 - Liability End of Current Year**

	1 Total	2 Industrial Life	Ordinary			6 Credit Life (Group and Individual)	Group		Accident and Health		
			3 Life Insurance	4 Individual Annuities	5 Supplementary Contracts		7 Life Insurance	8 Annuities	9 Group	10 Credit (Group and Individual)	11 Other
1. Due and unpaid:											
1.1 Direct .....											
1.2 Reinsurance assumed .....											
1.3 Reinsurance ceded .....											
1.4 Net .....											
2. In course of settlement:											
2.1 Resisted .....											
2.11 Direct .....											
2.12 Reinsurance assumed .....											
2.13 Reinsurance ceded .....											
2.14 Net .....			(b)	(b)		(b)	(b)				
2.2 Other .....											
2.21 Direct .....	21,695,222		15,485,042				6,210,180				
2.22 Reinsurance assumed .....											
2.23 Reinsurance ceded .....	12,668,679		6,458,499				6,210,180				
2.24 Net .....	9,026,543		(b) 9,026,543	(b)		(b)	(b)		(b)	(b)	(b)
3. Incurred but unreported:											
3.1 Direct .....	1,397,747		1,397,747								
3.2 Reinsurance assumed .....											
3.3 Reinsurance ceded .....	496,000		496,000								
3.4 Net .....	901,747		(b) 901,747	(b)		(b)	(b)		(b)	(b)	(b)
4. TOTALS .....											
4.1 Direct .....	23,092,969		16,882,789				6,210,180				
4.2 Reinsurance assumed .....											
4.3 Reinsurance ceded .....	13,164,679		6,954,499				6,210,180				
4.4 Net .....	9,928,290	(a)	(a) 9,928,290				(a)				

(a) Including matured endowments (but not guaranteed annual pure endowments) unpaid amounting to \$ ..... in Column 2, \$ ..... in Column 3 and \$ ..... in Column 7.

(b) Include only portion of disability and accident and health claim liabilities applicable to assumed "accrued" benefits. Reserves (including reinsurance assumed and net of reinsurance ceded) for unaccrued benefits for Ordinary Life Insurance \$ ..... Individual Annuities \$ ....., Credit Life (Group and Individual) \$ ....., and Group Life \$ ....., are included in Page 3, Line 1, (See Exhibit 5, Section on Disability Disabled Lives); and for Group Accident and Health \$ ..... Credit (Group and Individual) Accident and Health \$ ....., and Other Accident and Health \$ ..... are included in Page 3, Line 2 (See Exhibit 6, Claim Reserve).

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company  
**EXHIBIT 8 - CLAIMS FOR LIFE AND ACCIDENT AND HEALTH CONTRACTS**

**PART 2 - Incurred During the Year**

	1 Total	2 Industrial Life (a)	Ordinary			6 Credit Life (Group and Individual)	Group		Accident and Health		
			3 Life Insurance (b)	4 Individual Annuities	5 Supplementary Contracts		7 Life Insurance (c)	8 Annuities	9 Group	10 Credit (Group and Individual)	11 Other
1. Settlements During the Year:											
1.1 Direct .....	125,095,286		111,788,809	1,003,671	42,724		12,260,082				
1.2 Reinsurance assumed .....											
1.3 Reinsurance ceded .....	49,281,275		35,185,174				14,096,101				
1.4 Net .....	(d) 75,814,011		76,603,635	1,003,671	42,724		(1,836,019)				
2. Liability December 31, current year from Part 1:											
2.1 Direct .....	23,092,969		16,882,789				6,210,180				
2.2 Reinsurance assumed .....											
2.3 Reinsurance ceded .....	13,164,679		6,954,499				6,210,180				
2.4 Net .....	9,928,290		9,928,290								
3. Amounts recoverable from reinsurers December 31, current year .....	7,715,214		4,400,239				3,314,975				
4. Liability December 31, prior year:											
4.1 Direct .....	19,989,824		15,803,775				4,186,049				
4.2 Reinsurance assumed .....											
4.3 Reinsurance ceded .....	12,447,427		8,261,378				4,186,049				
4.4 Net .....	7,542,397		7,542,397								
5. Amounts recoverable from reinsurers December 31, prior year .....	7,479,473		2,328,479				5,150,994				
6. Incurred Benefits											
6.1 Direct .....	128,198,431		112,867,823	1,003,671	42,724		14,284,213				
6.2 Reinsurance assumed .....											
6.3 Reinsurance ceded .....	50,234,268		35,950,055				14,284,213				
6.4 Net .....	77,964,163		76,917,768	1,003,671	42,724						

(a) Including matured endowments (but not guaranteed annual pure endowments) amounting to \$ ..... in Line 1.1, \$ ..... in Line 1.4.  
 \$ ..... in Line 6.1, and \$ ..... in Line 6.4.

(b) Including matured endowments (but not guaranteed annual pure endowments) amounting to \$ ..... in Line 1.1, \$ ..... in Line 1.4.  
 \$ ..... in Line 6.1, and \$ ..... in Line 6.4.

(c) Including matured endowments (but not guaranteed annual pure endowments) amounting to \$ ..... in Line 1.1, \$ ..... in Line 1.4.  
 \$ ..... in Line 6.1, and \$ ..... in Line 6.4.

(d) Includes \$ .....386,287 premiums waived under total and permanent disability benefits.



ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**EXHIBIT OF NON-ADMITTED ASSETS**

	1	2	3
	Current Year Total Nonadmitted Assets	Prior Year Total Nonadmitted Assets	Change in Total Nonadmitted Assets (Col. 2 - Col. 1)
1. Bonds (Schedule D) .....			
2. Stocks (Schedule D):			
2.1 Preferred stocks .....			
2.2 Common stocks .....			
3. Mortgage loans on real estate (Schedule B):			
3.1 First liens .....			
3.2 Other than first liens .....			
4. Real estate (Schedule A):			
4.1 Properties occupied by the company .....			
4.2 Properties held for the production of income .....			
4.3 Properties held for sale .....			
5. Cash (Schedule E - Part 1), cash equivalents (Schedule E - Part 2) and short-term investments (Schedule DA) .....			
6. Contract loans .....			
7. Derivatives (Schedule DB) .....			
8. Other invested assets (Schedule BA) .....			
9. Receivables for securities .....			
10. Securities lending reinvested collateral assets (Schedule DL) .....			
11. Aggregate write-ins for invested assets .....			
12. Subtotals, cash and invested assets (Lines 1 to 11) .....			
13. Title plants (for Title insurers only) .....			
14. Investment income due and accrued .....	18,814		(18,814)
15. Premiums and considerations:			
15.1 Uncollected premiums and agents' balances in the course of collection .....		8,783	8,783
15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due ..			
15.3 Accrued retrospective premiums and contracts subject to redetermination .....			
16. Reinsurance:			
16.1 Amounts recoverable from reinsurers .....			
16.2 Funds held by or deposited with reinsured companies .....			
16.3 Other amounts receivable under reinsurance contracts .....			
17. Amounts receivable relating to uninsured plans .....			
18.1 Current federal and foreign income tax recoverable and interest thereon .....			
18.2 Net deferred tax asset .....	2,200,318	2,227,424	27,106
19. Guaranty funds receivable or on deposit .....			
20. Electronic data processing equipment and software .....			
21. Furniture and equipment, including health care delivery assets .....			
22. Net adjustment in assets and liabilities due to foreign exchange rates .....			
23. Receivables from parent, subsidiaries and affiliates .....			
24. Health care and other amounts receivable .....			
25. Aggregate write-ins for other than invested assets .....			
26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25) .....	2,219,132	2,236,208	17,076
27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts .....			
28. Total (Lines 26 and 27) .....	2,219,132	2,236,208	17,076
<b>DETAILS OF WRITE-INS</b>			
1101. ....			
1102. ....			
1103. ....			
1198. Summary of remaining write-ins for Line 11 from overflow page .....			
1199. Totals (Lines 1101 thru 1103 plus 1198)(Line 11 above)			
2501. ....			
2502. ....			
2503. ....			
2598. Summary of remaining write-ins for Line 25 from overflow page .....			
2599. Totals (Lines 2501 thru 2503 plus 2598)(Line 25 above)			

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## NOTES TO FINANCIAL STATEMENTS

### Note 1 – Summary of Significant Accounting Policies and Going Concern

a. Accounting practices:

The accompanying financial statements of MML Bay State Life Insurance Company (the Company) have been prepared in conformity with the Statutory Accounting Practices (SAP) of the National Association of Insurance Commissioners (NAIC) and the accounting practices prescribed or permitted by the State of Connecticut Insurance Department.

A reconciliation of the Company's net income and capital and surplus between NAIC SAP and practices prescribed and permitted by the State of Connecticut is shown below:

	SSAP #	F/S Page	F/S Line #	2021	2020
<b>NET INCOME</b>					
(1) State basis (Page 4, Line 35, Columns 1 & 2)	XXX	XXX	XXX	\$ 18,536,480	\$ 12,385,260
(2) State prescribed practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A	-	-
(3) State permitted practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A	-	-
(4) NAIC SAP (1-2-3=4)	XXX	XXX	XXX	<u>\$ 18,536,480</u>	<u>\$ 12,385,260</u>
<b>SURPLUS</b>					
(5) State basis (Page 3, Line 38, Columns 1 & 2)	XXX	XXX	XXX	\$ 265,429,591	\$ 274,509,526
(6) State prescribed practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A	-	-
(7) State permitted practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A	-	-
(8) NAIC SAP (5-6-7=8)	XXX	XXX	XXX	<u>\$ 265,429,591</u>	<u>\$ 274,509,526</u>

b. Use of estimates in the preparation of the financial statements:

The preparation of financial statements requires management to make estimates and assumptions that impact the reported amounts of assets and liabilities, the disclosure of assets and liabilities as of the date of the statutory financial statements and the reported amounts of revenues and expenses during the reporting periods. The most significant estimates include those used in determining the carrying values of investments including the amount of mortgage loan investment valuation reserves, other-than-temporary impairment(s) (OTTI), the liabilities for policyholders' reserves, the determination of admissible deferred tax assets (DTAs), the liability for taxes and litigation contingencies. Future events including, but not limited to, changes in the level of mortality, morbidity, interest rates, persistency, asset valuations and defaults could cause results to differ from the estimates used in the statutory financial statements. Although some variability is inherent in these estimates, management believes the amounts presented are appropriate.

c. Accounting policy:

Life insurance premium revenue is generally recognized annually on the anniversary date of the policy. However, premium for flexible products, primarily universal life and variable universal life contracts, is recognized as revenue when received. Annuity premium is recognized as revenue when received. Expenses incurred in connection with acquiring new insurance business, including certain acquisition costs, such as commissions, are charged to current operations as incurred. Policy loans are carried at the outstanding loan balance less amounts unsecured by the cash surrender value of the policy. Unsecured amounts can occur when subsequent charges are incurred on the underlying policy without the receipt of additional premium. Where applicable, the values of invested assets have been adjusted for impairments considered OTTI.

In addition, the Company uses the following accounting policies:

- (1) Short-term investments, which are carried at amortized cost, consist of all highly liquid investments purchased with maturities of greater than three months and less than or equal to 12 months. Investments in short-term bonds are classified as short-term investments.
- (2) Bonds are generally valued at amortized cost using the constant yield interest method with the exception of NAIC Category 6 bonds, which are in or near default, and certain residential mortgage-backed securities (RMBS) and commercial mortgage-backed securities (CMBS), which are rated by outside modelers, which are carried at the lower of amortized cost or fair value. NAIC ratings are applied to bonds and other securities. Categories 1 and 2 are considered investment grade, while Categories 3 through 6 are considered below investment grade. Bond transactions are recorded on a trade date basis, except for private placement bonds, which are recorded on the funding date.

The fair value of bonds is based on quoted market prices when available. If quoted market prices are not available, values provided by other third-party organizations are used. If values provided by other third-party organizations are unavailable, fair value is estimated using internal models by discounting expected future cash flows using observable current market rates applicable to yield, credit quality and maturity of the investment or using quoted market values for comparable investments. Internal inputs used in the determination of fair value include estimated prepayment speeds, default rates, discount rates and collateral values, among others. Structure characteristics and cash flow priority are also considered. Fair values resulting from internal models are those expected to be received in an orderly transaction between willing market participants.

Refer to Note 1c. "Accounting policy" (14) for information on the Company's policy for determining OTTI.

- (3) Unaffiliated common stocks are carried at fair value, which is based on quoted market prices when available. If quoted market prices are not available, values provided by third-party organizations are used. If values from third parties are unavailable, fair values are determined by management using estimates based upon internal models. The Company's internal models include estimates based upon comparable company analysis, review of financial statements, broker quotes and last traded price. Fair values resulting from internal models are those expected to be received in an orderly transaction between willing market participants.

Refer to Note 1c. "Accounting policy" (14) for information on the Company's policy for determining OTTI.

The Company held unaffiliated common stocks, for which the transfer of ownership was restricted by contractual requirements, with carrying values of \$12,060 as of December 31, 2021 and \$0 as of December 31, 2020.

- (4) As of December 31, 2021 and 2020, the Company did not hold any preferred stocks.
- (5) Mortgage loans are valued at the unpaid principal balance of the loan, net of unamortized premium, discount, mortgage origination fees and valuation allowances. Mortgage loans comprised primarily seasoned pools of homogeneous residential mortgage loans substantially backed by Federal Housing Administration (FHA) and Veterans Administration (VA) guarantees.
- (6) For loan-backed and structured securities, such as asset-backed securities (ABS), mortgage-backed securities (MBS), including RMBS and CMBS, and structured securities, including collateralized debt obligations (CDOs), amortization or accretion is revalued quarterly based on the current estimated cash flows, using either the prospective or retrospective adjustment methodologies.

## NOTES TO FINANCIAL STATEMENTS

Certain fixed income securities, with the highest ratings from a rating agency follow the retrospective method of accounting. Under the retrospective method, the recalculated effective yield equates the present value of the actual and anticipated cash flows, including new prepayment assumptions, to the original cost of the investment. Prepayment assumptions are based on borrower constraints and economic incentives such as the original term, age and coupon of the loan as affected by the interest rate environment. The current carrying value is then increased or decreased to the amount that would have resulted had the revised yield been applied since inception, and investment income is correspondingly decreased or increased.

All other fixed income securities, such as floating rate bonds and interest only securities, including those that have been impaired, follow the prospective method of accounting. Under the prospective method, the recalculated future effective yield equates the carrying value of the investment to the present value of the anticipated future cash flows.

Refer to Note 1c. "Accounting policy" (14) for information on the Company's policy for determining OTTI.

- (7) The Company did not own any subsidiaries and did not hold any investments in controlled or affiliated companies.
- (8) The Company did not have any investments in joint ventures, partnerships or limited liability companies (LLCs).
- (9) The Company did not have any derivative financial instruments.
- (10) The Company does not utilize anticipated investment income as a factor in the premium deficiency calculation in accordance with Statutory Accounting Principles (SSAP) No. 54 "Individual and Group Accident and Health Contracts."
- (11) The Company does not have disability of long-term care contracts therefore it does not have any unpaid claim of claim expense reserves related to these products.
- (12) The Company has not modified its capitalization policy from the prior period.
- (13) The Company did not issue any business that would give rise to pharmaceutical rebates or risk sharing receivables.
- (14) The book values of investments are written down when declines in values are considered to be other than temporary.

### Bonds - general

The Company employs a systematic methodology to evaluate OTTI by conducting a quarterly analysis of bonds. OTTI is evaluated in a manner consistent with market participant assumptions. The Company considers the following factors, where applicable depending on the type of securities, in the evaluation of whether a decline in value is other than temporary: (a) the likelihood that the Company will be able to collect all amounts due according to the contractual terms of the debt security; (b) the present value of the expected future cash flows of the security; (c) the characteristics, quality and value of the underlying collateral or issuer securing the position; (d) collateral structure; (e) the length of time and extent to which the fair value has been below amortized cost; (f) the financial condition and near-term prospects of the issuer; (g) adverse conditions related to the security or industry; (h) the rating of the security; (i) the Company's ability and intent to hold the investment for a period of time sufficient to allow for an anticipated recovery to amortized cost; and (j) other qualitative and quantitative factors in determining the existence of OTTI including, but not limited to, unrealized loss trend analysis and significant short-term changes in value.

In addition, if the Company has the intent to sell, or the inability, or lack of intent to retain the investment for a period sufficient to recover the amortized cost basis, an OTTI is recognized as a realized loss equal to the entire difference between the investment's amortized cost basis and its fair value at the balance sheet date.

When a bond is other-than-temporarily impaired, a new cost basis is established.

### Bonds - corporate

For corporate securities, if it is determined that a decline in the fair value of a bond is other than temporary, OTTI is recognized as a realized loss equal to the difference between the investment's amortized cost basis and, generally, its fair value at the balance sheet date.

### Bonds - loan-backed and structured securities

For loan-backed and structured securities, if the present value of cash flows expected to be collected is less than the amortized cost basis of the security, an OTTI is recognized as a realized loss equal to the difference between the investment's amortized cost basis and the present value of cash flows expected to be collected. The expected cash flows are discounted at the security's effective interest rate. Internal inputs used in determining the amount of the OTTI on structured securities include collateral performance, prepayment speeds, default rates, and loss severity based on borrower and loan characteristics, as well as deal structure including subordination, over-collateralization and cash flow priority.

ABS and MBS are evaluated for OTTI using scenarios and assumptions based on the specifics of each security including collateral type, loan type, vintage and subordination level in the structure. Cash flow estimates are based on these assumptions and inputs obtained from external industry sources along with internal analysis and actual experience. Where applicable, assumptions include prepayment speeds, default rates and loss severity, weighted average maturity and changes in the underlying collateral values.

The Company has a review process for determining if CDOs are at risk for OTTI. For the senior, mezzanine and junior debt tranches, cash flows are modeled using multiple scenarios based on the current ratings and values of the underlying corporate credit risks and incorporating prepayment and default assumptions that vary according to collateral attributes of each CDO. The prepayment and default assumptions are varied within each model based upon rating (base case), historical expectations (default), rating change improvement (optimistic), rating change downgrade (pessimistic) and fair value (market). The default rates produced by these multiple scenarios are assigned an expectation weight according to current market and economic conditions and fed into a final scenario. OTTI is recorded if this final scenario results in the loss of any principal or interest payments due.

For the most subordinated junior CDO tranches, the present value of the projected cash flows in the final scenario is measured using an effective yield. If the current book value of the security is greater than the present value measured using an effective yield, an OTTI is taken in an amount sufficient to produce its effective yield. Certain CDOs cannot be modeled using all of the scenarios because of limitations on the data needed for all scenarios. The cash flows for these CDOs, including foreign currency denominated CDOs, are projected using a customized scenario management believes is reasonable for the

**NOTES TO FINANCIAL STATEMENTS**

applicable collateral pool.

For loan-backed and structured securities, any difference between the new amortized cost basis and any increased present value of future cash flows expected to be collected is accreted into net investment income over the expected remaining life of the bond.

**Common and preferred stock**

The cost basis of common and preferred stocks is adjusted for impairments deemed to be other than temporary. The Company considers the following factors in the evaluation of whether a decline in value is other than temporary: (a) the financial condition and near-term prospects of the issuer; (b) the Company's ability and intent to retain the investment for a period sufficient to allow for a near-term recovery in value; and (c) the period and degree to which the value has been below cost. The Company conducts a quarterly analysis of issuers whose common or preferred stock is not-in-good standing or valued below 80% of cost. The Company also considers other qualitative and quantitative factors in determining the existence of OTTI including, but not limited to, unrealized loss trend analysis and significant short-term changes in value.

- d. Going concern:  
There is not substantial doubt regarding the Company's ability to continue as a going concern.

**Note 2 – Accounting Changes and Corrections of Errors**

- a. For the years ended December 31, 2021 and 2020, the Company did not record any corrections of prior years' errors.
- b. Adoption of new accounting standards

In July 2020, the NAIC adopted modifications to Statements of Statutory Accounting Principles (SSAP) No. 26R, Bonds, effective January 1, 2021. The modifications apply similar reporting for gains or losses due to a tender offer as previously adopted for calls. The difference between consideration and par is recognized as net investment income, while any difference between book value and par is recognized as realized gain or loss. The modifications did not have a material effect on the Company's financial statements.

In March 2021, the NAIC adopted modifications to SSAP No. 26R, Bonds, effective January 1, 2021. The modifications expand the called bond disclosures to also include bonds terminated early through a tender offer. The modifications did not have a material effect on the Company's financial statements.

In March 2021, the NAIC adopted modifications to SSAP No. 26R, Bonds, effective January 1, 2021. The modifications clarify that perpetual bonds are within scope. Perpetual bonds shall be reported at fair value regardless of NAIC designation, not to exceed any current effective call price. For perpetual bonds with an effective call option, any applicable premium shall be amortized to the next effective call date. For perpetual bonds purchased at a discount, any applicable discount shall be accreted utilizing the yield-to-worst concept. The modifications did not have a material effect on the Company's financial statements.

In May 2021, the NAIC adopted modifications to SSAP No. 2R, Cash, Cash Equivalents, Drafts and Short-Term Investments, effective May 20, 2021. The modifications clarify that cryptocurrencies do not meet the definition of cash, cash equivalents and short-term investments and therefore should be non-admitted assets if held directly by an insurer. The modifications did not have any effect on the Company's financial statements.

**Note 3 – Business Combinations and Goodwill**

- a. The Company did not have any business combinations accounted for using the statutory purchase method.
- b. There were no business combinations taking the form of a statutory merger.
- c. The Company did not enter into any assumption reinsurance agreements.
- d. The Company did not recognize an impairment loss on the transactions described above.

**Note 4 – Discontinued Operations**

The Company did not have any discontinued operations.

**Note 5 – Investments**

- a. Mortgage loans
- (1) During 2021 and 2020, the Company did not purchase residential mortgage loans.
  - (2) During 2021 and 2020, the Company did not own any commercial mortgage loans or mezzanine real estate loans.
  - (3) As of December 31, 2021 and 2020, the Company did not have any taxes, assessments and amounts advanced and not included in the mortgage loan total.

## NOTES TO FINANCIAL STATEMENTS

- (4) Age analysis of mortgage loans and identification of mortgage loans in which the insurer is a participant or co-lender in a mortgage loan agreement:

	Residential			Commercial		Mezzanine	Total
	Farm	Insured	All Other	Insured	All Other		
a. 2021							
1. Recorded investment (all)							
(a) Current	\$ - \$	1,671,626 \$	99,522 \$	- \$	- \$	- \$	1,771,148
(b) 30-59 days past due	-	-	-	-	-	-	-
(c) 60-89 days past due	-	-	-	-	-	-	-
(d) 90-179 days past due	-	-	-	-	-	-	-
(e) 180+ days past due	-	-	-	-	-	-	-
2. Accruing interest 90-179 days past due							
(a) Recorded investment	\$ - \$	- \$	- \$	- \$	- \$	- \$	-
(b) Interest accrued	-	-	-	-	-	-	-
3. Accruing interest 180+ days past due							
(a) Recorded investment	\$ - \$	- \$	- \$	- \$	- \$	- \$	-
(b) Interest accrued	-	-	-	-	-	-	-
4. Interest reduced							
(a) Recorded investment	\$ - \$	- \$	- \$	- \$	- \$	- \$	-
(b) Number of loans	-	-	-	-	-	-	-
(c) Percent reduced	-	-	-	-	-	-	-
5. Participant or co-lender in a mortgage loan agreement							
(a) Recorded investment	\$ - \$	- \$	- \$	- \$	- \$	- \$	-
b. 2020							
1. Recorded investment (all)							
(a) Current	\$ - \$	1,973,187 \$	117,206 \$	- \$	- \$	- \$	2,090,393
(b) 30-59 days past due	-	-	-	-	-	-	-
(c) 60-89 days past due	-	-	-	-	-	-	-
(d) 90-179 days past due	-	-	-	-	-	-	-
(e) 180+ days past due	-	-	-	-	-	-	-
2. Accruing interest 90-179 days past due							
(a) Recorded investment	\$ - \$	- \$	- \$	- \$	- \$	- \$	-
(b) Interest accrued	-	-	-	-	-	-	-
3. Accruing interest 180+ days past due							
(a) Recorded investment	\$ - \$	- \$	- \$	- \$	- \$	- \$	-
(b) Interest accrued	-	-	-	-	-	-	-
4. Interest reduced							
(a) Recorded investment	\$ - \$	- \$	- \$	- \$	- \$	- \$	-
(b) Number of loans	-	-	-	-	-	-	-
(c) Percent reduced	-	-	-	-	-	-	-
5. Participant or co-lender in a mortgage loan agreement							
(a) Recorded investment	\$ - \$	- \$	- \$	- \$	- \$	- \$	-

- (5) As of December 31, 2021 and 2020, the Company did not have any impaired mortgage loans with or without allowance for credit losses and subject to a participant or co-lender mortgage loan agreement for which the Company is restricted from unilaterally foreclosing on the mortgage loan.

- (6) As of December 31, 2021 and 2020, the Company did not have any impaired mortgage loans.

- (7) As of and for the December 31, 2021 and 2020, the Company did not have any mortgage loans with allowance for credit losses nor any changes in the allowance for credit losses.

- (8) As of December 31, 2021, the Company did not have any mortgage loans derecognized as a result of foreclosure.

- (9) Interest income earned on impaired loans is accrued on the outstanding principal balance of the loan based on the loan's contractual coupon rate. Interest is not accrued for (a) impaired loans more than 60 days past due, (b) delinquent loans more than 90 days past due, or (c) loans that have interest that is not expected to be collected. The Company continually monitors mortgage loans where the accrual of interest has been discontinued, and will resume the accrual of interest on a mortgage loan when the facts and circumstances of the borrower and property indicate that the payments will continue to be received according to the terms of the original or modified mortgage loan agreement.

b. Debt restructuring:

As of December 31, 2021 and 2020, the Company did not have any restructured debt.

c. Reverse mortgages:

As of December 31, 2021, the Company did not have any reverse mortgages.

d. Loan-backed securities:

- (1) Prepayment assumptions for loan-backed and structured securities are based on various assumptions and inputs obtained from external industry sources along with internal analysis and actual experience.

## NOTES TO FINANCIAL STATEMENTS

- (2) The following contains loan-backed and structured securities that recognized other-than-temporary impairments (OTTI) classified on the following bases for recognizing OTTI:

(1) Amortized Cost Basis Before OTTI	(2) OTTI Recognized in Loss		(3) Fair Value 1-(2a+2b)
	(2a) Interest	(2b) Non-interest	

OTTI recognized in the first quarter

a. Intent to sell	\$	-	\$	-	\$	-
b. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis		<u>93,988</u>		<u>-</u>	<u>3,976</u>	<u>90,012</u>
c. Total first quarter	<u>\$</u>	<u>93,988</u>	<u>\$</u>	<u>-</u>	<u>\$</u>	<u>3,976</u>

OTTI recognized in the second quarter

d. Intent to sell	\$	-	\$	-	\$	-
e. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis		<u>152,001</u>		<u>-</u>	<u>4,129</u>	<u>147,872</u>
f. Total second quarter	<u>\$</u>	<u>152,001</u>	<u>\$</u>	<u>-</u>	<u>\$</u>	<u>4,129</u>

OTTI recognized in the third quarter

g. Intent to sell	\$	-	\$	-	\$	-
h. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis		<u>-</u>		<u>-</u>	<u>-</u>	<u>-</u>
i. Total third quarter	<u>\$</u>	<u>-</u>	<u>\$</u>	<u>-</u>	<u>\$</u>	<u>-</u>

OTTI recognized in the fourth quarter

j. Intent to sell	\$	-	\$	-	\$	-
k. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis		<u>85,732</u>		<u>-</u>	<u>3,820</u>	<u>81,912</u>
l. Total fourth quarter	<u>\$</u>	<u>85,732</u>	<u>\$</u>	<u>-</u>	<u>\$</u>	<u>3,820</u>

m. Annual aggregate total

<u>\$</u>	<u>-</u>	<u>\$</u>	<u>11,925</u>
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All impairments were taken due to the present value of cash flows expected to be collected being less than the amortized cost basis.

- (3) The Company did not recognize impaired structured securities where the present value of cash flows expected to be collected is less than the amortized cost basis.

CUSIP	Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value at Time of OTTI	Date of Financial Instrument Where Reported
61750FAE0	\$ 93,988	\$ 90,012	\$ (3,976)	\$ 90,012	\$ 80,737	March 31, 2021
40431KAE0	62,425	61,595	(830)	61,595	72,006	June 30, 2021
61750FAE0	89,576	86,277	(3,299)	86,277	79,659	June 30, 2021
61750FAE0	85,732	81,912	(3,820)	81,912	76,952	December 31, 2021
Totals	\$ 331,721	\$ 319,796	\$ (11,925)	\$ 319,796	\$ 309,354	

- (4) As of December 31, 2021, the gross unrealized losses and fair values for investments in structured and loan-backed securities for an OTTI has not been recognized in earnings follow:

a. The aggregate amount of unrealized losses:		
1. Less than 12 months	\$	(214,964)
2. 12 months or longer	\$	(350,885)
b. The aggregate related fair value of securities with unrealized losses:		
1. Less than 12 months	\$	13,126,637
2. 12 months or longer	\$	1,793,796

- (5) No additional information.

- e. Dollar repurchase agreements and/or securities lending transactions: The Company did not have any dollar repurchase agreements and/or securities lending transactions as of December 31, 2021.
- f. Repurchase agreements transactions accounted for as secured borrowing:
- (1) The Company did not have any repurchase agreements as of December 31, 2021.
- g. Reverse repurchase agreements transactions accounted for as secured borrowing: The Company did not have any reverse repurchase

## NOTES TO FINANCIAL STATEMENTS

agreements transactions accounted for as secured borrowing as of December 31, 2021.

- h. Repurchase agreements transactions accounted for as a sale: The Company did not have any repurchase agreements transactions accounted for as a sale as of December 31, 2021.
- i. Reverse repurchase agreements transactions accounted for as a sale: The Company did not have any reverse repurchase agreements transactions accounted for as a sale as of December 31, 2021.
- j. Real estate:  
(1) The Company did not have any investments in real estate for the years ended December 31, 2021 and 2020.
- k. Low income housing tax credit properties:  
(1) The Company did not have any these properties for the years ended December 31, 2021 or 2020.

**l. Restricted assets:**

(1) Restricted assets (including pledged):

Restricted Asset Category	Gross (Admitted & Nonadmitted) Restricted						
	Current Year					6	7
	1	2	3	4	5	Total from	Increase/
	Total General Account (G/A)	G/A Supporting S/A Activity (a)	Total Separate Account (S/A) Restricted Assets	S/A Assets Supporting G/A Activity (b)	Total (1 plus 3)	Prior Year	(Decrease) (5 minus 6)
a. Subject to contractual obligation for which liability is not shown	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Collateral held under security lending agreements	-	-	-	-	-	-	-
c. Subject to repurchase agreements	-	-	-	-	-	-	-
d. Subject to reverse repurchase agreements	-	-	-	-	-	-	-
e. Subject to dollar repurchase agreements	-	-	-	-	-	-	-
f. Subject to dollar reverse repurchase agreements	-	-	-	-	-	-	-
g. Placed under option contracts	-	-	-	-	-	-	-
h. Letter stock or securities restricted as to sale - excluding FHLB capital stock	-	-	-	-	-	-	-
i. FHLB capital stock	-	-	-	-	-	-	-
j. On deposit with states	4,442,770	-	-	-	4,442,770	4,447,113	(4,343)
k. On deposit with other regulatory bodies	-	-	-	-	-	-	-
l. Pledged collateral to FHLB (including assets backing funding agreements)	-	-	-	-	-	-	-
m. Pledged as collateral not captured in other categories	-	-	-	-	-	-	-
n. Other restricted assets	-	-	-	-	-	-	-
<b>o. Total restricted assets</b>	<b>\$ 4,442,770</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,442,770</b>	<b>\$ 4,447,113</b>	<b>\$ (4,343)</b>

(a) Subset of column 1

(b) Subset of column 3



**NOTES TO FINANCIAL STATEMENTS**

Restricted Asset Category	Current Year			
	8 Total Nonadmitted Restricted	9 Total Admitted Restricted (5 minus 8)	Percentage	
			10 Gross (Admitted & Nonadmitted) Restricted to Total Assets (c)	11 Admitted Restricted to Total Admitted Assets (d)
a. Subject to contractual obligation for which liability is not shown	\$ -	\$ -	- %	- %
b. Collateral held under security lending agreements	-	-	-	-
c. Subject to repurchase agreements	-	-	-	-
d. Subject to reverse repurchase agreements	-	-	-	-
e. Subject to dollar repurchase agreements	-	-	-	-
f. Subject to dollar reverse repurchase agreements	-	-	-	-
g. Placed under option contracts	-	-	-	-
h. Letter stock or securities restricted as to sale - excluding FHLB capital stock	-	-	-	-
i. FHLB capital stock	-	-	-	-
j. On deposit with states	-	4,442,770	0.081	0.081
k. On deposit with other regulatory bodies	-	-	-	-
l. Pledged collateral to FHLB (including assets backing funding agreements)	-	-	-	-
m. Pledged as collateral not captured in other categories	-	-	-	-
n. Other restricted assets	-	-	-	-
<b>o. Total Restricted Assets</b>	<b>\$ -</b>	<b>\$ 4,442,770</b>	<b>0.081 %</b>	<b>0.081 %</b>

(c) Column 5 divided by Asset Page, Column 1, Line 28

(d) Column 9 divided by Asset Page, Column 3, Line 28

(2) Detail of Assets Pledged as Collateral Not Captured in Other Categories (Contracts that Share Similar Characteristics, Such as Reinsurance and Derivatives Are Reported in the Aggregate)

Description of Assets	Gross (Admitted & Nonadmitted) Restricted							Percentage		
	Current Year					6 Total from Prior Year	7 Increase/ (Decrease) (5 minus 6)	8 Total Current Year Admitted Restricted	9 Gross (Admitted & Nonadmitted) Restricted to Total Assets	10 Admitted Restricted Total Admitted Assets
	1 Total General Account (G/A)	2 G/A Supporting S/A Activity (a)	3 Total Separate Account (S/A) Restricted Assets	4 S/A Assets Supporting G/A Activity (b)	5 Total (1 plus 3)					
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	-
	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
<b>Total (c)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>-</b>	<b>-</b>

(a) Subset of column 1

(b) Subset of column 3

(c) Total Line for Column 1 through 7 should equal 5H (1) in Columns 1 through 7 respectively and Total Line for Columns 8 through 10 should equal 5H (1) Columns 9 through 11 respectively

## NOTES TO FINANCIAL STATEMENTS

- (3) Detail of Other Restricted Assets (Contracts that Share Similar Characteristics, Such as Reinsurance and Derivatives, Are Reported in the Aggregate)

Description of Assets	Gross (Admitted & Nonadmitted) Restricted							Percentage		
	Current Year					6	7	8	9	10
	1	2	3	4	5					
	Total General Account (G/A)	G/A Supporting S/A Activity (a)	Total Separate Account (S/A) Restricted Assets	S/A Assets Supporting G/A Activity (b)	Total (1 plus 3)	Total from Prior Year	Increase/ (Decrease) (5 minus 6)	Total Current Year Admitted Restricted	Gross (Admitted & Nonadmitted) Restricted to Total Assets	Admitted Restricted Total Admitted Assets
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
*Total (c)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

(a) Subset of column 1

(b) Subset of column 3

(c) Total Line for Column 1 through 7 should equal 5L (1) in Columns 1 through 7 respectively and Total Line for Columns 8 through 10 should equal 5L (1) Columns 9 through 11 respectively

- m. Working capital finance investments: The Company did not invest in working capital finance investments as of December 31, 2021.
- n. Offsetting and netting of assets and liabilities: The Company does not currently hold derivatives, repurchase agreements, reverse repurchase agreements or securities lending assets and liabilities as of December 31, 2021.
- o. 5GI Securities:

Investment	Number of 5GI Securities		Aggregate BACV		Aggregate Fair Value	
	Current Year	Prior Year	Current Year	Prior Year	Current Year	Prior Year
(1) Bonds - AC	1	1	\$-	\$26,677	\$-	\$26,610
(2) LB&SS - AC	-	-	-	-	-	-
(3) Preferred Stock - AC	-	-	-	-	-	-
(4) Preferred Stock - FV	-	-	-	-	-	-
(5) Total (1+2+3+4)	1	1	\$-	\$26,677	\$-	\$26,610

AC - Amortized Cost FV - Fair Value

- p. Short sales - The Company does not engage in short sale transactions.

- q. Prepayment penalty and acceleration fees:

	Years Ended December 31, 2021	
	General Account	Separate Account
1. Number of CUSIPS	1	27
2. Aggregate amount of investment income	\$ 2,645	\$ 691,251

- r. Reporting entity's share of cash pool by asset type:

Asset Type	Percent Share
(1) Cash	6 %
(2) Cash equivalents	89 %
(3) Short-term investments	5 %
(4) Total	<u>100 %</u>

### **Note 6 – Joint Ventures, Partnerships and Limited Liability Companies**

- a. There were no individual investments in joint ventures, partnerships or LLCs exceeding 10% of admitted assets for the year ended December 31, 2021 and for the year ended December 31, 2020.
- b. The Company did not have any investment in joint ventures, partnerships and LLCs, therefore, no impairment write-downs were recognized for the years ended December 31, 2021 or 2020.

### **Note 7 – Investment Income**

- a. Accrued investment income consists primarily of interest and dividends. Interest is recognized on an accrual basis and dividends are recorded as earned on the ex-dividend date.
- b. The total amount of due and accrued investment income excluded from surplus was \$18,814 for the year ended December 31, 2021 and \$0 for the year ended December 31, 2020.

### **Note 8 – Derivative Instruments**

The company did not have any derivative instruments for the years ended December 31, 2021 or 2020.

## NOTES TO FINANCIAL STATEMENTS

### Note 9 – Income Taxes

A. The Company provides for deferred income taxes based on an admissibility limitation of 15% of surplus and a three year reversal/realization period.

1. The net DTA or net deferred tax liability (DTL) recognized in the Company's assets, liabilities and surplus is as follows:

	December 31, 2021		
	Ordinary	Capital	Total
(a) Gross DTAs	\$ 4,192,722	\$ 457,318	\$ 4,650,040
(b) Statutory valuation allowance adjustment	-	-	-
(c) Adjusted gross DTAs	4,192,722	457,318	4,650,040
(d) DTAs nonadmitted	2,050,073	150,245	2,200,318
(e) Subtotal net admitted DTA	2,142,649	307,073	2,449,722
(f) Total gross DTLs	352,438	285,705	638,143
(g) Net admitted DTA(L)	<u>\$ 1,790,211</u>	<u>\$ 21,368</u>	<u>\$ 1,811,579</u>

	December 31, 2020		
	Ordinary	Capital	Total
(a) Gross DTAs	\$ 4,334,494	\$ 559,166	\$ 4,893,660
(b) Statutory valuation allowance adjustment	-	-	-
(c) Adjusted gross DTAs	4,334,494	559,166	4,893,660
(d) DTAs nonadmitted	1,917,624	309,800	2,227,424
(e) Subtotal net admitted DTA	2,416,870	249,366	2,666,236
(f) Total gross DTLs	446,982	249,147	696,129
(g) Net admitted DTA(L)	<u>\$ 1,969,888</u>	<u>\$ 219</u>	<u>\$ 1,970,107</u>

	Change		
	Ordinary	Capital	Total
(a) Gross DTAs	\$ (141,772)	\$ (101,848)	\$ (243,620)
(b) Statutory valuation allowance adjustment	-	-	-
(c) Adjusted gross DTAs	(141,772)	(101,848)	(243,620)
(d) DTAs nonadmitted	132,449	(159,555)	(27,106)
(e) Subtotal net admitted DTA	(274,221)	57,707	(216,514)
(f) Total gross DTLs	(94,545)	36,558	(57,986)
(g) Net admitted DTA(L)	<u>\$ (179,676)</u>	<u>\$ 21,150</u>	<u>\$ (158,526)</u>

## NOTES TO FINANCIAL STATEMENTS

2. The amount of adjusted gross DTA admitted under each component of the guidance and the resulting change by tax character are as follows:

	December 31, 2021		
	Ordinary	Capital	Total
(a) Federal income taxes paid in prior years recoverable through loss carrybacks	\$ -	\$ 21,368	\$ 21,368
(b) Adjusted gross DTAs expected to be realized (excluding the amount of DTAs from 2(a) above) after application of the threshold limitation (the lesser of 2(b)1 and 2(b)2 below)	1,790,211	-	1,790,211
1. Adjusted gross DTAs expected to be realized following the balance sheet date	1,790,211	-	1,790,211
2. Adjusted gross DTAs allowed per limitation threshold	39,167,672	-	39,167,672
(c) Adjusted gross DTAs (excluding the amount of DTAs from 2(a) and 2(b) above) offset by gross DTLs	352,438	285,705	638,143
(d) DTAs admitted as the result of application of SSAP no. 101 Total (2(a) + 2(b) + 2(c))	<u>\$ 2,142,649</u>	<u>\$ 307,073</u>	<u>\$ 2,449,722</u>

	December 31, 2020		
	Ordinary	Capital	Total
(a) Federal income taxes paid in prior years recoverable through loss carrybacks	\$ -	\$ 219	\$ 219
(b) Adjusted gross DTAs expected to be realized (excluding the amount of DTAs from 2(a) above) after application of the threshold limitation (the lesser of 2(b)1 and 2(b)2 below)	1,969,889	-	1,969,889
1. Adjusted gross DTAs expected to be realized following the balance sheet date	1,969,889	-	1,969,889
2. Adjusted gross DTAs allowed per limitation threshold	40,505,883	-	40,505,883
(c) Adjusted gross DTAs (excluding the amount of DTAs from 2(a) and 2(b) above) offset by gross DTLs	446,981	249,147	696,128
(d) DTAs admitted as the result of application of SSAP no. 101 Total (2(a) + 2(b) + 2(c))	<u>\$ 2,416,870</u>	<u>\$ 249,366</u>	<u>\$ 2,666,236</u>

	Change		
	Ordinary	Capital	Total
(a) Federal income taxes paid in prior years recoverable through loss carrybacks	\$ -	\$ 21,149	\$ 21,149
(b) Adjusted gross DTAs expected to be realized (excluding the amount of DTAs from 2(a) above) after application of the threshold limitation (the lesser of 2(b)1 and 2(b)2 below)	(179,678)	-	(179,678)
1. Adjusted gross DTAs expected to be realized following the balance sheet date	(179,678)	-	(179,678)
2. Adjusted gross DTAs allowed per limitation threshold	(1,338,211)	-	(1,338,211)
(c) Adjusted gross DTAs (excluding the amount of DTAs from 2(a) and 2(b) above) offset by gross DTLs	(94,543)	36,558	(57,985)
(d) DTAs admitted as the result of application of SSAP no. 101 Total (2(a) + 2(b) + 2(c))	<u>\$ (274,221)</u>	<u>\$ 57,707</u>	<u>\$ (216,514)</u>

## NOTES TO FINANCIAL STATEMENTS

3. The Company's total realization threshold limitations are as follows:

	Years Ended December 31,	
	2021	2020
(a) Ratio percentage used to determine recovery period and threshold limitation amount	9,449%	8,693%
(b) Amount of adjusted capital and surplus used to determine recovery period and threshold limitation in 2(b)2 above.	\$ 261,117,811	\$ 270,039,219

4. The ultimate realization of DTAs depends on the generation of future taxable income during the periods in which the temporary differences are deductible. Management considers the scheduled reversal of DTLs (including the impact of available carryback and carryforward periods), projected taxable income and tax-planning strategies in making this assessment. The impact of tax-planning strategies is as follows:

			December 31, 2021	
			Ordinary	Capital
(a) Determination of adjusted gross DTAs and net admitted DTAs, by tax character as a percentage.				
1. Adjusted Gross DTAs amount from Note 9A1(c)	\$	4,192,772	\$	457,318
2. Percentage of adjusted gross DTAs by tax character attributable to the impact of tax planning strategies		-%		-%
3. Net admitted DTAs amount from Note 9A1(g)	\$	1,790,211	\$	21,368
4. Percentage of net admitted DTAs by tax character attributable to the impact of tax planning strategies		0%		100%

			December 31, 2020	
			Ordinary	Capital
(a) Determination of adjusted gross DTAs and net admitted DTAs, by tax character as a percentage.				
1. Adjusted Gross DTAs amount from Note 9A1(c)	\$	4,334,494	\$	559,166
2. Percentage of adjusted gross DTAs by tax character attributable to the impact of tax planning strategies		-%		-%
3. Net admitted DTAs amount from Note 9A1(g)	\$	1,969,888	\$	219
4. Percentage of net admitted DTAs by tax character attributable to the impact of tax planning strategies		0%		100%

			Change	
			Ordinary	Capital
(a) Determination of adjusted gross DTAs and net admitted DTAs, by tax character as a percentage.				
1. Adjusted Gross DTAs amount from Note 9A1(c)	\$	(141,722)	\$	(101,848)
2. Percentage of adjusted gross DTAs by tax character attributable to the impact of tax planning strategies		-%		-%
3. Net admitted DTAs amount from Note 9A1(g)	\$	(179,677)	\$	21,149
4. Percentage of net admitted DTAs by tax character attributable to the impact of tax planning strategies		0%		0%
(b) Does the Company's tax planning strategies include the use of reinsurance?		Yes <u>    </u>		No <u>  X  </u>

- B. The Company does not have any deferred tax liabilities not recognized.

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**NOTES TO FINANCIAL STATEMENTS**


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C. The provision for current tax expense on earnings is as follows:

	Years Ended December 31,		
	2021	2020	Change
1.			
(a) Federal	\$ 2,976,392	\$ 1,012,978	\$ 1,963,414
(b) Foreign	-	-	-
(c) Subtotal	2,976,392	1,012,978	1,963,414
(d) Federal income tax on net capital gains	271,779	217,869	53,910
(e) Utilization of capital loss carry-forwards	-	-	-
(f) Other	-	-	-
(g) Federal and foreign income taxes incurred	<u>\$ 3,248,171</u>	<u>\$ 1,230,847</u>	<u>\$ 2,017,324</u>

## NOTES TO FINANCIAL STATEMENTS

The tax effects of temporary differences that give rise to significant portions of the DTAs and DTLs are as follows:

	2021	December 31, 2020	Change
2. Deferred Tax Assets:			
(a) Ordinary			
(1) Discounting of unpaid losses	\$ -	\$ -	\$ -
(2) Unearned premium reserve	-	-	-
(3) Policyholder reserves	850,251	953,320	(103,069)
(4) Investments	-	-	-
(5) Deferred acquisition costs	3,047,610	3,175,390	(127,780)
(6) Policyholder dividends accrual	-	-	-
(7) Fixed assets	-	-	-
(8) Compensation and benefits accrual	-	-	-
(9) Pension accrual	-	-	-
(10) Receivables - nonadmitted	-	-	-
(11) Net operating loss carry-forward	-	-	-
(12) Tax credit carry-forward	-	-	-
(13) Other	<u>294,861</u>	<u>205,783</u>	<u>89,078</u>
(14) Subtotal	<u>4,192,722</u>	<u>4,334,493</u>	<u>(141,771)</u>
(b) Statutory valuation allowance adjustment	<u>-</u>	<u>-</u>	<u>-</u>
(c) Non admitted	<u>2,050,073</u>	<u>1,917,624</u>	<u>132,449</u>
(d) Admitted ordinary DTAs (2a14 - 2b - 2c)	<u>2,142,649</u>	<u>2,416,869</u>	<u>(274,220)</u>
(e) Capital			
(1) Investments	457,318	559,166	(101,848)
(2) Net capital loss carry-forward	-	-	-
(3) Real estate	-	-	-
(4) Other	<u>-</u>	<u>-</u>	<u>-</u>
(5) Subtotal	<u>457,318</u>	<u>559,166</u>	<u>(101,848)</u>
(f) Statutory valuation allowance adjustment	<u>-</u>	<u>-</u>	<u>-</u>
(g) Non admitted	<u>150,245</u>	<u>309,800</u>	<u>(159,555)</u>
(h) Admitted capital DTAs (2e5 - 2f - 2g)	<u>307,073</u>	<u>249,366</u>	<u>57,707</u>
(i) Admitted DTAs (2d + 2h)	<u>2,449,722</u>	<u>2,666,235</u>	<u>(216,513)</u>
3. Deferred Tax Liabilities:			
(a) Ordinary			
(1) Investments	-	-	-
(2) Fixed Assets	-	-	-
(3) Deferred and uncollected premium	226,382	243,370	(16,988)
(4) Policyholder reserves	32,550	198,182	(165,632)
(5) Other	<u>93,506</u>	<u>5,429</u>	<u>88,077</u>
(6) Subtotal	<u>352,438</u>	<u>446,981</u>	<u>(94,543)</u>
(b) Capital			
(1) Investments	285,705	249,147	36,558
(2) Real estate	-	-	-
(3) Other	<u>-</u>	<u>-</u>	<u>-</u>
(4) Subtotal	<u>285,705</u>	<u>249,147</u>	<u>36,558</u>
(c) Total DTLs (3a6 + 3b4)	<u>638,143</u>	<u>696,128</u>	<u>(57,985)</u>
4. Net DTA(L) (2i - 3c)	<u>\$ 1,811,579</u>	<u>\$ 1,970,107</u>	<u>\$ (158,528)</u>

## NOTES TO FINANCIAL STATEMENTS

The change in net deferred income taxes is comprised of the following:

	Years Ended December 31,	
	2021	2020
(1) Net DTA(L)	\$ (127,649)	\$ (219,296)
Less: Items not recorded in the change in net deferred income taxes:	-	-
(2) Tax-effect of unrealized gains/(losses)	(57,570)	(37,263)
(3) Tax-effect of change in accounting method for pensions	-	-
(4) Change in net deferred income taxes	\$ (185,219)	\$ (256,559)

- D. The components of federal and foreign income tax on operating items are recorded on the Summary of Operations and Capital and Surplus Account and are different from that which would be obtained by applying the prevailing federal income tax rate to operating income before taxes. The significant items causing this difference are as follows:

	Years Ended December 31,	
	2021	2020
(1) Provision computed at statutory rate	\$ 4,758,395	\$ 2,983,752
(2) Non admitted assets	2,107	4,359
(3) Foreign governmental income taxes	-	-
(4) Expense items	28	616
(5) Investment items	(1,002,603)	(1,487,665)
(6) Tax credits	-	-
(7) Change in reserve valuation basis	-	126,000
(8) Other	(327,207)	(139,656)
Total statutory income tax expense (benefit)	\$ 3,430,720	\$ 1,487,406
(9) Federal and foreign income tax benefit	\$ 3,245,501	\$ 1,230,847
(10) Change in net deferred income taxes	185,219	256,559
Total statutory income tax expense (benefit)	\$ 3,430,720	\$ 1,487,406

- E. (1) As of December 31, 2021, the Company had no net operating or capital loss carryforwards to include in deferred income taxes. The Company has no total tax credit carryforwards included in deferred taxes.
- (2) The Company paid federal income taxes of \$3,420,831 in 2021 and \$725,317 in 2020.
- (3) As of December 31, 2021 and 2020, the Company had no protective deposits recognized as admitted assets.
- F. (1) The Company is included in a consolidated United States (U.S.) federal income tax return with its parent, Massachusetts Mutual Life Insurance Company (MassMutual), a mutual life insurance company domiciled in the Commonwealth of Massachusetts, and MassMutual's eligible U.S. subsidiaries. The Company also files income tax returns in various states and foreign jurisdictions.
- (2) The Company, MassMutual, and MassMutual's eligible subsidiaries and certain affiliates (the Parties) have executed and are subject to a written tax allocation agreement (the Agreement). The Agreement sets forth the manner in which the total combined federal income tax is allocated among the Parties. The Agreement provides the Company with the enforceable right to recoup federal income taxes paid in prior years in the event of future capital net losses, which it may incur. Further, the Agreement provides the Company with the enforceable right to utilize its net losses carried forward as an offset to future net income subject to federal income taxes.
- G. (1) Companies are generally required to disclose unrecognized tax benefits, which are the tax effect of positions taken on their tax returns that may be challenged by the various taxing authorities, in order to provide users of financial statements more information regarding potential liabilities. The Company recognizes tax benefits and related reserves in accordance with existing SAP for liabilities, contingencies and impairments of assets. As of December 31, 2020, the Company has no liabilities for unrecognized tax benefits.
- (2) In response to the COVID-19 pandemic, the Coronavirus Aid, Relief, and Economic Security (CARES) Act was signed into law on March 27, 2020 and the Consolidated Appropriations Act (CAA), 2021 was signed into law on December 27, 2020. The CARES Act, among other things, permits net operating loss (NOL) carryovers and carrybacks to offset 100% of taxable income for taxable years beginning before 2021. In addition, the CARES Act allows NOLs incurred in 2018, 2019, and 2020 to be carried back to each of the five preceding taxable years to generate a refund of previously paid income taxes. The CAA extends and expands certain tax provisions of the CARES Act. The CARES Act as well as the CAA did not have a material effect on the consolidated financial statements.
- (3) The Internal Revenue Service (IRS) has completed its examination for the years 2013 and prior. The 2014-2016 tax years are currently at IRS Appeals. The IRS commenced its examination of years 2017-2018 in October 2020. The adjustments resulting from these examinations are not expected to materially affect the position or liquidity of the Company.
- H. (1) The Company is not subject to the repatriation transition tax.
- I. (1) The Company does not have an alternative minimum tax credit.

### **Note 10 – Information Concerning Parent, Subsidiaries and Affiliates**

- a. The Company is a wholly owned subsidiary of C.M. Life Insurance Company (C.M. Life), a stock life insurance company domiciled in the state of Connecticut.



## NOTES TO FINANCIAL STATEMENTS

- b. The Company did not have any material non-insurance related party transactions during the years ended December 31, 2021 or 2020. See Schedule Y for SCA activity.
- c. The Company did not have any material related party transactions that were not reported on Schedule Y.
- d. The Company reported \$203,186 as amounts due from parent, subsidiaries and affiliates as of December 31, 2021 and \$173,473 as of December 31, 2020. The Company reported \$4,310,156 as amounts due to parent, subsidiaries and affiliates as of December 31, 2021 and \$2,169,121 as of December 31, 2020. Terms require settlement of these amounts within 30 to 90 days.
- e. Pursuant to a management agreement, MassMutual, for a fee, furnishes to the Company, as required, operating facilities, human resources, computer software development and managerial services. Investment and administrative services are also provided to the Company pursuant to a management services agreement with MassMutual. While management believes that these fees are calculated on a reasonable basis, these fees may not necessarily be indicative of the costs that would have been incurred on a stand-alone basis.

The following table summarizes the transactions between the Company and the related parties:

	Years Ended December 31,	
	2021	2020
Fee income:		
Recordkeeping and other services	\$ 872,677	\$ 815,743
Investment advisory income	1,839,616	1,684,923
Fee expense:		
Management and service contracts and cost-sharing arrangements	9,276,637	9,975,903
Investment advisory services	928,295	94,083

The Company participates in variable annuity exchange programs with MassMutual, where certain variable annuity contract holders can make a nontaxable exchange of their contracts for enhanced MassMutual variable annuity contracts. The Company did not record any surrender benefits in 2021 or 2020 related to these exchange programs.

- f. The Company has a modified coinsurance (Modco) quota-share reinsurance agreement with MassMutual where the Company cedes 100% of the premium on certain bank-owned life insurance policies. In return, MassMutual pays the Company a stipulated expense allowance, death and surrender benefits. The Company retains the assets and related reserves for payment of future benefits on the ceded policies. The Modco adjustment is the mechanism by which MassMutual funds the reserve on the reinsured portion of the risk. It is needed to adjust for the financial effect of the Company holding the reserves on the ceded coverage rather than MassMutual.

The Company also has a stop-loss agreement with MassMutual under which the Company cedes claims which, in aggregate, exceed 1.63% of the covered volume for any year, with maximum coverage of \$25,000,000 above the aggregate limit. The aggregate limit was \$33,993,474 in 2021 and \$33,112,654 in 2020 and it was not exceeded in either year.

The Company has a quota-share reinsurance agreement with MassMutual in which MassMutual assumes specific plans of insurance on a yearly renewable term basis.

The net amounts outstanding and due from MassMutual for the various reinsurance agreements were \$39,507,318 as of December 31, 2021 and \$39,118,415 as of December 31, 2020. These outstanding balances are due and payable with terms ranging from monthly to annually, depending on the agreement in effect.

The following summarizes reinsurance transactions between the Company and MassMutual:

	Years Ended December 31,	
	2021	2020
Premium expense ceded, related to:		
Stop-loss agreements	\$ (166,105)	\$ (164,294)
Quota-share reimbursement agreements	(5,294,341)	(5,509,479)
Modified coinsurance adjustments ceded, included in fee and other income	(10,887,885)	(11,205,308)
Expense allowances on reinsurance ceded, included in fees and other income, related to:		
Modified coinsurance agreements	6,371,086	6,248,069
Policyholders' benefits ceded, related to:		
Modified coinsurance agreements	14,284,213	11,273,420
Quota-share reimbursement agreements	2,388,171	3,435,946
Experience refunds (paid) received, related to:		
Stop-loss agreements	55,369	54,722
Modified coinsurance agreements	(310,873)	(731,301)

- g. All outstanding shares of the Company were owned by its parent.
- h. The Company does not have an investment in its parent.
- i. As of 2021, the Company did not have an investment in SCAs exceeding 10% of admitted assets.
- j. In 2021, the Company did not have impairment write-downs on its investments in affiliated bonds.  
In 2020, the Company did not have impairment write-downs on its investments in affiliated bonds.

## NOTES TO FINANCIAL STATEMENTS

The Company does not have an impairment write-down of any SCA entities during the statement periods.

- k. The Company has no foreign insurance subsidiary whose value is calculated by adjusting annuity GAAP account value reserves using the Commissioners' Annuity Reserve Valuation Method and the related Actuarial Guidelines.
- l. The Company does not hold an investment in a downstream noninsurance holding company.
- m. The Company does not have investments in foreign or noninsurance SCAs.
- n. The Company does not have any insurance SCAs for which the audited statutory equity reflects a departure from NAIC statutory accounting practices.
- o. The Company does not have any insurance SCAs for which losses exceeded its investment in the SCA.

### **Note 11 – Debt**

- a. The Company did not have any capital notes or liability for borrowed money as of December 31, 2021 or 2020.

The Company did not have any debt that was considered to be extinguished by in-substance defeasance.

The Company did not set aside assets after the effective date of this statement solely for satisfying debt obligations.

- b. The Company is not a member of the Federal Home Loan Bank (FHLB) therefore it has no FHLB funding agreements.

### **Note 12 – Retirement Plans, Deferred Compensation, Postemployment Benefits and Compensated Absences and Other Postretirement Benefit Plans**

- a. The Company did not have any defined benefit pension plans for which the reporting entity is directly liable.
- b. The Company did not have any pension plans for which the reporting entity is directly liable.
- c. The Company did not have any pension plans for which the reporting entity is directly liable.
- d. The Company did not have any pension plans for which the reporting entity is directly liable.
- e. The Company did not have any defined contribution plans.
- f. The Company did not have multi-employer plans.
- g. Consolidated/Holding Company plans:  
MassMutual charges allocated expenses to the Company based on relative weighted commissions for agents and time studies of its employees. The Company recorded an expense of \$611,437 for the year ended December 31, 2021 and \$963,484 for the year ended December 31, 2020 for these plans.
- h. The Company does not accrue for postemployment benefits and compensated absences since it does not have any employees.

### **Note 13 – Capital and Surplus, Dividend Restrictions and Quasi-Reorganizations**

- a. The Company had 50,000 shares of common stock authorized, 12,501 shares issued and outstanding as of December 31, 2021. The par value of the common stock is \$200 per share.
- b. The Company did not have any preferred stock outstanding.
- c. Without the prior approval of the Insurance Commissioner of the State of Connecticut (the Commissioner), total dividends paid to the Company's shareholder in a twelve month period are limited to the greater of (i) 10% of the Company's surplus as of December 31 of the preceding year or (ii) the net gain from operations for the twelve month period ending on December 31 of the preceding year; each case is determined using statutory accounting policies. In addition, the prior approval of the Commissioner is required if any dividend or distribution exceeds the Company's earned surplus. Under these regulations, \$26,542,959 of shareholder's equity is available for distribution to the shareholder in 2022 without prior regulatory approval.
- d. In December 2021, the Company declared and paid \$27,000,000 in dividends to C.M. Life. In December 2020, the Company declared and paid \$29,000,000 in dividends to C.M. Life.
- e. Within the limits of (3) above, there are no restrictions placed on the portion of Company profits that may be paid as ordinary dividends to the stockholder.
- f. There are no restrictions on unassigned surplus funds.
- g. The Company did not make any advances to surplus.
- h. The Company did not have any stock held for special purposes.
- i. The Company does not have any special surplus funds.
- j. The portion of unassigned funds (surplus) represented by net unrealized gains and losses (cumulative, net of deferred tax) was (\$177,180) as of December 31, 2021. The portion of unassigned funds (surplus) represented by net unrealized gains and losses (cumulative, net of deferred tax) was (\$196,877) as of December 31, 2020.
- k. The Company did not have any surplus debentures or similar obligations.
- l. There were no restatements due to prior quasi-reorganizations.
- m. There were no quasi-reorganizations in the prior ten years.

### **Note 14 – Liabilities, Contingencies and Assessments**

- a. Contingent commitments:  
In the normal course of business, the Company enters into commitments to purchase certain investments. The majority of these commitments have funding periods that extend between one and five years. The Company is not required to fund commitments once the commitment period expires. As of December 31, 2021 or 2020, the Company had no commitments.

## NOTES TO FINANCIAL STATEMENTS

b. Assessments:

The Company is subject to insurance guaranty fund laws in the states in which it does business. These laws assess insurance companies' amounts to be used to pay benefits to policyholders and policy claimants of insolvent insurance companies. Many states allow these assessments to be credited against future premium taxes. The Company believes such assessments in excess of amounts accrued will not materially impact its financial position, results of operations or liquidity.

c. Gain contingencies:

No material gain contingencies were realized subsequent to December 31, 2021 through the filing date.

d. The Company did not have any claims related to extra contractual obligations in 2021.

e. The Company has no joint and several liabilities.

f. All other contingencies:

In the normal course of business, the Company is involved in disputes, litigation and governmental or regulatory inquiries, administrative proceedings, examinations and investigations, both pending and threatened. These matters, if resolved adversely against the Company or settled, may result in monetary damages, fines and penalties or require changes in the Company's business practices. The resolution or settlement of these matters is inherently difficult to predict. Based upon the Company's assessment of these pending matters, the Company does not believe that the amount of any judgment, settlement or other action arising from any pending matter is likely to have a material adverse effect on the statement of financial position. However, an adverse outcome in certain matters could have a material adverse effect on the results of operations for the period in which such matter is resolved, or an accrual is determined to be required, on the financial statement financial position, or on our reputation.

The Company evaluates the need for accruals of loss contingencies for each matter. When a liability for a matter is probable and can be estimated, the Company accrues an estimate of the loss and any related insurance recoveries, if any. An accrual is subject to subsequent adjustment as a result of additional information and other developments. The resolution of matters are inherently difficult to predict, especially in the early stages of matter. Even if a loss is probable, due to many complex factors, such as speed of discovery and the timing of court decisions or rulings, a loss or range of loss may not be reasonably estimated until the later stages of the matter. For matters where a loss is material and it is either probable or reasonably possible then it is disclosed. For matters where a loss may be reasonably possible, but not probable, or is probable but not reasonably estimated, no accrual is established, but the matter, if material, is disclosed.

### **Note 15 – Leases**

The Company did not have any lease obligations.

### **Note 16 – Information About Financial Instruments With Off-Balance Sheet Risk and Financial Instruments With Concentrations of Credit Risk**

There were no contracts for the years ended December 31, 2021 or 2020.

### **Note 17 – Sale, Transfer and Servicing of Financial Assets and Extinguishments of Liabilities**

a. During 2021 and 2020, the Company did not transfer any receivables that were reported as sales.

b. Transfer and Servicing of Financial Assets:

(1) The Company did not participate in securities lending as of December 31, 2021 or 2020.

(1) The Company did not have any servicing assets or liabilities in 2021 or 2020.

(2) The Company did not have any servicing assets or liabilities in 2021 or 2020.

(3) The Company did not have interests that continue to be held by a transferor in securitized financial assets in 2021 or 2020.

(4) The Company did not have any transfers of financial assets accounted for as secured borrowing in 2021 or 2020.

(5) The Company did not have any transfers of receivables with recourse in 2021 or 2020.

(6) See Note 5e1 "Repurchase Agreements".

c. Wash sales:

(1) In the course of the Company's investment management activities, securities may be sold and reacquired within 30 days of the sale date to enhance the Company's yield on its investment portfolio.

(2) The Company did not sell any securities with the NAIC Designation 3 or below, or unrated, for the year ended December 31, 2021 or 2020, that were reacquired within 30 days of the sale date.

### **Note 18 – Gain or Loss to the Reporting Entity from Uninsured Plans and the Uninsured Portion of Partially Insured Plans**

The Company did not write any accident and health plans. Therefore, the Company did not have any uninsured accident and health plans.

### **Note 19 – Direct Premium Written/Produced by Managing General Agents/Third Party Administrators**

The Company did not have any premium written through managing general agents or third party administrators.

### **Note 20 – Fair Value Measurements**

a. Fair value is defined as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The authoritative guidance around fair value establishes a measurement framework that includes a hierarchy used to classify the inputs used in measuring fair value. The hierarchy prioritizes the inputs to valuation techniques into three levels. Each level reflects a unique description of the inputs that are significant to the fair value measurements. The levels of the fair value hierarchy are as follows:

Level 1 – Observable inputs in the form of quoted prices for identical instruments in active markets.

Level 2 – Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active or other inputs that are observable or can be derived from observable market data for substantially the full term of the assets or liabilities.

## NOTES TO FINANCIAL STATEMENTS

Level 3 – One or more unobservable inputs that are supported by little or no market activity and are significant to the fair value of the assets or liabilities. Level 3 assets and liabilities include financial instruments whose value is determined using internal models, as well as instruments for which the determination of fair value requires significant management judgment or estimation.

When available, the Company generally uses unadjusted quoted market prices from independent sources to determine the fair value of investments, and classifies such items within Level 1 of the fair value hierarchy. If quoted prices are not available, prices are derived from observable market data for similar assets in an active market or obtained directly from brokers for identical assets traded in inactive markets. Investments that are priced using these inputs are classified within Level 2 of the fair value hierarchy. When some of the necessary observable inputs are unavailable, fair value is based upon internally developed models. These models use inputs not directly observable or correlated with observable market data. Typical inputs, which are integrated in the Company's internal discounted cash flow models and discounted earnings models include, but are not limited to, issuer spreads derived from internal credit ratings and benchmark yields such as the LIBOR, cash flow estimates and earnings before interest, taxes, depreciation and amortization estimates. Investments that are priced with such unobservable inputs are classified within Level 3 of the fair value hierarchy.

The Company has established and maintains policies and guidelines that govern its valuation methodologies and their consistent application. These policies and guidelines address the use of inputs, price source hierarchies and provide controls around the valuation processes. These controls include appropriate review and analysis of prices against market activity or indicators for reasonableness, approval of price source changes, price overrides, methodology changes and classification of fair value hierarchy levels. The valuation policies and guidelines are reviewed and updated as appropriate.

Annually, the Company reviews the primary pricing vendor to validate that the inputs used in that vendor's pricing process are deemed to be market observable as defined above. While the Company was not provided access to proprietary models of the vendor, the reviews have included on-site walk-throughs of the pricing process, methodologies and control procedures for each asset class and level for which prices are provided. The review also included an examination of the underlying inputs and assumptions for a sample of individual securities across asset classes. In addition, the Company and its pricing vendors have an established challenge process in place for all security valuations, which facilitates identification and resolution of prices that fall outside expected ranges. The Company believes that the prices received from the pricing vendors are representative of prices that would be received to sell the assets at the applicable measurement date (exit prices) and are classified appropriately in the hierarchy.

The fair value of individual annuity and supplementary contracts is determined using one of several methods based on the specific contract type. For short-term contracts, generally less than 30 days, the fair value is assumed to be the book value. For investment-type contracts, the fair value is determined by calculating the present value of future cash flows discounted at current market interest rates, the risk-free rate or a current pricing yield curve based on pricing assumptions using assets of a comparable corporate bond quality. Annuities are valued using cash flow projections from the Company's asset-liability management analysis.

- (1) The following presents the Company's fair value hierarchy for assets and liabilities that are carried at fair value:

	December 31, 2021			Net Asset Value (NAV)	Total
	Level 1	Level 2	Level 3		
Financial assets:					
Bonds:					
Industrial and miscellaneous	\$ -	\$ 746,832	\$ -	\$ -	\$ 746,832
Common stock - unaffiliated	12,060	-	-	-	12,060
Separate account assets <sup>(1)</sup>	1,377,931,066	2,364,973,481	-	-	3,742,904,547
Total financial assets carried at fair value	\$ 1,377,943,126	\$ 2,365,720,313	\$ -	\$ -	\$ 3,743,663,439

<sup>(1)</sup>\$1,221,894,992 of book value separate account assets are not carried at fair value and, therefore, are not included in this table.

For the period ended December 31, 2021, there were no significant transfers between Level 1 and Level 2 and the Company does not have any financial instruments that are carried at NAV as a practical expedient.

	December 31, 2020			Net Asset Value (NAV)	Total
	Level 1	Level 2	Level 3		
Financial assets:					
Bonds:					
Industrial and miscellaneous	\$ -	\$ 1,028,347	\$ -	\$ -	\$ 1,028,347
Separate account assets <sup>(1)</sup>	1,195,556,830	2,480,098,682	-	-	3,675,655,512
Total financial assets carried at fair value	\$ 1,195,556,830	\$ 2,481,127,029	\$ -	\$ -	\$ 3,676,683,859

<sup>(1)</sup>\$1,183,176,336 of book value separate account assets are not carried at fair value and, therefore, are not included in this table.

- (2) The Company does not have any level 3 financial instruments that are carried at fair value and, therefore, are not included in this table.

- (3) The Company reviews the fair value hierarchy classifications at each reporting period. Overall, reclassifications between levels occur when there are changes in the observability of inputs and market activity used in the valuation of a financial asset or liability. Such reclassifications are reported as transfers between levels at the beginning fair value for the reporting period in which the changes occur. Given the types of assets classified as Level 1 (primarily equity securities and mutual fund investments), transfers between Level 1 and Level 2 measurement categories are expected to be infrequent. Transfers into and out of Level 3 are summarized in the schedule of changes in Level 3 assets and liabilities.

- (4) *Valuation Techniques and Inputs*

The Company determines the fair value of its investments using primarily the market approach or the income approach. The use of quoted prices for identical assets and matrix pricing or other similar techniques are examples of market approaches,

## NOTES TO FINANCIAL STATEMENTS

while the use of discounted cash flow methodologies is an example of the income approach. The Company attempts to maximize the use of observable inputs and minimize the use of unobservable inputs in selecting whether the market or the income approach is used.

A description of the significant valuation techniques and inputs to the determination of estimated fair value for the more significant asset and liability classes measured at fair value on a recurring basis and categorized within Level 2 and Level 3 of the fair value hierarchy is as follows:

*Separate account assets* - These assets primarily include bonds (industrial and miscellaneous; U.S. government and agencies) and derivatives. Their fair values are determined as follows:

*Bonds (Industrial and miscellaneous)* - These securities are principally valued using the market or the income approaches. Level 2 valuations are based primarily on quoted prices in markets that are not active, broker quotes, matrix pricing or other similar techniques that use standard market observable inputs such as benchmark yields, spreads versus benchmark yields, new issuances, issuer ratings, duration, and trades of identical or comparable securities. Privately placed securities are valued using discounted cash flow models using standard market observable inputs, and inputs derived from, or corroborated by, market observable data including market yield curve, duration, call provisions, observable prices and spreads for similar publicly traded or privately traded issuances that incorporate the credit quality and industry sector of the issuer. This level also includes securities priced by independent pricing services that use observable inputs. Valuations based on matrix pricing or other similar techniques that utilize significant unobservable inputs or inputs that cannot be derived principally from, or corroborated by, observable market data, including adjustments for illiquidity, delta spread adjustments or spreads to reflect industry trends or specific credit-related issues are classified as Level 3. In addition, inputs including quoted prices for identical or similar securities that are less liquid and based on lower levels of trading activity than securities classified in Level 2 are classified as Level 3.

*Bonds (U.S. government and agencies)* - These securities are principally valued using the market approach. Level 2 valuations are based primarily on quoted prices in markets that are not active, or using matrix pricing or other similar techniques using standard market observable inputs such as the benchmark U.S. Treasury yield curve, the spreads versus the U.S. Treasury yield curve for the identical security and comparable securities that are actively traded.

The use of different assumptions or valuation methodologies may have a material impact on the estimated fair value amounts. For the periods presented, there were no significant changes to the Company's valuation techniques.

- (5) Derivative assets and liabilities fair value disclosures on a gross basis are included in paragraph 1 above. Since there are no derivative assets or liabilities classified in Level 3, the reconciliation disclosures required under paragraphs 2 through 4 are not applicable.

b. The Company provides additional fair value information in Note 21 – Other Items.

c. The following presents a summary of the carrying values and fair values of the Company's financial instruments:

	December 31, 2021						Net Asset Value (NAV)	Not Practicable (Carrying Value)
	Aggregate Fair Value	Admitted Assets	Level 1	Level 2	Level 3			
Financial assets:								
Bonds:								
U. S. government and agencies	\$ 4,427,099	\$ 4,444,612	-	\$ 4,427,099	-	-	-	-
Special revenue	33,217	29,261	-	33,217	-	-	-	-
Industrial and miscellaneous	226,790,617	213,262,248	-	226,672,401	118,216	-	-	-
Parent, subsidiaries and affiliates	990,891	992,122	-	990,891	-	-	-	-
Common stock - unaffiliated	12,060	12,060	12,060	-	-	-	-	-
Mortgage loans - residential	1,779,909	1,771,148	-	-	1,779,909	-	-	-
Cash, cash equivalents and short-term investments	121,099,505	121,099,505	7,111,307	113,988,198	-	-	-	-
Separate account assets	5,003,598,884	4,974,831,570	1,387,965,897	3,606,758,678	8,874,309	-	-	-
Financial liabilities:								
Individual annuity contracts	3,002,675	2,890,477	-	-	3,002,675	-	-	-
Supplementary contracts	15,454,191	15,301,179	-	-	15,454,191	-	-	-

## NOTES TO FINANCIAL STATEMENTS

December 31, 2020

	Aggregate Fair Value	Admitted Assets	Level 1	Level 2	Level 3	Net	Not
						Asset	Practicable
						Value (NAV)	(Carrying Value)
Financial assets:							
Bonds:							
U. S. government and agencies	\$ 4,521,198	\$ 4,504,991	\$ -	\$ 4,521,198	\$ -	\$ -	\$ -
Special revenue	40,848	35,264	-	40,848	-	-	-
Industrial and miscellaneous	262,438,285	238,906,475	-	261,951,736	486,549	-	-
Mortgage loans - residential	2,149,234	2,090,393	-	-	2,149,234	-	-
Cash, cash equivalents and short-term investments	103,615,595	103,615,595	(1,932,163)	105,547,758	-	-	-
Separate account assets	4,929,390,678	4,858,831,848	1,195,557,522	3,723,465,405	10,367,751	-	-
Financial liabilities:							
Individual annuity contracts	3,181,417	3,059,214	-	-	3,181,417	-	-
Supplementary contracts	13,002,296	12,873,560	-	-	13,002,296	-	-

d. As of December 31, 2021 and 2020, the Company had no investments where it was not practicable to estimate fair value.

### Note 21 – Other Items

- There were no unusual or infrequent items requiring disclosure.
- There were no troubled debt restructurings that occurred during the period for which the financial statements are presented.
- Other disclosures:  
The Company had assets on deposit with government authorities or trustees, as required by law, in the amount of \$4,442,770 as of December 31, 2021 and \$4,447,113 as of December 31, 2020.

#### Business risks

The Company operates in a business environment subject to various risks and uncertainties. The principal risks include insurance and underwriting risks, investment and interest rate risks and credit risk.

#### Insurance and underwriting risks

The Company prices its products based on estimated benefit payments reflecting assumptions with respect to mortality, longevity, persistency, interest rates and other factors. If actual policy experience emerges that is significantly and adversely different from assumptions used in product pricing, the effect could be material to the profitability of the Company. The Company reinsures certain life insurance and other long-term care insurance policies to mitigate the impact of its underwriting risk.

#### Investment and interest rate risks

The fair value, cash flows and earnings of investments can be influenced by a variety of factors including changes in interest rates, credit spreads, equity markets, portfolio asset allocation and general economic conditions. The Company employs a rigorous asset/liability management process to help mitigate the economic impacts of various investment risks, in particular interest rate risk. By effectively matching the market sensitivity of assets with the liabilities they support, the impact of interest rate changes is addressed, on an economic basis, as the change in the value of the asset is offset by a corresponding change in the value of the supported liability.

The levels of U.S. interest rates are influenced by U.S. monetary policies and by the relative attractiveness of U.S. markets to investors versus other global markets. As interest rates increase, certain debt securities may experience amortization or prepayment speeds that are slower than those assumed at purchase, impacting the expected maturity of these securities and the ability to reinvest the proceeds at the higher yields. Rising interest rates may also result in a decrease in the fair value of the investment portfolio. As interest rates decline, certain debt securities may experience accelerated amortization and prepayment speeds than what was assumed at purchase. During such periods, the Company is at risk of lower net investment income as it may not be able to reinvest the proceeds at comparable yields. Declining interest rates may also increase the fair value of the investment portfolio.

Interest rates also have an impact on the Company's products with guaranteed minimum payouts and on interest credited to account holders. As interest rates decrease, investment spreads may contract as crediting rates approach minimum guarantees, resulting in an increased liability.

In periods of increasing interest rates, policy loans, surrenders and withdrawals may increase as policyholders seek investments with higher perceived returns. This could result in cash outflows requiring the Company to sell invested assets at a time when the prices of those assets are adversely affected by the increase in market interest rates, which could cause the Company to realize investment losses.

#### Credit and other market risks

The Company manages its investments to limit credit and other market risks by diversifying its portfolio among various security types and industry sectors as well as purchasing credit default swaps to transfer some of the risk.

Stressed conditions, volatility and disruptions in capital markets or financial asset classes can have an adverse effect on the Company, in part because the Company has a large investment portfolio and assets supporting the Company's insurance liabilities are sensitive to changing market factors. Market factors, including interest rates, credit spread quality, equity prices, consumer spending, business investment, government spending, the volatility and strength of the capital markets, deflation and inflation, all affect the business and economic environment and, ultimately, the profitability of the Company's business. Disruptions in one market or asset class can also spread to other markets or asset classes. Upheavals in the financial markets can also affect the Company's business through their effects on general levels of economic activity, employment and customer behavior.

The CMBS, RMBS and leveraged loan sectors are sensitive to evolving conditions that can impair the cash flows realized by investors and is subject to uncertainty. Management's judgment regarding OTTI and estimated fair value depends upon the evolving investment sector and economic conditions. It can also be affected by the market liquidity, a lack of which can make it difficult to obtain accurate market prices for RMBS and other investments, including CMBS and leveraged loans. Any deterioration in economic fundamentals, especially related to the housing sector could affect management's judgment regarding OTTI.

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**NOTES TO FINANCIAL STATEMENTS**

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The Company has investments in structured products exposed primarily to the credit risk of corporate bank loans, corporate bonds or credit default swap contracts referencing corporate credit risk. Most of these structured investments are backed by corporate loans and are commonly known as collateralized loan obligations that are classified as CDOs. The portfolios backing these investments are actively managed and diversified by industry and individual issuer concentrations. Due to the complex nature of CDOs and the reduced level of transparency to the underlying collateral pools for many market participants, the recovery in CDO valuations generally lags the overall recovery in the underlying assets. Management believes its scenario analysis approach, based primarily on actual collateral data and forward looking assumptions, does capture the credit and most other risks in each pool. However, in a rapidly changing economic environment, the credit and other risks in each collateral pool will be more volatile and actual credit performance of CDOs may differ from the Company's assumptions.

The Company continuously monitors its investments and assesses their liquidity and financial viability; however, the existence of the factors described above, as well as other market factors, could negatively impact the market value of the Company's investments. If the Company sells its investments prior to maturity or market recovery, these investments may yield a return that is less than the Company otherwise would have been able to realize.

Asset-based fees calculated as a percentage of the separate account assets are a source of revenue to the Company. Gains and losses in the investment markets may result in corresponding increases and decreases in the Company's separate account assets and related revenue.

The spread of the coronavirus, causing increased cases of COVID-19, has caused significant volatility in U.S. and international markets. There is significant uncertainty around the breadth and duration of business disruptions related to COVID-19, as well as its impact on the U.S. and international economies. At this time, the Company is not able to reliably estimate the length and severity of the COVID-19 public health crises and, as such, cannot quantify its impact on the financial results, liquidity and capital resources and its operations in future periods.

#### Political Uncertainties

Political events, domestically or internationally, may directly or indirectly trigger or exacerbate risks related to product offerings, profitability, or any of the risk factors described above. Whether those underlying risk factors are driven by politics or not, the Company's dynamic approach to managing risks enables management to identify risks, internally and externally, develop mitigation plans, and respond to risks in an attempt to proactively reduce the potential impact of each underlying risk factor on the Company.

- d. The Company did not receive any business interruption recoveries in 2021.
- e. The Company did not have unused transferable or non-transferable state tax credits as of December 31, 2021.
- f. Subprime mortgage related risk exposure:  
As of December 31, 2021 and 2020, the Company did not have any direct exposure through investments in subprime mortgage loans.

- (1) Direct exposure through other investments

#### RMBS risk exposure:

Portfolios of ABS, including RMBS and CMBS, are evaluated on a periodic basis using scenarios customized by collateral type. The Company performs sensitivity analysis on defaults as loan-to-values change, and on defaults as prepayments change using default curves under various scenarios. The Company combines scenario analysis with a monthly surveillance process in which it compares actual delinquencies and defaults to expectations established at the time securities are acquired as well as expectations considering current market conditions, and performs a statistical review to determine potential losses relative to credit support of troubled loan exposures on a transaction-by-transaction basis.

Management used a combination of external vendor prices, broker quotations and internal models for purposes of deriving fair value. Internal inputs used in the determination of fair value included estimates of prepayment speeds, default rates, discount rates and collateral values, among others. Structure characteristics and results of cash flow priority are also considered. Fair values resulting from internal models are those expected to be received in an orderly transaction between willing market participants at the financial statement date.

The Company holds certain investments backed by pools of residential mortgages. The majority of these investments are included in bonds. The mortgages in these pools have varying risk characteristics and are commonly categorized as being of U.S. government agency, non-agency prime, Alt-A and subprime borrower quality. The Alt-A category includes option adjustable rate mortgages and the subprime category includes 'scratch and dent' or reperforming pools, high loan-to-value pools, and pools where the borrowers have very impaired credit but the average loan-to-value is low, typically 70% or below at origination. In identifying Alt-A and subprime exposure, management used a combination of qualitative and quantitative factors, including FICO scores and loan-to-value ratios.

## NOTES TO FINANCIAL STATEMENTS

Residential mortgage loan pools are homogeneous residential mortgage loans substantially backed by FHA and VA guarantees. The Company purchases seasoned loan pools, most of which are FHA insured or VA guaranteed. The Company does not originate any residential mortgages but invests in residential mortgage loan pools which may contain mortgages of subprime credit quality. As of December 31, 2020 and 2019, the Company did not have any direct subprime exposure through purchases of un securitized whole-loan pools.

## (2) Direct exposure through other investments:

Residential mortgage-backed securities risk exposure:

Alt-A:	December 31, 2021			Year Ended December 31, 2021	
	Actual	Carrying	Fair		
	Cost	Value	Value	OTTI	
a. Residential mortgage-backed securities	\$ 1,370,314	\$ 1,456,976	\$ 1,509,707	\$	-
b. Commercial mortgage-backed securities	-	-	-	-	-
c. Collateralized debt obligations	-	-	-	-	-
d. Structured securities	-	-	-	-	-
e. Equity investments in SCA	-	-	-	-	-
f. Other assets	-	-	-	-	-
g. Total	\$ 1,370,314	\$ 1,456,976	\$ 1,509,707	\$	-

Alt-A:	December 31, 2020			Year Ended December 31, 2020	
	Actual	Carrying	Fair		
	Cost	Value	Value	OTTI	
a. Residential mortgage-backed securities	\$ 443,488	\$ 560,994	\$ 648,451	\$	-
b. Commercial mortgage-backed securities	-	-	-	-	-
c. Collateralized debt obligations	-	-	-	-	-
d. Structured securities	-	-	-	-	-
e. Equity investments in SCA	-	-	-	-	-
f. Other assets	-	-	-	-	-
g. Total	\$ 443,488	\$ 560,994	\$ 648,451	\$	-

## (3) The Company has no underwriting exposure to subprime mortgage risk through Mortgage Guaranty or Financial Guaranty insurance coverage.

## g. Retained asset accounts:

(1) As of December 31, 2021 and 2020, the Company had no retained asset accounts.

	Retained Asset Accounts In Force December 31,			
	2021		2020	
	Number	Balance	Number	Balance
<u>Account aging categories:</u>				
a. Up to and including 12 months	-	\$ -	-	\$ -
b. 13 to 24 months	-	-	-	-
c. 25 to 36 months	-	-	-	-
d. 37 to 48 months	-	-	-	-
e. 49 to 60 months	-	-	-	-
f. Over 60 months	-	-	-	-
g. Total	-	\$ -	-	\$ -

(3)	Individual		Group	
	Number	Balance	Number	Balance
a. Retained asset accounts as of January 1, 2021	-	\$ -	-	\$ -
b. Retained asset accounts issued	-	-	-	-
c. Investment earnings credited to retained asset accounts	-	-	-	-
d. Fees and other charges assessed to retained asset accounts	-	-	-	-
e. Retained asset accounts transferred to state unclaimed property funds	-	-	-	-
f. Retained asset accounts closed/withdrawn	-	-	-	-
g. Retained asset accounts as of December 31, 2021	-	\$ -	-	\$ -

## h. Insurance-linked securities:

The Company has not received any proceeds as the issuer, ceding insurer or counterparty of insurance-linked securities.



## NOTES TO FINANCIAL STATEMENTS

### Note 22 – Events Subsequent

Management of the Company has evaluated subsequent events through February 25, 2022, the date the financial statements were available to be issued to state regulators and subsequently on the Company's website. No events have occurred subsequent to the date of the financial statements.

### Note 23 – Reinsurance

#### a. Ceded Reinsurance Report:

##### Section 1 - General Interrogatories:

- (1) None of the reinsurers, listed in Schedule S as non-affiliated, are owned in excess of 10% or controlled, either directly or indirectly, by the company or by any representative, officer, trustee, or director of the company.
- (2) The Company has not issued any policies that are reinsured with a company chartered in a country other than the United States (excluding U.S. Branches of such companies) that is owned in excess of 10% or controlled directly or indirectly by an insured, a beneficiary, a creditor or any other person not primarily engaged in the insurance business.

##### Section 2 - Ceded Reinsurance Report - Part A:

- (1) There are no reinsurance agreements in effect under which the reinsurer may unilaterally cancel any reinsurance for reasons other than for nonpayment of premium or other similar credits.
- (2) The Company has no reinsurance agreements in effect such that the amount of losses paid or accrued through the statement date may result in a payment to the reinsurer of amounts which, in aggregate and allowing for offset of mutual credits from other reinsurance agreements with the same reinsurer, exceed the total direct premium collected under the reinsured policies.

##### Section 3 - Ceded Reinsurance Report - Part B:

- (1) If all reinsurance agreements were terminated by either party as of December 31, 2021, the resulting reduction in surplus due to loss of reinsurance reserve credits net of unearned premium would be \$10,915,213, assuming no return of the assets (excluding assets in trust) backing these reserves from the reinsurer to the Company.
- (2) No new agreements have been executed or existing agreements amended, since January 1, 2021, to include policies or contracts that were in force or had existing reserves established by the Company as of the effective date of the agreement.

b. The Company did not write off any reinsurance balances.

c. The Company did not commute any ceded reinsurance.

d. The Company did not reinsure any policies with a certified reinsurer whose rating was downgraded or status subject to revocation.

e. The Company does not have reinsurance of variable annuity contracts with an affiliated captive reinsurer.

f. The Company does not have reinsurance of variable annuity contracts with an affiliated captive reinsurer.

g. Ceding entities that utilize captive reinsurers to assume reserves subject to the XXX/AXXX captive framework.

- (1) Ceding reinsurers in which a risk-based capital shortfall exists per the risk-based capital XXX/AXXX captive reinsurance consolidated exhibit:
  - a. Captives with risk-based capital shortfall

Cession ID	NAIC Company Code	ID Number	Name of Captive Insurer	Amount of risk-based capital shortfall
			None	\$ -
			None	\$ -
			None	\$ -
Total				-

#### b. Effect of risk-based capital shortfall on total adjusted capital (TAC)

1. Total adjusted capital (TAC) (Five-Year Historical Line 30)	\$ -
2. Risk-based capital shortfall (Sum of g(1)a1 Column 5)	\$ -
3. Total adjusted capital (TAC) before risk-based capital shortfall (g(1)b1 + g(1)b2))	\$ -

- (2) Captive reinsurers for which a non-zero primary security shortfall is shown on the risk-based capital XXX/AXXX reinsurance primary security shortfall by cession exhibit:

Cession ID	NAIC Company Code	ID Number	Name of Captive Insurer	Amount of primary security shortfall
			None	\$ -
			None	\$ -
			None	\$ -
Total				-

### Note 24 – Retrospectively Rated Contracts and Contracts Subject to Redetermination

## NOTES TO FINANCIAL STATEMENTS

The Company does not issue group health insurance and therefore did not issue retrospectively rated contracts or contracts subject to redetermination.

### **Note 25 – Change in Incurred Losses and Loss Adjustment Expenses**

There was no increase to reserves in 2021 for incurred losses and loss adjustment expenses attributable to insured events of prior years, which considered corrections of prior year errors.

### **Note 26 – Intercompany Pooling Arrangements**

The Company did not have any intercompany pooling arrangements.

### **Note 27 – Structured Settlements**

The Company did not enter into structured settlement agreements with other life insurers to resolve claims.

### **Note 28 – Health Care Receivables**

The Company did not issue any business that would give rise to pharmaceutical rebates or risk sharing receivables.

### **Note 29 – Participating Policies**

The Company did not issue participating policies.

### **Note 30 – Premium Deficiency Reserves**

The Company did not have any liability for premium deficiency on accident and health contracts or property/casualty contracts.

### **Note 31 – Reserves for Life Contracts and Annuity Contracts**

- a. The Company waives deduction of deferred fractional premium at death and returns any portion of the final premium beyond the date of death. Reserves are computed using continuous functions to reflect these practices. Surrender values were not promised in excess of the legally computed reserves.
- b. The Company charges a higher premium on certain contracts that cover substandard mortality risk. For these policies, the reserve calculations are based on a substandard mortality rate, which is a multiple of the standard mortality tables.
- c. The Company did not have any insurance in force as of December 31, 2021, for which the gross premium was less than the net premium according to the standard valuation set by the Department.
- d. Tabular interest was determined for Variable life general account reserves using a formula that applies a weighted average credited rate to the mean account value.
- e. Liabilities for investment-type contracts such as supplementary contracts not involving life contingencies are based on account value or accepted actuarial methods using applicable interest rates. Refer to Note 20 a. "Fair Value Measurements" for information on the Company's policy for determining fair value.
- f. The details for other changes:

ITEM	Total	Industrial Life	Ordinary			Credit Life Group and Individual	Group	
			Life Ins.	Individual Annuities	Supplementary Contracts		Life Ins.	Annuities
None	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

## NOTES TO FINANCIAL STATEMENTS

### Note 32 – Analysis of Annuity Actuarial Reserves and Deposit Type Liabilities by Withdrawal Characteristics

The withdrawal characteristics of the Company's annuity actuarial reserves and deposit-type contracts as of December 31, 2021 are illustrated below:

#### a. INDIVIDUAL ANNUITIES:

	<u>General Account</u>	<u>Separate Account with Guarantees</u>	<u>Separate Account Nonguaranteed</u>	<u>Total</u>	<u>% of Total</u>
(1) Subject to discretionary withdrawal:					
a. With market value adjustment	\$ 1,525,197	\$ -	\$ -	\$ 1,525,197	3 %
b. At book value less current surrender charge of 5% or more	-	-	-	-	-
c. At fair value	-	-	42,004,151	42,004,151	94
d. Total with market value adjustment or at fair value (total of 1 through 3)	1,525,197	-	42,004,151	43,529,348	97
e. At book value without adjustment (minimal or no charge or adjustment)	-	-	-	-	-
(2) Not subject to discretionary withdrawal	1,126,004	-	-	1,126,004	3
(3) Total * (gross: direct + assumed)	2,651,201	-	42,004,151	44,655,352	100 %
(4) Reinsurance ceded	-	-	-	-	
(5) Total (net)* (3) - (4)	\$ 2,651,201	\$ -	\$ 42,004,151	\$ 44,655,352	
(6) Amount included A(1)b above that will move to A(1)e for the first time within the year after the statement date:	\$ -	\$ -	\$ -	\$ -	

\* Reconciliation of total annuity actuarial reserves and deposit fund liabilities:

#### b. GROUP ANNUITIES:

	<u>General Account</u>	<u>Separate Account with Guarantees</u>	<u>Separate Account Nonguaranteed</u>	<u>Total</u>	<u>% of Total</u>
(1) Subject to discretionary withdrawal:					
a. With market value adjustment	\$ -	\$ -	\$ -	\$ -	- %
b. At book value less current surrender charge of 5% or more	-	-	-	-	-
c. At fair value	-	-	-	-	-
d. Total with market value adjustment or at fair value (total of 1 through 3)	-	-	-	-	-
e. At book value without adjustment (minimal or no charge or adjustment)	-	-	-	-	-
(2) Not subject to discretionary withdrawal	-	-	-	-	-
(3) Total * (gross: direct + assumed)	-	-	-	-	-
(4) Reinsurance ceded	-	-	-	-	-
(5) Total (net)* (3) - (4)	\$ -	\$ -	\$ -	\$ -	-
(6) Amount included B(1)b above that will move to B(1)e for the first time within the year after the statement date:	\$ -	\$ -	\$ -	\$ -	

## NOTES TO FINANCIAL STATEMENTS

## c. DEPOSIT-TYPE CONTRACTS

(no life contingencies)

	<u>General Account</u>	<u>Separate Account with Guarantees</u>	<u>Separate Account Nonguaranteed</u>	<u>Total</u>	<u>% of Total</u>
(1) Subject to discretionary withdrawal:					
a. With market value adjustment	\$ -	\$ -	\$ -	\$ -	-
b. At book value less current surrender charge of 5% or more	-	-	-	-	-
c. At fair value	-	-	-	-	-
d. Total with market value adjustment or at fair value (total of 1 through 3)	-	-	-	-	-
e. At book value without adjustment (minimal or no charge or adjustment)	15,738,218	-	-	15,738,218	98
(2) Not subject to discretionary withdrawal	242,312	-	-	242,312	2
(3) Total * (gross: direct + assumed)	\$ 15,980,530	\$ -	\$ -	\$ 15,980,530	100 %
(4) Reinsurance ceded	-	-	-	-	
(5) Total (net)* (3) - (4)	\$ 15,980,530	\$ -	\$ -	\$ 15,980,530	
(6) Amount included C(1)b above that will move to C(1)e for the first time within the year after the statement date:	\$ -	\$ -	\$ -	\$ -	

	<u>Amount</u>
d. Life and Accident and Health Annual Statement:	
(1) Exhibit 5, Annuities Section, Total (net)	\$ 2,651,201
(2) Exhibit 5, Supplementary Contracts with Life Contingencies Section, Total (net)	-
(3) Exhibit 7, Deposit-Type Contracts, Line 14, Column 1	15,980,530
(4) Subtotal	<u>\$ 18,631,731</u>
Separate Accounts Annual Statement:	
(5) Exhibit 3, Line 0299999, Column 2	42,004,151
(6) Exhibit 3, Line 0399999, Column 2	-
(7) Policyholders dividend and coupon accumulations	-
(8) Policyholder premiums	-
(9) Guaranteed interest contracts	-
(10) Other contract deposit funds	-
(11) Subtotal	<u>\$ 42,004,151</u>
(12) Combined Total	<u>\$ 60,635,882</u>

e. The Company is not a member of the FHLB therefore it has no FHLB funding agreements.

## NOTES TO FINANCIAL STATEMENTS

**Note 33 - Analysis of Life Actuarial Reserves by Withdrawal Characteristics**

The withdrawal characteristics of the Company's life actuarial reserves as of December 31, 2021 are illustrated below:

	Account Value	Cash Value	Reserve
<b>a. General Account</b>			
(1) Subject to discretionary withdrawal, surrender values, or policy loans			
a. Term Policies with Cash Value	\$ -	\$ -	-
b. Universal Life	-	-	-
c. Universal Life with Secondary Guarantees	-	-	-
d. Indexed Universal Life	-	-	-
e. Indexed Universal Life with Secondary Guarantees	-	-	-
f. Indexed Life	-	-	-
g. Other Permanent Cash Value Life Insurance	-	-	-
h. Variable Life	3,055,054	3,055,054	1,084,765
i. Variable Universal Life	142,612,449	142,052,498	149,678,508
j. Miscellaneous Reserves	-	-	-
(2) Not subject to discretionary withdrawal or no cash values			
a. Term Policies without Cash Value	XXX	XXX	-
b. Accidental Death Benefits	XXX	XXX	1,912
c. Disability - Active Lives	XXX	XXX	29,891
d. Disability - Disabled Lives	XXX	XXX	8,351,308
e. Miscellaneous Reserves	XXX	XXX	2,364,535
(3) Total (gross: direct + assumed)	\$ 145,667,503	\$ 145,107,552	\$ 161,510,919
(4) Reinsurance Ceded	-	-	20,879,534
(5) Total (net) (3) - (4)	\$ 145,667,503	\$ 145,107,552	\$ 140,631,385
	Account Value	Cash Value	Reserve
<b>b. Separate Account with Guarantees</b>			
(1) Subject to discretionary withdrawal, surrender values, or policy loans			
a. Term Policies with Cash Value	\$ -	\$ -	-
b. Universal Life	-	-	-
c. Universal Life with Secondary Guarantees	-	-	-
d. Indexed Universal Life	-	-	-
e. Indexed Universal Life with Secondary Guarantees	-	-	-
f. Indexed Life	-	-	-
g. Other Permanent Cash Value Life Insurance	-	-	-
h. Variable Life	-	-	-
i. Variable Universal Life	3,500,996,469	3,477,175,405	3,500,996,289
j. Miscellaneous Reserves	-	-	-
(2) Not subject to discretionary withdrawal or no cash values			
a. Term Policies without Cash Value	XXX	XXX	-
b. Accidental Death Benefits	XXX	XXX	-
c. Disability - Active Lives	XXX	XXX	-
d. Disability - Disabled Lives	XXX	XXX	-
e. Miscellaneous Reserves	XXX	XXX	-
(3) Total (gross: direct + assumed)	\$ 3,500,996,469	\$ 3,477,175,405	\$ 3,500,996,289
(4) Reinsurance Ceded	-	-	-
(5) Total (net) (3) - (4)	\$ 3,500,996,469	\$ 3,477,175,405	\$ 3,500,996,289
	Account Value	Cash Value	Reserve
<b>c. Separate Account Nonguaranteed</b>			
(1) Subject to discretionary withdrawal, surrender values, or policy loans			
a. Term Policies with Cash Value	\$ -	\$ -	-
b. Universal Life	-	-	-
c. Universal Life with Secondary Guarantees	-	-	-
d. Indexed Universal Life	-	-	-
e. Indexed Universal Life with Secondary Guarantees	-	-	-
f. Indexed Life	-	-	-
g. Other Permanent Cash Value Life Insurance	-	-	-
h. Variable Life	7,826,598	7,826,598	12,556,790
i. Variable Universal Life	1,397,781,551	1,396,540,869	1,397,382,977
j. Miscellaneous Reserves	-	-	-
(2) Not subject to discretionary withdrawal or no cash values			
a. Term Policies without Cash Value	XXX	XXX	-
b. Accidental Death Benefits	XXX	XXX	-
c. Disability - Active Lives	XXX	XXX	-
d. Disability - Disabled Lives	XXX	XXX	-
e. Miscellaneous Reserves	XXX	XXX	-
(3) Total (gross: direct + assumed)	\$ 1,405,608,149	\$ 1,404,367,467	\$ 1,409,939,767
(4) Reinsurance Ceded	-	-	-
(5) Total (net) (3) - (4)	\$ 1,405,608,149	\$ 1,404,367,467	\$ 1,409,939,767

## NOTES TO FINANCIAL STATEMENTS

	Amount
d. Life and Accident and Health Annual Statement:	
(1) Exhibit 5, Life Insurance Section, Total (net)	\$ 129,883,739
(2) Exhibit 5, Accidental Death Benefits Section, Total (net)	1,912
(3) Exhibit 5, Disability - Active Lives Section, Total (net)	29,891
(4) Exhibit 5, Disability - Disabled Lives Section, Total (net)	8,351,308
(5) Exhibit 5, Miscellaneous Reserves Section, Total (net)	2,364,535
(6) Subtotal	140,631,385
Separate Accounts Annual Statement:	
(7) Exhibit 3, Line 0199999, Column 2	4,910,936,056
(8) Exhibit 3, Line 0499999, Column 2	-
(9) Exhibit 3, Line 0599999, Column 2	-
(10) Subtotal (Lines (7) through (9))	4,910,936,056
(11) Combined Total ((6) and (10))	5,051,567,441

### **Note 34 – Premium and Annuity Considerations Deferred and Uncollected**

- a. Deferred and uncollected life insurance premiums and annuity considerations as of December 31, 2021, were as follows:

	Type	Gross	Net of Loading
(1)	Industrial	\$ -	\$ -
(2)	Ordinary new business	-	-
(3)	Ordinary renewal	(3,803,929)	(3,803,929)
(4)	Credit life	-	-
(5)	Group life	-	-
(6)	Group annuity	-	-
(7)	Totals	\$ (3,803,929)	\$ (3,803,929)

### **Note 35 – Separate Accounts**

- a. Separate account activity:

- (1) Separate accounts and sub-accounts are segregated funds administered and invested by the Company, the performance of which primarily benefits the policyholders/contract holders with an interest in the separate accounts. Group and individual variable annuity, variable life and other insurance policyholders/contract holders select from among the separate accounts and sub-accounts made available by the Company. The separate accounts and sub-accounts are offered as investment options under certain insurance contracts or policies. The returns produced by separate account assets increase or decrease separate account reserves. Separate account assets consist principally of marketable securities reported at fair value. Separate account assets can only be used to satisfy separate account liabilities and are not available to satisfy the general obligations of the Company. Separate account administrative and investment advisory fees are included in miscellaneous income.

The separate account classification of all separate account products for the Company is supported by state statute Connecticut Laws Title 38a, Chapter 700b, Sections 38a-433 & 459.

- (2) In accordance with the products recorded within the separate accounts, some are considered legally insulated whereas others are not legally insulated from the general account. The legal insulation of the separate account products prevents assets other than seed money or amounts in a supplemental account from being generally available to satisfy claims resulting from the general account.

As of December 31, 2021 and 2020, the Company's NAIC Separate Account Annual Statement included Separate Accounts with legally insulated products of \$ 4,944,694,841 and \$4,832,150,249, respectively. Assets backing products which are not legally insulated are available to satisfy general obligations of the Company. The assets backing legally insulated products from the general account as of December 31, 2020 are attributed to the following:

	Separate Account Assets	
	Legally Insulated	Not Legally Insulated
Product/Transaction:		
Stable Value Bank-Owned Life Insurance	\$ 2,287,828,881	\$ -
Bank-Owned Life Insurance - Guaranteed	1,201,790,295	30,136,728
Individual Variable Universal Life	978,514,474	-
Corporate-Owned Life Insurance	434,536,925	-
Individual Variable Annuity	42,024,266	-
Total	\$ 4,944,694,841	\$ 30,136,728

- (3) In accordance with the products/transactions recorded within the separate accounts, some separate account liabilities are guaranteed by the general account. Reserves for guarantees covering death benefits or minimum rates of return are held in the general account. If the investment proceeds are insufficient to cover the rate of return guaranteed for the product or the guaranteed death benefit, the policyholder proceeds will be remitted by the general account.

To compensate the general account for the risk taken, the separate accounts have paid risk charges as follows for the past five years:

2021	\$	-
2020		-
2019		-
2018		-
2017		-

## NOTES TO FINANCIAL STATEMENTS

For the year ended December 31, 2021, the general account of the Company had paid \$158,161 toward separate account guarantees. The total separate account guarantees paid by the general account for the preceding years ending December 31, 2020, 2019, 2018, and 2017 was \$107,117, \$97,757, \$322,625, and \$278,674 respectively.

The following separate account products would be classified differently under GAAP than under Statutory accounting principles:

### Condition That Requires GAAP General Account Reporting

Product Identifier:

Stable Value Bank-Owned Life Insurance GAAP general account classification due to Investment performance

Bank-Owned Life Insurance - Guaranteed GAAP general account classification due to Investment performance

(4) The Company does not engage in securities lending transactions within the separate accounts.

b. General nature and characteristics of separate account business:

The Company has guaranteed separate accounts classified as the following: nonindexed, which have reserve interest rates at no greater than 4% and/or to fund a long-term interest guarantee in excess of a year that does not exceed 4%. The Company has nonguaranteed separate accounts that are variable accounts where the benefit is determined by the performance and/or market value of the investments held in the separate account with incidental risk, notional expense and minimum death benefit guarantees.

Information regarding the separate accounts of the Company as of and for the year ended December 31, 2021 is as follows:

	Index	Nonindexed Guarantee Less than/ Equal to 4%	Nonindexed Guarantee More than 4%	Nonguaranteed Separate Accounts	Total
(1) Premiums, considerations or deposits as of the end of current period	\$ -	\$ -	\$ -	26,138,016	26,138,016
Reserves as of the end of current period					
(2) For accounts with assets at:					
a. Fair value	\$ -	\$ -	\$ -	1,451,943,918	1,451,943,918
b. Nonpolicy liabilities	-	678,757	-	21,212,605	21,891,362
c. Amortized cost	-	3,500,996,289	-	-	3,500,996,289
d. Total Reserves*	\$ -	\$ 3,501,675,046	\$ -	\$ 1,473,156,523	\$ 4,974,831,569
(3) By withdrawal characteristics:					
a. Subject to discretionary withdrawal:	\$ -	\$ -	\$ -	\$ -	-
1. With market value adjustment	-	-	-	-	-
2. At fair value	-	-	-	1,451,943,918	1,451,943,918
3. At book value, without market value adjustment and with current surrender charge of less than 5%	-	3,500,996,289	-	-	3,500,996,289
4. Nonpolicy liabilities	-	678,757	-	21,212,605	21,891,362
5. Subtotal	\$ -	\$ 3,501,675,046	\$ -	\$ 1,473,156,523	\$ 4,974,831,569
Not subject to discretionary withdrawal	-	-	-	-	-
b. Total	\$ -	\$ 3,501,675,046	\$ -	\$ 1,473,156,523	\$ 4,974,831,569
(4) Reserves for Assets Default Risk in Lieu of AVR	\$ -	\$ -	\$ -	\$ -	-

\*Line 2(d) should equal Line 3(c)

c. Reconciliation of net transfers (from) to separate accounts is as follows:

	December 31, 2021
(1) Transfers as reported in the Summary of Operations of the Separate Account Statement:	
(a) Transfers to separate accounts (Page 4, Line 1.4 and 2)	\$ 26,138,016
(b) Transfers from separate accounts (Page 4, Line 10)	(115,635,529)
(c) Net transfers to (from) separate accounts (a) - (b)	(89,497,513)
(2) Reconciling adjustments:	
(a) Net deposits on deposit-type liabilities	-
(3) Transfers as reported in the Summary of Operations of the Life, Accident & Health Annual Statement	\$ (89,497,513)
(1c) + (2) = (Page 4, Line 26)	

### Note 36 – Loss/Claim Adjustment Expenses

The Company did not have any loss/claim adjustment expenses.

# GENERAL INTERROGATORIES

## PART 1 - COMMON INTERROGATORIES GENERAL

- 1.1 Is the reporting entity a member of an Insurance Holding Company System consisting of two or more affiliated persons, one or more of which is an insurer? ..... Yes [ X ] No [ ]  
If yes, complete Schedule Y, Parts 1, 1A, 2 and 3.
- 1.2 If yes, did the reporting entity register and file with its domiciliary State Insurance Commissioner, Director or Superintendent, or with such regulatory official of the state of domicile of the principal insurer in the Holding Company System, a registration statement providing disclosure substantially similar to the standards adopted by the National Association of Insurance Commissioners (NAIC) in its Model Insurance Holding Company System Regulatory Act and model regulations pertaining thereto, or is the reporting entity subject to standards and disclosure requirements substantially similar to those required by such Act and regulations? ..... Yes [ X ] No [ ] N/A [ ]
- 1.3 State Regulating? ..... CT
- 1.4 Is the reporting entity publicly traded or a member of a publicly traded group? ..... Yes [ ] No [ X ]
- 1.5 If the response to 1.4 is yes, provide the CIK (Central Index Key) code issued by the SEC for the entity/group. ....
- 2.1 Has any change been made during the year of this statement in the charter, by-laws, articles of incorporation, or deed of settlement of the reporting entity? ..... Yes [ ] No [ X ]
- 2.2 If yes, date of change: .....
- 3.1 State as of what date the latest financial examination of the reporting entity was made or is being made. .... 12/31/2019
- 3.2 State the as of date that the latest financial examination report became available from either the state of domicile or the reporting entity. This date should be the date of the examined balance sheet and not the date the report was completed or released. .... 12/31/2019
- 3.3 State as of what date the latest financial examination report became available to other states or the public from either the state of domicile or the reporting entity. This is the release date or completion date of the examination report and not the date of the examination (balance sheet date). .... 06/16/2021
- 3.4 By what department or departments?  
State of Connecticut Insurance Department .....
- 3.5 Have all financial statement adjustments within the latest financial examination report been accounted for in a subsequent financial statement filed with Departments? ..... Yes [ ] No [ ] N/A [ X ]
- 3.6 Have all of the recommendations within the latest financial examination report been complied with? ..... Yes [ X ] No [ ] N/A [ ]
- 4.1 During the period covered by this statement, did any agent, broker, sales representative, non-affiliated sales/service organization or any combination thereof under common control (other than salaried employees of the reporting entity), receive credit or commissions for or control a substantial part (more than 20 percent of any major line of business measured on direct premiums) of:  
4.11 sales of new business? ..... Yes [ ] No [ X ]  
4.12 renewals? ..... Yes [ ] No [ X ]
- 4.2 During the period covered by this statement, did any sales/service organization owned in whole or in part by the reporting entity or an affiliate, receive credit or commissions for or control a substantial part (more than 20 percent of any major line of business measured on direct premiums) of:  
4.21 sales of new business? ..... Yes [ ] No [ X ]  
4.22 renewals? ..... Yes [ ] No [ X ]
- 5.1 Has the reporting entity been a party to a merger or consolidation during the period covered by this statement? ..... Yes [ ] No [ X ]  
If yes, complete and file the merger history data file with the NAIC.
- 5.2 If yes, provide the name of the entity, NAIC Company Code, and state of domicile (use two letter state abbreviation) for any entity that has ceased to exist as a result of the merger or consolidation.

1 Name of Entity	2 NAIC Company Code	3 State of Domicile

- 6.1 Has the reporting entity had any Certificates of Authority, licenses or registrations (including corporate registration, if applicable) suspended or revoked by any governmental entity during the reporting period? ..... Yes [ ] No [ X ]
- 6.2 If yes, give full information: .....
- 7.1 Does any foreign (non-United States) person or entity directly or indirectly control 10% or more of the reporting entity? ..... Yes [ ] No [ X ]
- 7.2 If yes,  
7.21 State the percentage of foreign control; ..... %  
7.22 State the nationality(s) of the foreign person(s) or entity(s) or if the entity is a mutual or reciprocal, the nationality of its manager or attorney-in-fact; and identify the type of entity(s) (e.g., individual, corporation or government, manager or attorney in fact).

1 Nationality	2 Type of Entity



ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**GENERAL INTERROGATORIES**

- 8.1 Is the company a subsidiary of a depository institution holding company (DIHC) or a DIHC itself, regulated by the Federal Reserve Board? ..... Yes [ ] No [ X ]
- 8.2 If the response to 8.1 is yes, please identify the name of the DIHC.  
.....
- 8.3 Is the company affiliated with one or more banks, thrifts or securities firms? ..... Yes [ X ] No [ ]
- 8.4 If response to 8.3 is yes, please provide below the names and location (city and state of the main office) of any affiliates regulated by a federal regulatory services agency [i.e. the Federal Reserve Board (FRB), the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC) and the Securities Exchange Commission (SEC)] and identify the affiliate's primary federal regulator.

1 Affiliate Name	2 Location (City, State)	3 FRB	4 OCC	5 FDIC	6 SEC
Barings LLC	Charlotte, NC				YES
Baring International Investment Limited	London, UK				YES
Barings Securities LLC	Charlotte, NC				YES
MML Distributors, LLC	Springfield, MA				YES
MML Investment Advisers, LLC	Springfield, MA				YES
MML Investors Services, LLC	Springfield, MA				YES
MML Strategic Distributors, LLC	Springfield, MA				YES
The MassMutual Trust Company, OCC	Enfield, CT		YES		
Flourish Financial, LLC	New York, NY				YES

- 8.5 Is the reporting entity a depository institution holding company with significant insurance operations as defined by the Board of Governors of Federal Reserve System or a subsidiary of the reporting entity? ..... Yes [ ] No [ X ]
- 8.6 If response to 8.5 is no, is the reporting entity a company or subsidiary of a company that has otherwise been made subject to the Federal Reserve Board's capital rule? ..... Yes [ ] No [ X ] N/A [ ]
9. What is the name and address of the independent certified public accountant or accounting firm retained to conduct the annual audit?  
KPMG, LLP, One Financial Plaza, Hartford, CT 06103
- 10.1 Has the insurer been granted any exemptions to the prohibited non-audit services provided by the certified independent public accountant requirements as allowed in Section 7H of the Annual Financial Reporting Model Regulation (Model Audit Rule), or substantially similar state law or regulation? ..... Yes [ ] No [ X ]
- 10.2 If the response to 10.1 is yes, provide information related to this exemption:  
.....
- 10.3 Has the insurer been granted any exemptions related to the other requirements of the Annual Financial Reporting Model Regulation as allowed for in Section 18A of the Model Regulation, or substantially similar state law or regulation? ..... Yes [ ] No [ X ]
- 10.4 If the response to 10.3 is yes, provide information related to this exemption:  
.....
- 10.5 Has the reporting entity established an Audit Committee in compliance with the domiciliary state insurance laws? ..... Yes [ X ] No [ ] N/A [ ]
- 10.6 If the response to 10.5 is no or n/a, please explain  
.....
11. What is the name, address and affiliation (officer/employee of the reporting entity or actuary/consultant associated with an actuarial consulting firm) of the individual providing the statement of actuarial opinion/certification?  
Vy Q. Ho, Head of Valuation and Appointed Actuary, Massachusetts Mutual Life Insurance Company, 1295 State Street, Springfield, MA-01111
- 12.1 Does the reporting entity own any securities of a real estate holding company or otherwise hold real estate indirectly? ..... Yes [ X ] No [ ]
- 12.11 Name of real estate holding company ..... See 12.2
- 12.12 Number of parcels involved ..... 16
- 12.13 Total book/adjusted carrying value ..... \$ 11,256,616
- 12.2 If, yes provide explanation:  
The company has investments in debt securities in 16 parcels, which own or hold real estate indirectly. The statement value at December 31, 2021 of debt is \$11,256,616
- 13. FOR UNITED STATES BRANCHES OF ALIEN REPORTING ENTITIES ONLY:**
- 13.1 What changes have been made during the year in the United States manager or the United States trustees of the reporting entity?  
.....
- 13.2 Does this statement contain all business transacted for the reporting entity through its United States Branch on risks wherever located? ..... Yes [ ] No [ ]
- 13.3 Have there been any changes made to any of the trust indentures during the year? ..... Yes [ ] No [ ]
- 13.4 If answer to (13.3) is yes, has the domiciliary or entry state approved the changes? ..... Yes [ ] No [ ] N/A [ ]
- 14.1 Are the senior officers (principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions) of the reporting entity subject to a code of ethics, which includes the following standards? ..... Yes [ X ] No [ ]
- a. Honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships;
- b. Full, fair, accurate, timely and understandable disclosure in the periodic reports required to be filed by the reporting entity;
- c. Compliance with applicable governmental laws, rules and regulations;
- d. The prompt internal reporting of violations to an appropriate person or persons identified in the code; and
- e. Accountability for adherence to the code.
- 14.11 If the response to 14.1 is No, please explain:  
.....
- 14.2 Has the code of ethics for senior managers been amended? ..... Yes [ ] No [ X ]
- 14.21 If the response to 14.2 is yes, provide information related to amendment(s).  
.....
- 14.3 Have any provisions of the code of ethics been waived for any of the specified officers? ..... Yes [ ] No [ X ]
- 14.31 If the response to 14.3 is yes, provide the nature of any waiver(s).  
.....

**GENERAL INTERROGATORIES**

- 15.1 Is the reporting entity the beneficiary of a Letter of Credit that is unrelated to reinsurance where the issuing or confirming bank is not on the SVO Bank List? ..... Yes [ ] No [ X ]
- 15.2 If the response to 15.1 is yes, indicate the American Bankers Association (ABA) Routing Number and the name of the issuing or confirming bank of the Letter of Credit and describe the circumstances in which the Letter of Credit is triggered.

1 American Bankers Association (ABA) Routing Number	2 Issuing or Confirming Bank Name	3 Circumstances That Can Trigger the Letter of Credit	4 Amount

**BOARD OF DIRECTORS**

16. Is the purchase or sale of all investments of the reporting entity passed upon either by the board of directors or a subordinate committee thereof? ..... Yes [ X ] No [ ]
17. Does the reporting entity keep a complete permanent record of the proceedings of its board of directors and all subordinate committees thereof? ..... Yes [ X ] No [ ]
18. Has the reporting entity an established procedure for disclosure to its board of directors or trustees of any material interest or affiliation on the part of any of its officers, directors, trustees or responsible employees that is in conflict with the official duties of such person? ..... Yes [ X ] No [ ]

**FINANCIAL**

19. Has this statement been prepared using a basis of accounting other than Statutory Accounting Principles (e.g., Generally Accepted Accounting Principles)? ..... Yes [ ] No [ X ]
- 20.1 Total amount loaned during the year (inclusive of Separate Accounts, exclusive of policy loans):
- 20.11 To directors or other officers.....\$ .....
  - 20.12 To stockholders not officers.....\$ .....
  - 20.13 Trustees, supreme or grand (Fraternal Only).....\$ .....
- 20.2 Total amount of loans outstanding at the end of year (inclusive of Separate Accounts, exclusive of policy loans):
- 20.21 To directors or other officers.....\$ .....
  - 20.22 To stockholders not officers.....\$ .....
  - 20.23 Trustees, supreme or grand (Fraternal Only).....\$ .....
- 21.1 Were any assets reported in this statement subject to a contractual obligation to transfer to another party without the liability for such obligation being reported in the statement? ..... Yes [ ] No [ X ]
- 21.2 If yes, state the amount thereof at December 31 of the current year:
- 21.21 Rented from others.....\$ .....
  - 21.22 Borrowed from others.....\$ .....
  - 21.23 Leased from others.....\$ .....
  - 21.24 Other.....\$ .....
- 22.1 Does this statement include payments for assessments as described in the Annual Statement Instructions other than guaranty fund or guaranty association assessments? ..... Yes [ ] No [ X ]
- 22.2 If answer is yes:
- 22.21 Amount paid as losses or risk adjustment \$ .....
  - 22.22 Amount paid as expenses.....\$ .....
  - 22.23 Other amounts paid.....\$ .....
- 23.1 Does the reporting entity report any amounts due from parent, subsidiaries or affiliates on Page 2 of this statement? ..... Yes [ X ] No [ ]
- 23.2 If yes, indicate any amounts receivable from parent included in the Page 2 amount: .....\$ .....
- 24.1 Does the insurer utilize third parties to pay agent commissions in which the amounts advanced by the third parties are not settled in full within 90 days? ..... Yes [ ] No [ X ]
- 24.2 If the response to 24.1 is yes, identify the third-party that pays the agents and whether they are a related party.

Name of Third-Party	Is the Third-Party Agent a Related Party (Yes/No)

**INVESTMENT**

- 25.01 Were all the stocks, bonds and other securities owned December 31 of current year, over which the reporting entity has exclusive control, in the actual possession of the reporting entity on said date? (other than securities lending programs addressed in 25.03)..... Yes [ X ] No [ ]

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**GENERAL INTERROGATORIES**

- 25.02 If no, give full and complete information relating thereto  
.....
- 25.03 For securities lending programs, provide a description of the program including value for collateral and amount of loaned securities, and whether collateral is carried on or off-balance sheet. (an alternative is to reference Note 17 where this information is also provided)  
N/A .....
- 25.04 For the reporting entity's securities lending program, report amount of collateral for conforming programs as outlined in the Risk-Based Capital Instructions. .... \$ .....
- 25.05 For the reporting entity's securities lending program, report amount of collateral for other programs. .... \$ .....
- 25.06 Does your securities lending program require 102% (domestic securities) and 105% (foreign securities) from the counterparty at the outset of the contract? ..... Yes [ ] No [ ] N/A [ X ]
- 25.07 Does the reporting entity non-admit when the collateral received from the counterparty falls below 100%? ..... Yes [ ] No [ ] N/A [ X ]
- 25.08 Does the reporting entity or the reporting entity's securities lending agent utilize the Master Securities lending Agreement (MSLA) to conduct securities lending? ..... Yes [ ] No [ ] N/A [ X ]
- 25.09 For the reporting entity's securities lending program state the amount of the following as of December 31 of the current year:
- 25.091 Total fair value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2. .... \$ .....
- 25.092 Total book adjusted/carrying value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2. .... \$ .....
- 25.093 Total payable for securities lending reported on the liability page. .... \$ .....
- 26.1 Were any of the stocks, bonds or other assets of the reporting entity owned at December 31 of the current year not exclusively under the control of the reporting entity, or has the reporting entity sold or transferred any assets subject to a put option contract that is currently in force? (Exclude securities subject to Interrogatory 21.1 and 25.03). .... Yes [ X ] No [ ]
- 26.2 If yes, state the amount thereof at December 31 of the current year:
- 26.21 Subject to repurchase agreements ..... \$ .....
- 26.22 Subject to reverse repurchase agreements ..... \$ .....
- 26.23 Subject to dollar repurchase agreements ..... \$ .....
- 26.24 Subject to reverse dollar repurchase agreements ..... \$ .....
- 26.25 Placed under option agreements ..... \$ .....
- 26.26 Letter stock or securities restricted as to sale - excluding FHLB Capital Stock ..... \$ .....
- 26.27 FHLB Capital Stock ..... \$ .....
- 26.28 On deposit with states ..... \$ 4,442,770
- 26.29 On deposit with other regulatory bodies ..... \$ .....
- 26.30 Pledged as collateral - excluding collateral pledged to an FHLB ..... \$ .....
- 26.31 Pledged as collateral to FHLB - including assets backing funding agreements ..... \$ .....
- 26.32 Other ..... \$ .....

26.3 For category (26.26) provide the following:

1 Nature of Restriction	2 Description	3 Amount

- 27.1 Does the reporting entity have any hedging transactions reported on Schedule DB? ..... Yes [ ] No [ X ]
- 27.2 If yes, has a comprehensive description of the hedging program been made available to the domiciliary state? ..... Yes [ ] No [ ] N/A [ X ]  
If no, attach a description with this statement.

LINES 27.3 through 27.5: FOR LIFE/FRATERNAL REPORTING ENTITIES ONLY:

- 27.3 Does the reporting entity utilize derivatives to hedge variable annuity guarantees subject to fluctuations as a result of interest rate sensitivity? .. Yes [ ] No [ X ]
- 27.4 If the response to 27.3 is YES, does the reporting entity utilize:
- 27.41 Special accounting provision of SSAP No. 108 ..... Yes [ ] No [ X ]
- 27.42 Permitted accounting practice ..... Yes [ ] No [ X ]
- 27.43 Other accounting guidance ..... Yes [ ] No [ X ]
- 27.5 By responding YES to 27.41 regarding utilizing the special accounting provisions of SSAP No. 108, the reporting entity attests to the following: ..... Yes [ ] No [ X ]
- The reporting entity has obtained explicit approval from the domiciliary state.
  - Hedging strategy subject to the special accounting provisions is consistent with the requirements of VM-21.
  - Actuarial certification has been obtained which indicates that the hedging strategy is incorporated within the establishment of VM-21 reserves and provides the impact of the hedging strategy within the Actuarial Guideline Conditional Tail Expectation Amount.
  - Financial Officer Certification has been obtained which indicates that the hedging strategy meets the definition of a Clearly Defined Hedging Strategy within VM-21 and that the Clearly Defined Hedging Strategy is the hedging strategy being used by the company in its actual day-to-day risk mitigation efforts.
- 28.1 Were any preferred stocks or bonds owned as of December 31 of the current year mandatorily convertible into equity, or, at the option of the issuer, convertible into equity? ..... Yes [ ] No [ X ]
- 28.2 If yes, state the amount thereof at December 31 of the current year. .... \$ .....
29. Excluding items in Schedule E - Part 3 - Special Deposits, real estate, mortgage loans and investments held physically in the reporting entity's offices, vaults or safety deposit boxes, were all stocks, bonds and other securities, owned throughout the current year held pursuant to a custodial agreement with a qualified bank or trust company in accordance with Section 1, III - General Examination Considerations, F. Outsourcing of Critical Functions, Custodial or Safekeeping Agreements of the NAIC Financial Condition Examiners Handbook?..... Yes [ X ] No [ ]
- 29.01 For agreements that comply with the requirements of the NAIC Financial Condition Examiners Handbook, complete the following:

1 Name of Custodian(s)	2 Custodian's Address
Citibank, N.A. ....	333 West 34th Street, New York, NY 10001 .....

**ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company**  
**GENERAL INTERROGATORIES**

29.02 For all agreements that do not comply with the requirements of the NAIC Financial Condition Examiners Handbook, provide the name, location and a complete explanation:

1 Name(s)	2 Location(s)	3 Complete Explanation(s)

29.03 Have there been any changes, including name changes, in the custodian(s) identified in 29.01 during the current year?..... Yes [ ] No [ X ]  
 29.04 If yes, give full and complete information relating thereto:

1 Old Custodian	2 New Custodian	3 Date of Change	4 Reason

29.05 Investment management – Identify all investment advisors, investment managers, broker/dealers, including individuals that have the authority to make investment decisions on behalf of the reporting entity. For assets that are managed internally by employees of the reporting entity, note as such. ["...that have access to the investment accounts"; "...handle securities"]

1 Name of Firm or Individual	2 Affiliation
Barings LLC .....	A.....

29.0597 For those firms/individuals listed in the table for Question 29.05, do any firms/individuals unaffiliated with the reporting entity (i.e. designated with a "U") manage more than 10% of the reporting entity's invested assets?..... Yes [ ] No [ X ]

29.0598 For firms/individuals unaffiliated with the reporting entity (i.e. designated with a "U") listed in the table for Question 29.05, does the total assets under management aggregate to more than 50% of the reporting entity's invested assets?..... Yes [ ] No [ X ]

29.06 For those firms or individuals listed in the table for 29.05 with an affiliation code of "A" (affiliated) or "U" (unaffiliated), provide the information for the table below.

1 Central Registration Depository Number	2 Name of Firm or Individual	3 Legal Entity Identifier (LEI)	4 Registered With	5 Investment Management Agreement (IMA) Filed
106006 .....	Barings LLC .....	5493005EMQYELJUS5W59 .....	SEC .....	DS.....

30.1 Does the reporting entity have any diversified mutual funds reported in Schedule D, Part 2 (diversified according to the Securities and Exchange Commission (SEC) in the Investment Company Act of 1940 [Section 5(b)(1)])? ..... Yes [ ] No [ X ]

30.2 If yes, complete the following schedule:

1 CUSIP #	2 Name of Mutual Fund	3 Book/Adjusted Carrying Value
30.2999 - Total		

30.3 For each mutual fund listed in the table above, complete the following schedule:

1 Name of Mutual Fund (from above table)	2 Name of Significant Holding of the Mutual Fund	3 Amount of Mutual Fund's Book/Adjusted Carrying Value Attributable to the Holding	4 Date of Valuation

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**GENERAL INTERROGATORIES**

31. Provide the following information for all short-term and long-term bonds and all preferred stocks. Do not substitute amortized value or statement value for fair value.

	1	2	3
	Statement (Admitted) Value	Fair Value	Excess of Statement over Fair Value (-), or Fair Value over Statement (+)
31.1 Bonds .....	332,721,292	346,230,022	13,508,730
31.2 Preferred stocks .....			
31.3 Totals	332,721,292	346,230,022	13,508,730

31.4 Describe the sources or methods utilized in determining the fair values:

The Fair Value of securities is obtained using quoted market prices when available. If not available, estimated fair value is based on values provided by other third-party organizations. If values provided by other third-party organizations are unavailable, fair value is estimated using internal models by discounting future cash flows using observable current market rates applicable to yield, credit quality and maturity of the investment or using quoted market values for comparable investments. Internal inputs used in the determination of fair value include estimated prepayment speeds, default rates, discount rates and collateral values, among others. Structure characteristics and results of cash flow priority are also considered.

32.1 Was the rate used to calculate fair value determined by a broker or custodian for any of the securities in Schedule D? ..... Yes [ X ] No [ ]

32.2 If the answer to 32.1 is yes, does the reporting entity have a copy of the broker's or custodian's pricing policy (hard copy or electronic copy) for all brokers or custodians used as a pricing source? ..... Yes [ X ] No [ ]

32.3 If the answer to 32.2 is no, describe the reporting entity's process for determining a reliable pricing source for purposes of disclosure of fair value for Schedule D:  
.....

33.1 Have all the filing requirements of the Purposes and Procedures Manual of the NAIC Investment Analysis Office been followed? ..... Yes [ X ] No [ ]

33.2 If no, list exceptions:  
.....

34. By self-designating 5GI securities, the reporting entity is certifying the following elements of each self-designated 5GI security:

- a. Documentation necessary to permit a full credit analysis of the security does not exist or an NAIC CRP credit rating for an FE or PL security is not available.
- b. Issuer or obligor is current on all contracted interest and principal payments.
- c. The insurer has an actual expectation of ultimate payment of all contracted interest and principal.

Has the reporting entity self-designated 5GI securities? ..... Yes [ ] No [ X ]

35. By self-designating PLGI securities, the reporting entity is certifying the following elements of each self-designated PLGI security:

- a. The security was purchased prior to January 1, 2018.
- b. The reporting entity is holding capital commensurate with the NAIC Designation reported for the security.
- c. The NAIC Designation was derived from the credit rating assigned by an NAIC CRP in its legal capacity as a NRSRO which is shown on a current private letter rating held by the insurer and available for examination by state insurance regulators.
- d. The reporting entity is not permitted to share this credit rating of the PL security with the SVO.

Has the reporting entity self-designated PLGI securities? ..... Yes [ ] No [ X ]

36. By assigning FE to a Schedule BA non-registered private fund, the reporting entity is certifying the following elements of each self-designated FE fund:

- a. The shares were purchased prior to January 1, 2019.
- b. The reporting entity is holding capital commensurate with the NAIC Designation reported for the security.
- c. The security had a public credit rating(s) with annual surveillance assigned by an NAIC CRP in its legal capacity as an NRSRO prior to January 1, 2019.
- d. The fund only or predominantly holds bonds in its portfolio.
- e. The current reported NAIC Designation was derived from the public credit rating(s) with annual surveillance assigned by an NAIC CRP in its legal capacity as an NRSRO.
- f. The public credit rating(s) with annual surveillance assigned by an NAIC CRP has not lapsed.

Has the reporting entity assigned FE to Schedule BA non-registered private funds that complied with the above criteria? ..... Yes [ ] No [ X ]

37. By rolling/renewing short-term or cash equivalent investments with continued reporting on Schedule DA, Part 1 or Schedule E Part 2 (identified through a code (%) in those investment schedules), the reporting entity is certifying to the following:

- a. The investment is a liquid asset that can be terminated by the reporting entity on the current maturity date.
- b. If the investment is with a nonrelated party or nonaffiliate, then it reflects an arms-length transaction with renewal completed at the discretion of all involved parties.
- c. If the investment is with a related party or affiliate, then the reporting entity has completed robust re-underwriting of the transaction for which documentation is available for regulator review.
- d. Short-term and cash equivalent investments that have been renewed/rolled from the prior period that do not meet the criteria in 37.a - 37.c are reported as long-term investments.

Has the reporting entity rolled/renewed short-term or cash equivalent investments in accordance with these criteria? ..... Yes [ ] No [ X ] N/A [ ]

## GENERAL INTERROGATORIES

### OTHER

38.1 Amount of payments to trade associations, service organizations and statistical or rating bureaus, if any? .....\$ .....14,577

38.2 List the name of the organization and the amount paid if any such payment represented 25% or more of the total payments to trade associations, service organizations and statistical or rating bureaus during the period covered by this statement.

1 Name	2 Amount Paid
American Council of Life Insurers (ACLI) .....	5,808
US Chamber of Commerce .....	4,620
.....	

39.1 Amount of payments for legal expenses, if any? .....\$ .....18,271

39.2 List the name of the firm and the amount paid if any such payment represented 25% or more of the total payments for legal expenses during the period covered by this statement.

1 Name	2 Amount Paid
.....	

40.1 Amount of payments for expenditures in connection with matters before legislative bodies, officers or departments of government, if any? .....\$ .....7,282

40.2 List the name of the firm and the amount paid if any such payment represented 25% or more of the total payment expenditures in connection with matters before legislative bodies, officers or departments of government during the period covered by this statement.

1 Name	2 Amount Paid
.....	

# GENERAL INTERROGATORIES

## PART 2 - LIFE, ACCIDENT AND HEALTH COMPANIES/FRATERNAL BENEFIT SOCIETIES INTERROGATORIES

**Life, Accident and Health Companies/Fraternal Benefit Societies:**

- 1.1 Does the reporting entity have any direct Medicare Supplement Insurance in force? ..... Yes [ ] No [ X ]
- 1.2 If yes, indicate premium earned on U.S. business only ..... \$
- 1.3 What portion of Item (1.2) is not reported on the Medicare Supplement Insurance Experience Exhibit? ..... \$
- 1.31 Reason for excluding:  
.....
- 1.4 Indicate amount of earned premium attributable to Canadian and/or Other Alien not included in Item (1.2) above. .... \$
- 1.5 Indicate total incurred claims on all Medicare Supplement insurance. .... \$
- 1.6 Individual policies:
- Most current three years:
- 1.61 Total premium earned ..... \$
- 1.62 Total incurred claims ..... \$
- 1.63 Number of covered lives .....
- All years prior to most current three years
- 1.64 Total premium earned ..... \$
- 1.65 Total incurred claims ..... \$
- 1.66 Number of covered lives .....
- 1.7 Group policies:
- Most current three years:
- 1.71 Total premium earned ..... \$
- 1.72 Total incurred claims ..... \$
- 1.73 Number of covered lives .....
- All years prior to most current three years
- 1.74 Total premium earned ..... \$
- 1.75 Total incurred claims ..... \$
- 1.76 Number of covered lives .....
2. Health Test:
- |                                   | 1<br>Current Year | 2<br>Prior Year |
|-----------------------------------|-------------------|-----------------|
| 2.1 Premium Numerator .....       |                   |                 |
| 2.2 Premium Denominator .....     | 11,403,237        | (4,338,246)     |
| 2.3 Premium Ratio (2.1/2.2) ..... | 0.000             | 0.000           |
| 2.4 Reserve Numerator .....       |                   |                 |
| 2.5 Reserve Denominator .....     | 150,846,340       | 148,273,516     |
| 2.6 Reserve Ratio (2.4/2.5) ..... | 0.000             | 0.000           |
- 3.1 Does this reporting entity have Separate Accounts? ..... Yes [ X ] No [ ]
- 3.2 If yes, has a Separate Accounts Statement been filed with this Department? ..... Yes [ X ] No [ ] N/A [ ]
- 3.3 What portion of capital and surplus funds of the reporting entity covered by assets in the Separate Accounts statement, is not currently distributable from the Separate Accounts to the general account for use by the general account? ..... \$ 408,912
- 3.4 State the authority under which Separate Accounts are maintained:  
Connecticut General Statutes, Section 33a-433 and 33a-459 .....
- 3.5 Was any of the reporting entity's Separate Accounts business reinsured as of December 31? ..... Yes [ X ] No [ ]
- 3.6 Has the reporting entity assumed by reinsurance any Separate Accounts business as of December 31? ..... Yes [ ] No [ X ]
- 3.7 If the reporting entity has assumed Separate Accounts business, how much, if any, reinsurance assumed receivable for reinsurance of Separate Accounts reserve expense allowances is included as a negative amount in the liability for "Transfers to Separate Accounts due or accrued (net)"? ..... \$
4. For reporting entities having sold annuities to another insurer where the insurer purchasing the annuities has obtained a release of liability from the claimant (payee) as the result of the purchase of an annuity from the reporting entity only:
- 4.1 Amount of loss reserves established by these annuities during the current year: ..... \$
- 4.2 List the name and location of the insurance company purchasing the annuities and the statement value on the purchase date of the annuities.

1	2
P&C Insurance Company And Location	Statement Value on Purchase Date of Annuities (i.e., Present Value)

# GENERAL INTERROGATORIES

## PART 2 - LIFE, ACCIDENT AND HEALTH COMPANIES/FRATERNAL BENEFIT SOCIETIES INTERROGATORIES

- 5.1 Do you act as a custodian for health savings accounts? ..... Yes [ ] No [ X ]
- 5.2 If yes, please provide the amount of custodial funds held as of the reporting date. .... \$ .....
- 5.3 Do you act as an administrator for health savings accounts? ..... Yes [ ] No [ X ]
- 5.4 If yes, please provide the balance of funds administered as of the reporting date. .... \$ .....
- 6.1 Are any of the captive affiliates reported on Schedule S, Part 3, authorized reinsurers? ..... Yes [ ] No [ X ] N/A [ ]
- 6.2 If the answer to 6.1 is yes, please provide the following:

1 Company Name	2 NAIC Company Code	3 Domiciliary Jurisdiction	4 Reserve Credit	Assets Supporting Reserve Credit		
				5 Letters of Credit	6 Trust Agreements	7 Other

7. Provide the following for individual ordinary life insurance\* policies (U.S. business only) for the current year (prior to reinsurance assumed or ceded):
- 7.1 Direct Premium Written ..... \$ ..... 29,310,566
- 7.2 Total Incurred Claims ..... \$ ..... 35,987,654
- 7.3 Number of Covered Lives ..... 194

*Ordinary Life Insurance Includes
Term (whether full underwriting, limited underwriting, jet issue, "short form app")
Whole Life (whether full underwriting, limited underwriting, jet issue, "short form app")
Variable Life (with or without secondary gurarantee)
Universal Life (with or without secondary gurarantee)
Variable Universal Life (with or without secondary gurarantee)

8. Is the reporting entity licensed or chartered, registered, qualified, eligible or writing business in at least two states? ..... Yes [ X ] No [ ]
- 8.1 If no, does the reporting entity assume reinsurance business that covers risks residing in at least one state other than the state of domicile of the reporting entity? ..... Yes [ ] No [ ]

**Life, Accident and Health Companies Only:**

- 9.1 Are personnel or facilities of this reporting entity used by another entity or entities or are personnel or facilities of another entity or entities used by this reporting entity (except for activities such as administration of jointly underwritten group contracts and joint mortality or morbidity studies)? ..... Yes [ X ] No [ ]
- 9.2 Net reimbursement of such expenses between reporting entities:
- 9.21 Paid ..... \$ ..... 6,501,222
- 9.22 Received ..... \$ .....
- 10.1 Does the reporting entity write any guaranteed interest contracts? ..... Yes [ ] No [ X ]
- 10.2 If yes, what amount pertaining to these lines is included in:
- 10.21 Page 3, Line 1 ..... \$ .....
- 10.22 Page 4, Line 1 ..... \$ .....
11. For stock reporting entities only:
- 11.1 Total amount paid in by stockholders as surplus funds since organization of the reporting entity: ..... \$ .....
12. Total dividends paid stockholders since organization of the reporting entity:
- 12.11 Cash ..... \$ .....
- 12.12 Stock ..... \$ .....
- 13.1 Does the reporting entity reinsure any Workers' Compensation Carve-Out business defined as: ..... Yes [ ] No [ X ]  
 Reinsurance (including retrocessional reinsurance) assumed by life and health insurers of medical, wage loss and death benefits of the occupational illness and accident exposures, but not the employers liability exposures, of business originally written as workers' compensation insurance.
- 13.2 If yes, has the reporting entity completed the Workers' Compensation Carve-Out Supplement to the Annual Statement? ..... Yes [ ] No [ ]
- 13.3 If 13.1 is yes, the amounts of earned premiums and claims incurred in this statement are:
- |   | 1<br>Reinsurance<br>Assumed | 2<br>Reinsurance<br>Ceded | 3<br>Net<br>Retained |
|---|-----------------------------|---------------------------|----------------------|
| 13.31 Earned premium .....                                  |                             |                           |                      |
| 13.32 Paid claims .....                                     |                             |                           |                      |
| 13.33 Claim liability and reserve (beginning of year) ..... |                             |                           |                      |
| 13.34 Claim liability and reserve (end of year) .....       |                             |                           |                      |
| 13.35 Incurred claims .....                                 |                             |                           |                      |



ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company  
**GENERAL INTERROGATORIES**

**PART 2 - LIFE, ACCIDENT AND HEALTH COMPANIES/FRATERNAL BENEFIT SOCIETIES INTERROGATORIES**

13.4 If reinsurance assumed included amounts with attachment points below \$1,000,000, the distribution of the amounts reported in Lines 13.31 and 13.34 for Column (1) are:

	Attachment Point	1 Earned Premium	2 Claim Liability and Reserve
13.41	<\$25,000	.....	.....
13.42	\$25,000 - 99,999	.....	.....
13.43	\$100,000 - 249,999	.....	.....
13.44	\$250,000 - 999,999	.....	.....
13.45	\$1,000,000 or more	.....	.....

13.5 What portion of earned premium reported in 13.31, Column 1 was assumed from pools? ..... \$ .....

**Fraternal Benefit Societies Only:**

- 14. Is the reporting entity organized and conducted on the lodge system, with ritualistic form of work and representative form of government? ..... Yes [ ] No [ ]
- 15. How often are meetings of the subordinate branches required to be held?  
.....
- 16. How are the subordinate branches represented in the supreme or governing body?  
.....
- 17. What is the basis of representation in the governing body?  
.....
- 18.1 How often are regular meetings of the governing body held?  
.....
- 18.2 When was the last regular meeting of the governing body held? .....
- 18.3 When and where will the next regular or special meeting of the governing body be held?  
.....
- 18.4 How many members of the governing body attended the last regular meeting? .....
- 18.5 How many of the same were delegates of the subordinate branches? .....
- 19. How are the expenses of the governing body defrayed?  
.....
- 20. When and by whom are the officers and directors elected?  
.....
- 21. What are the qualifications for membership?  
.....
- 22. What are the limiting ages for admission?  
.....
- 23. What is the minimum and maximum insurance that may be issued on any one life?  
.....
- 24. Is a medical examination required before issuing benefit certificates to applicants? ..... Yes [ ] No [ ]
- 25. Are applicants admitted to membership without filing an application with and becoming a member of a local branch by ballot and initiation? ..... Yes [ ] No [ ]
- 26.1 Are notices of the payments required sent to the members? ..... Yes [ ] No [ ] N/A [ ]
- 26.2 If yes, do the notices state the purpose for which the money is to be used? ..... Yes [ ] No [ ]
- 27. What proportion of first and subsequent year's payments may be used for management expenses?  
27.11 First Year ..... %  
27.12 Subsequent Years ..... %
- 28.1 Is any part of the mortuary, disability, emergency or reserve fund, or the accretions from or payments for the same, used for expenses? ..... Yes [ ] No [ ]
- 28.2 If so, what amount and for what purpose? ..... \$ .....
- 29.1 Does the reporting entity pay an old age disability benefit? ..... Yes [ ] No [ ]
- 29.2 If yes, at what age does the benefit commence? .....
- 30.1 Has the constitution or have the laws of the reporting entity been amended during the year? ..... Yes [ ] No [ ]
- 30.2 If yes, when?  
.....
- 31. Have you filed with this Department all forms of benefit certificates issued, a copy of the constitution and all of the laws, rules and regulations in force at the present time? ..... Yes [ ] No [ ]
- 32.1 State whether all or a portion of the regular insurance contributions were waived during the current year under premium-paying certificates on account of meeting attained age or membership requirements? ..... Yes [ ] No [ ]
- 32.2 If so, was an additional reserve included in Exhibit 5? ..... Yes [ ] No [ ] N/A [ ]
- 32.3 If yes, explain  
.....
- 33.1 Has the reporting entity reinsured, amalgamated with, or absorbed any company, order, society, or association during the year? ..... Yes [ ] No [ ]
- 33.2 If yes, was there any contract agreement, or understanding, written or oral, expressed or implied, by means of which any officer, director, trustee, or any other person, or firm, corporation, society or association, received or is to receive any fee, commission, emolument, or compensation of any nature whatsoever in connection with, on an account of such reinsurance, amalgamation, absorption, or transfer of membership or funds? ..... Yes [ ] No [ ] N/A [ ]
- 34. Has any present or former officer, director, trustee, incorporator, or any other persons, or any firm, corporation, society or association, any claims of any nature whatsoever against this reporting entity, which is not included in the liabilities on Page 3 of this statement? ..... Yes [ ] No [ ]
- 35.1 Does the reporting entity have outstanding assessments in the form of liens against policy benefits that have increased surplus? ..... Yes [ ] No [ ]
- 35.2 If yes, what is the date of the original lien and the outstanding balance as the surplus remains? .....

Date	Outstanding Lien amount
.....	.....
.....	.....

**NONE**

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**FIVE-YEAR HISTORICAL DATA**

Show amounts in whole dollars only, no cents; show percentages to one decimal place, i.e. 17.6.  
\$000 omitted for amounts of life insurance

	1 2021	2 2020	3 2019	4 2018	5 2017
<b>Life Insurance in Force</b> (Exhibit of Life Insurance)					
1. Ordinary - whole life and endowment (Line 34, Col. 4) .....	8,785,414	8,935,990	9,097,214	4,667,416	4,977,101
2. Ordinary - term (Line 21, Col. 4, less Line 34, Col. 4) .....	3,135	2,579	2,909	3,364	3,922
3. Credit life (Line 21, Col. 6) .....					
4. Group, excluding FEGLI/SGLI (Line 21, Col. 9 less Lines 43 & 44, Col. 4) .....	2,213,005	2,230,467	2,233,751	6,863,701	6,944,793
5. Industrial (Line 21, Col. 2) .....					
6. FEGLI/SGLI (Lines 43 & 44, Col. 4) .....					
7. Total (Line 21, Col. 10) .....	11,001,554	11,169,036	11,333,874	11,534,481	11,925,817
7.1 Total in force for which VM-20 deterministic/stochastic reserves are calculated .....					
<b>New Business Issued</b> (Exhibit of Life Insurance)					
8. Ordinary - whole life and endowment (Line 34, Col. 2) .....	1,311	2,034	620	1,115	6,863
9. Ordinary - term (Line 2, Col. 4, less Line 34, Col. 2) .....					
10. Credit life (Line 2, Col. 6) .....					
11. Group (Line 2, Col. 9) .....					
12. Industrial (Line 2, Col. 2) .....					
13. Total (Line 2, Col. 10) .....	1,311	2,034	620	1,115	6,863
<b>Premium Income - Lines of Business</b> (Exhibit 1 - Part 1)					
14. Industrial life (Line 20.4, Col. 2) .....					
15.1 Ordinary-life insurance (Line 20.4, Col. 3) .....	11,387,237	(4,358,198)	2,920,422	1,475,281	939,725
15.2 Ordinary-individual annuities (Line 20.4, Col. 4) .....	16,000	19,952	21,800	16,855	193,111
16. Credit life (group and individual) (Line 20.4, Col. 5) .....					
17.1 Group life insurance (Line 20.4, Col. 6) .....				(621,206)	457,838
17.2 Group annuities (Line 20.4, Col. 7) .....					
18.1 A & H-group (Line 20.4, Col. 8) .....					
18.2 A & H-credit (group and individual) (Line 20.4, Col. 9) .....					
18.3 A & H-other (Line 20.4, Col. 10) .....					
19. Aggregate of all other lines of business (Line 20.4, Col. 11) .....					
20. Total .....	11,403,237	(4,338,246)	2,942,222	870,930	1,590,674
<b>Balance Sheet (Pages 2 &amp; 3)</b>					
21. Total admitted assets excluding Separate Accounts business (Page 2, Line 26, Col. 3) .....	488,015,749	493,287,942	499,531,297	504,094,528	495,872,034
22. Total liabilities excluding Separate Accounts business (Page 3, Line 26) .....	222,586,158	218,778,416	206,076,975	194,162,672	200,565,666
23. Aggregate life reserves (Page 3, Line 1) .....	143,285,875	143,124,981	145,926,548	143,984,461	140,786,199
23.1 Excess VM-20 deterministic/stochastic reserve over NPR related to Line 7.1 .....					
24. Aggregate A & H reserves (Page 3, Line 2) .....					
25. Deposit-type contract funds (Page 3, Line 3) .....	15,980,530	13,771,784	16,736,633	15,076,197	12,986,104
26. Asset valuation reserve (Page 3, Line 24.01) .....	6,056,250	7,192,889	6,285,196	5,711,963	5,070,022
27. Capital (Page 3, Lines 29 and 30) .....	2,500,200	2,500,200	2,500,200	2,500,200	2,500,200
28. Surplus (Page 3, Line 37) .....	262,929,391	272,009,326	290,954,122	307,431,656	292,806,167
<b>Cash Flow (Page 5)</b>					
29. Net Cash from Operations (Line 11) .....	17,215,650	8,171,535	7,489,663	17,834,358	(8,498,367)
<b>Risk-Based Capital Analysis</b>					
30. Total adjusted capital .....	271,485,841	281,702,415	299,739,518	315,643,819	300,376,389
31. Authorized control level risk - based capital .....	2,975,241	3,311,384	3,041,545	2,674,748	2,681,761
<b>Percentage Distribution of Cash, Cash Equivalents and Invested Assets</b> (Page 2, Col. 3) (Line No. /Page 2, Line 12, Col. 3) x 100.0					
32. Bonds (Line 1) .....	50.6	55.1	65.8	74.3	67.2
33. Stocks (Lines 2.1 and 2.2) .....	0.0				
34. Mortgage loans on real estate(Lines 3.1 and 3.2 ) .....	0.4	0.5	0.5	0.6	0.7
35. Real estate (Lines 4.1, 4.2 and 4.3) .....					
36. Cash, cash equivalents and short-term investments (Line 5) .....	28.0	23.4	13.0	5.1	11.9
37. Contract loans (Line 6) .....	21.0	21.0	20.8	20.0	20.3
38. Derivatives (Page 2, Line 7) .....					
39. Other invested assets (Line 8) .....				0.0	
40. Receivables for securities (Line 9) .....					
41. Securities lending reinvested collateral assets (Line 10) .....					
42. Aggregate write-ins for invested assets (Line 11) .....					
43. Cash, cash equivalents and invested assets (Line 12) .....	100.0	100.0	100.0	100.0	100.0

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**FIVE-YEAR HISTORICAL DATA**

(Continued)

	1 2021	2 2020	3 2019	4 2018	5 2017
<b>Investments in Parent, Subsidiaries and Affiliates</b>					
44. Affiliated bonds (Schedule D Summary, Line 12, Col. 1) .....	992,122			6,271,740	7,099,665
45. Affiliated preferred stocks (Schedule D Summary, Line 18, Col. 1) .....					
46. Affiliated common stocks (Schedule D Summary Line 24, Col. 1), .....					
47. Affiliated short-term investments (subtotal included in Schedule DA Verification, Col. 5, Line 10) .....					
48. Affiliated mortgage loans on real estate .....					
49. All other affiliated .....					
50. Total of above Lines 44 to 49 .....	992,122			6,271,740	7,099,665
51. Total Investment in Parent included in Lines 44 to 49 above .....					
<b>Total Nonadmitted and Admitted Assets</b>					
52. Total nonadmitted assets (Page 2, Line 28, Col. 2) .....	2,219,132	2,236,207	2,321,196	2,962,502	8,711,491
53. Total admitted assets (Page 2, Line 28, Col. 3) .....	5,462,847,319	5,352,119,790	5,117,785,433	4,859,690,475	4,960,548,191
<b>Investment Data</b>					
54. Net investment income (Exhibit of Net Investment Income) .....	12,821,868	15,179,564	18,286,919	17,075,474	17,590,030
55. Realized capital gains (losses) (Page 4, Line 34, Column 1) .....	(51,270)	(133,507)	(45,946)	49,710	18,418
56. Unrealized capital gains (losses) (Page 4, Line 38, Column 1) .....	19,696	(140,180)	20,039	(16,263)	(41,250)
57. Total of above Lines 54, 55 and 56 .....	12,790,294	14,905,876	18,261,012	17,108,921	17,567,198
<b>Benefits and Reserve Increases (Page 6)</b>					
58. Total contract/certificate benefits - life (Lines 10, 11, 12, 13, 14 and 15, Col. 1 minus Lines 10, 11, 12, 13, 14 and 15, Cols. 6, 7 and 8) .....	82,220,794	44,959,382	48,784,770	46,611,466	44,508,798
59. Total contract/certificate benefits - A & H (Lines 13 & 14, Col. 6) .....					
60. Increase in life reserves - other than group and annuities (Line 19, Col. 2) .....	(101,502)	(2,283,459)	2,559,499	3,052,169	2,086,763
61. Increase in A & H reserves (Line 19, Col. 6) .....					
62. Dividends to policyholders and refunds to members (Line 30, Col. 1) .....					
<b>Operating Percentages</b>					
63. Insurance expense percent (Page 6, Col. 1, Lines 21, 22 & 23, less Line 6)/(Page 6, Col. 1, Line 1 plus Exhibit 7, Col. 2, Line 2) x 100.0 .....	(5.8)	(8.4)	63.6	234.7	90.2
64. Lapse percent (ordinary only) [(Exhibit of Life Insurance, Col. 4, Lines 14 & 15) / 1/2 (Exhibit of Life Insurance, Col. 4, Lines 1 & 21)] x 100.0 .....	1.9	2.0	3.4	5.3	6.0
65. A & H loss percent (Schedule H, Part 1, Lines 5 and 6, Col. 2) .....					
66. A & H cost containment percent (Schedule H, Pt. 1, Line 4, Col. 2) .....					
67. A & H expense percent excluding cost containment expenses (Schedule H, Pt. 1, Line 10, Col. 2) .....					
<b>A &amp; H Claim Reserve Adequacy</b>					
68. Incurred losses on prior years' claims - group health (Schedule H, Part 3, Line 3.1 Col. 2) .....					
69. Prior years' claim liability and reserve - group health (Schedule H, Part 3, Line 3.2 Col. 2) .....					
70. Incurred losses on prior years' claims-health other than group (Schedule H, Part 3, Line 3.1 Col. 1 less Col. 2) .....					
71. Prior years' claim liability and reserve-health other than group (Schedule H, Part 3, Line 3.2 Col. 1 less Col. 2) .....					
<b>Net Gains From Operations After Dividends to Policyholders/Members' Refunds and Federal Income Taxes by Lines of Business (Page 6.x, Line 33)</b>					
72. Industrial life (Page 6.1, Col. 2) .....					
73. Ordinary - life (Page 6.1, Col. 1 less Cols. 2, 10 and 12) .....	10,496,302	9,778,654	12,281,826	6,511,876	11,165,646
74. Ordinary - individual annuities (Page 6, Col. 4) .....	655,263	(153,602)	(153,003)	(44,312)	23,009
75. Ordinary-supplementary contracts .....	XXX	XXX	XXX	(238,455)	(128,868)
76. Credit life (Page 6.1, Col. 10 plus Page 6.2, Col. 7) .....					
77. Group life (Page 6.2, Col. 1 Less Cols. 7 and 9) .....	7,436,185	2,893,716	1,649,056	11,996,757	3,743,507
78. Group annuities (Page 6, Col. 5) .....					
79. A & H-group (Page 6.5, Col. 3) .....					
80. A & H-credit (Page 6.5, Col. 10) .....					
81. A & H-other (Page 6.5, Col. 1 less Cols. 3 and 10) .....					
82. Aggregate of all other lines of business (Page 6, Col. 8) .....					
83. Fraternal (Page 6, Col. 7) .....					
84. Total (Page 6, Col. 1) .....	18,587,750	12,518,768	13,777,879	18,225,866	14,803,294

NOTE: If a party to a merger, have the two most recent years of this exhibit been restated due to a merger in compliance with the disclosure requirements of SSAP No. 3, Accounting Changes and Correction of Errors? Yes [ ] No [ ]  
 If no, please explain: .....



ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

DIRECT BUSINESS IN THE STATE OF Grand Total

DURING THE YEAR 2021

NAIC Group Code 0435

LIFE INSURANCE

NAIC Company Code 70416

Table with 5 columns: 1 Ordinary, 2 Credit Life (Group and Individual), 3 Group, 4 Industrial, 5 Total. Rows include Direct Premiums and Annuity Considerations, Direct Dividends to Policyholders/Refunds to Members, and Direct Claims and Benefits Paid.

Table with 10 columns: 1-2 Ordinary (No. of Pols. & Certifs., Amount), 3-4 Credit Life (No. of Ind. Pols. & Gr. Certifs., Amount), 5-6 Group (No. of Certifs., Amount), 7-8 Industrial (No. of Pols. & Certifs., Amount), 9-10 Total (No. of Pols. & Certifs., Amount). Rows include Direct Death Benefits and Matured Endowments Incurred and Policy Exhibit.

(a) Includes Individual Credit Life Insurance prior year \$ , current year \$ Includes Group Credit Life Insurance Loans less than or equal to 60 months at issue, prior year \$ , current year \$ Loans greater than 60 months at issue BUT NOT GREATER THAN 120 MONTHS, prior year \$ , current year \$

ACCIDENT AND HEALTH INSURANCE

Table with 5 columns: 1 Direct Premiums, 2 Direct Premiums Earned, 3 Policyholder Dividends Paid, Refunds to Members or Credited on Direct Business, 4 Direct Losses Paid, 5 Direct Losses Incurred. Rows include Group Policies (b) and various policy types. A large 'NONE' watermark is overlaid on the table.

(b) For health business on indicated lines report: Number of persons insured under PPO managed care products and number of persons insured under indemnity only products

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**EXHIBIT OF LIFE INSURANCE**

(\$000 Omitted for Amounts of Life Insurance)

	Industrial		Ordinary		Credit Life (Group and Individual)		Group			10 Total Amount of Insurance
	1	2	3	4	5	6	Number of		9	
	Number of Policies	Amount of Insurance	Number of Policies	Amount of Insurance	Number of Individual Policies and Group Certificates	Amount of Insurance	Policies	Certificates	Amount of Insurance	
1. In force end of prior year .....			27,805	8,938,569			5	3,067	2,230,467	11,169,036
2. Issued during year .....				1,311						1,311
3. Reinsurance assumed .....										
4. Revived during year .....			9	2,174						2,174
5. Increased during year (net) .....			4	123,014					1,689	124,703
6. Subtotals, Lines 2 to 5 .....			13	126,499					1,689	128,188
7. Additions by dividends during year .....	XXX		XXX		XXX		XXX	XXX		
8. Aggregate write-ins for increases .....										
9. Totals (Lines 1 and 6 to 8) .....			27,818	9,065,068			5	3,067	2,232,156	11,297,224
Deductions during year:										
10. Death .....			264	104,149			XXX	26	14,273	118,422
11. Maturity .....							XXX			
12. Disability .....							XXX			
13. Expiry .....			4	203						203
14. Surrender .....			675	121,192						121,192
15. Lapse .....			232	48,080						48,080
16. Conversion .....							XXX	XXX	XXX	
17. Decreased (net) .....			25	2,895					4,878	7,773
18. Reinsurance .....										
19. Aggregate write-ins for decreases .....										
20. Totals (Lines 10 to 19) .....			1,200	276,519				26	19,151	295,670
21. In force end of year (b) (Line 9 minus Line 20) .....			26,618	8,788,549			5	3,041	2,213,005	11,001,554
22. Reinsurance ceded end of year .....	XXX		XXX	3,959,759	XXX		XXX	XXX	2,213,005	6,172,764
23. Line 21 minus Line 22 .....	XXX		XXX	4,828,790	XXX	(a)	XXX	XXX		4,828,790
<b>DETAILS OF WRITE-INS</b>										
0801. ....										
0802. ....										
0803. ....										
0898. Summary of remaining write-ins for Line 8 from overflow page .....										
0899. TOTALS (Lines 0801 thru 0803 plus 0898) (Line 8 above) .....										
1901. ....										
1902. ....										
1903. ....										
1998. Summary of remaining write-ins for Line 19 from overflow page .....										
1999. TOTALS (Lines 1901 thru 1903 plus 1998) (Line 19 above) .....										

Life, Accident and Health Companies Only:

(a) Group \$ ..... ; Individual \$ .....

Fraternal Benefit Societies Only:

(b) Paid-up insurance included in the final totals of Line 21 (including additions to certificates) number of certificates ..... , Amount \$ .....

Additional accidental death benefits included in life certificates were in amount \$ ..... , Does the society collect any contributions from members for general expenses of the society under fully paid-up certificates? Yes [ ] No [ ]

If not, how are such expenses met?

.....

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**EXHIBIT OF LIFE INSURANCE**

(\$000 Omitted for Amounts of Life Insurance) (Continued)  
**ADDITIONAL INFORMATION ON INSURANCE IN FORCE END OF YEAR**

	Industrial		Ordinary	
	1 Number of Policies	2 Amount of Insurance	3 Number of Policies	4 Amount of Insurance
24. Additions by dividends .....	XXX		XXX	
25. Other paid-up insurance .....			4	11,335
26. Debit ordinary insurance .....	XXX	XXX		

**ADDITIONAL INFORMATION ON ORDINARY INSURANCE**

Term Insurance Excluding Extended Term Insurance	Issued During Year (Included in Line 2)		In Force End of Year (Included in Line 21)	
	1 Number of Policies	2 Amount of Insurance	3 Number of Policies	4 Amount of Insurance
27. Term policies - decreasing .....				
28. Term policies - other .....				
29. Other term insurance - decreasing .....	XXX		XXX	
30. Other term insurance .....	XXX		XXX	90
31. Totals (Lines 27 to 30) .....				90
Reconciliation to Lines 2 and 21:				
32. Term additions .....	XXX		XXX	
33. Totals, extended term insurance .....	XXX	XXX	54	3,045
34. Totals, whole life and endowment .....		1,311	26,564	8,785,414
35. Totals (Lines 31 to 34) .....		1,311	26,618	8,788,549

**CLASSIFICATION OF AMOUNT OF INSURANCE BY PARTICIPATING STATUS**

	Issued During Year (Included in Line 2)		In Force End of Year (Included in Line 21)	
	1 Non-Participating	2 Participating	3 Non-Participating	4 Participating
36. Industrial .....				
37. Ordinary .....	1,311		8,788,549	
38. Credit Life (Group and Individual) .....				
39. Group .....			2,213,005	
40. Totals (Lines 36 to 39) .....	1,311		11,001,554	

**ADDITIONAL INFORMATION ON CREDIT LIFE AND GROUP INSURANCE**

	Credit Life		Group	
	1 Number of Individual Policies	2 Amount of Insurance	3 Number of Certificates	4 Amount of Insurance
41. Amount of insurance included in Line 2 ceded to other companies .....	XXX		XXX	
42. Number in force end of year if the number under insured groups is limited on a pro-rata basis .....				XXX
43. Federal Employees' Group Life Insurance included in Line 21 .....				
44. Servicemen's Group Life Insurance included in Line 21 .....				
45. Group Permanent Insurance included in Line 21 .....				

**ADDITIONAL ACCIDENTAL DEATH BENEFITS**

46. Amount of additional accidental death benefits in force end of year under ordinary policies .....	40,442
---	--------

**BASIS OF CALCULATION OF ORDINARY TERM INSURANCE**

47. State basis of calculation of (47.1) decreasing term insurance contained in Family Income Mortgage Protection, etc., policies and riders and of (47.2) term insurance on wife and children under Family, Parent and Child, etc., policies and riders .....	
47.1 .....	
47.2 .....	

**POLICIES WITH DISABILITY PROVISIONS**

Disability Provisions	Industrial		Ordinary		Credit		Group	
	1 Number of Policies	2 Amount of Insurance	3 Number of Policies	4 Amount of Insurance	5 Number of Policies	6 Amount of Insurance	7 Number of Certificates	8 Amount of Insurance
48. Waiver of Premium .....			9,880	1,610,380				
49. Disability Income .....								
50. Extended Benefits .....			XXX	XXX				
51. Other .....								
52. Total .....		(a)	9,880	(a) 1,610,380		(a)		(a)

(a) See the Annual Audited Financial Reports section of the annual statement instructions

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company  
**EXHIBIT OF NUMBER OF POLICIES, CONTRACTS, CERTIFICATES, INCOME PAYABLE AND ACCOUNT VALUES IN FORCE FOR SUPPLEMENTARY CONTRACTS, ANNUITIES, ACCIDENT & HEALTH AND OTHER POLICIES**

**SUPPLEMENTARY CONTRACTS**

	Ordinary		Group	
	1 Involving Life Contingencies	2 Not Involving Life Contingencies	3 Involving Life Contingencies	4 Not Involving Life Contingencies
1. In force end of prior year .....	18	91		
2. Issued during year .....		22		
3. Reinsurance assumed .....				
4. Increased during year (net) .....				
5. Total (Lines 1 to 4) .....	18	113		
Deductions during year:				
6. Decreased (net) .....	18	15		
7. Reinsurance ceded .....				
8. Totals (Lines 6 and 7) .....	18	15		
9. In force end of year (line 5 minus line 8) .....		98		
10. Amount on deposit .....		(a) 16,209,406		(a)
11. Income now payable .....		72		
12. Amount of income payable .....	(a)	(a) 491,418	(a)	(a)

**ANNUITIES**

	Ordinary		Group	
	1 Immediate	2 Deferred	3 Contracts	4 Certificates
1. In force end of prior year .....		555		
2. Issued during year .....				
3. Reinsurance assumed .....				
4. Increased during year (net) .....				
5. Totals (Lines 1 to 4) .....		555		
Deductions during year:				
6. Decreased (net) .....		55		
7. Reinsurance ceded .....				
8. Totals (Lines 6 and 7) .....		55		
9. In force end of year (line 5 minus line 8) .....		500		
Income now payable:				
10. Amount of income payable .....	(a)	XXX	XXX	(a)
Deferred fully paid:				
11. Account balance .....	XXX	(a)	XXX	(a)
Deferred not fully paid:				
12. Account balance .....	XXX	(a) 43,910,472	XXX	(a)

**ACCIDENT AND HEALTH INSURANCE**

	Group		Credit		Other	
	1 Certificates	2 Premiums in Force	3 Policies	4 Premiums in Force	5 Policies	6 Premiums in Force
1. In force end of prior year .....						
2. Issued during year .....						
3. Reinsurance assumed .....						
4. Increased during year (net) .....		XXX		XXX		XXX
5. Totals (Lines 1 to 4) .....		XXX		XXX		XXX
Deductions during year:						
6. Conversions .....		XXX		XXX	XXX	XXX
7. Decreased (net) .....		XXX		XXX		XXX
8. Reinsurance ceded .....		XXX				XXX
9. Totals (Lines 6 to 8) .....		XXX		XXX		XXX
10. In force end of year (line 5 minus line 9) .....		(a)		(a)		(a)

**DEPOSIT FUNDS AND DIVIDEND ACCUMULATIONS**

	1	2
	Deposit Funds Contracts	Dividend Accumulations Contracts
1. In force end of prior year .....		
2. Issued during year .....		
3. Reinsurance assumed .....		
4. Increased during year (net) .....		
5. Totals (Lines 1 to 4) .....		
Deductions During Year:		
6. Decreased (net) .....		
7. Reinsurance ceded .....		
8. Totals (Lines 6 and 7) .....		
9. In force end of year (line 5 minus line 8) .....		
10. Amount of account balance .....	(a)	(a)

(a) See the Annual Audited Financial Reports section of the annual statement instructions.

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company  
**FORM FOR CALCULATING THE INTEREST MAINTENANCE RESERVE**

**INTEREST MAINTENANCE RESERVE**

	1 Amount
1. Reserve as of December 31, Prior Year .....	606,773
2. Current year's realized pre-tax capital gains/(losses) of \$ .....1,106,816 transferred into the reserve net of taxes of \$ .....232,431 .....	874,386
3. Adjustment for current year's liability gains/(losses) released from the reserve .....	
4. Balance before reduction for amount transferred to Summary of Operations (Line 1 + Line 2 + Line 3) .....	1,481,159
5. Current year's amortization released to Summary of Operations (Amortization, Line 1, Column 4) .....	274,299
6. Reserve as of December 31, current year (Line 4 minus Line 5)	1,206,859

**AMORTIZATION**

	1	2	3	4
Year of Amortization	Reserve as of December 31, Prior Year	Current Year's Realized Capital Gains/(Losses) Transferred into the Reserve Net of Taxes	Adjustment for Current Year's Liability Gains/(Losses) Released From the Reserve	Balance Before Reduction for Current Year's Amortization (Cols. 1 + 2 + 3)
1. 2021 .....	198,080	76,219		274,299
2. 2022 .....	136,752	151,215		287,967
3. 2023 .....	107,958	139,995		247,953
4. 2024 .....	75,622	113,115		188,737
5. 2025 .....	36,957	84,474		121,431
6. 2026 .....	14,930	55,122		70,052
7. 2027 .....	11,373	39,790		51,163
8. 2028 .....	8,179	37,673		45,852
9. 2029 .....	3,270	35,443		38,713
10. 2030 .....	1,079	33,449		34,528
11. 2031 .....	2,230	31,107		33,337
12. 2032 .....	2,337	27,100		29,437
13. 2033 .....	2,533	21,541		24,074
14. 2034 .....	2,588	15,635		18,223
15. 2035 .....	1,853	9,381		11,234
16. 2036 .....	867	3,127		3,994
17. 2037 .....	426			426
18. 2038 .....	59			59
19. 2039 .....	(194)			(194)
20. 2040 .....	(108)			(108)
21. 2041 .....	(1)			(1)
22. 2042 .....	(11)			(11)
23. 2043 .....	(6)			(6)
24. 2044 .....				
25. 2045 .....				
26. 2046 .....				
27. 2047 .....				
28. 2048 .....				
29. 2049 .....				
30. 2050 .....				
31. 2051 and Later				
32. Total (Lines 1 to 31)	606,772	874,386		1,481,158



ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**ASSET VALUATION RESERVE**

	Default Component			Equity Component			7 Total Amount (Cols. 3 + 6)
	1 Other Than Mortgage Loans	2 Mortgage Loans	3 Total (Cols. 1 + 2)	4 Common Stock	5 Real Estate and Other Invested Assets	6 Total (Cols. 4 + 5)	
1. Reserve as of December 31, prior year .....	7,179,034	13,922	7,192,956				7,192,956
2. Realized capital gains/(losses) net of taxes - General Account .....	(9,421)		(9,421)				(9,421)
3. Realized capital gains/(losses) net of taxes - Separate Accounts .....	80,504		80,504				80,504
4. Unrealized capital gains/(losses) net of deferred taxes - General Account .....	15,408		15,408	6,528		6,528	21,936
5. Unrealized capital gains/(losses) net of deferred taxes - Separate Accounts .....							
6. Capital gains credited/(losses charged) to contract benefits, payments or reserves .....							
7. Basic contribution .....	1,110,388	3,330	1,113,718				1,113,718
8. Accumulated balances (Lines 1 through 5 - 6 + 7) .....	8,375,912	17,253	8,393,165	6,528		6,528	8,399,693
9. Maximum reserve .....	6,041,197	12,121	6,053,319	2,932		2,932	6,056,250
10. Reserve objective .....	3,535,278	7,761	3,543,039	2,932		2,932	3,545,971
11. 20% of (Line 10 - Line 8) .....	(968,127)	(1,898)	(970,025)	(719)		(719)	(970,744)
12. Balance before transfers (Lines 8 + 11) .....	7,407,785	15,354	7,423,140	5,809		5,809	7,428,948
13. Transfers .....							
14. Voluntary contribution .....							
15. Adjustment down to maximum/up to zero .....	(1,366,587)	(3,234)	(1,369,821)	(2,877)		(2,877)	(1,372,698)
16. Reserve as of December 31, current year (Lines 12 + 13 + 14 + 15)	6,041,198	12,121	6,053,319	2,932		2,932	6,056,251

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**ASSET VALUATION RESERVE**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**DEFAULT COMPONENT**

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols.4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
LONG-TERM BONDS												
1.		Exempt Obligations	4,444,612	XXX	XXX	4,444,612	0.0000		0.0000		0.0000	
2.1	1	NAIC Designation Category 1.A	55,891,306	XXX	XXX	55,891,306	0.0005	27,946	0.0016	89,426	0.0033	184,441
2.2	1	NAIC Designation Category 1.B	2,422,946	XXX	XXX	2,422,946	0.0005	1,211	0.0016	3,877	0.0033	7,996
2.3	1	NAIC Designation Category 1.C	2,460,767	XXX	XXX	2,460,767	0.0005	1,230	0.0016	3,937	0.0033	8,121
2.4	1	NAIC Designation Category 1.D	17,982,318	XXX	XXX	17,982,318	0.0005	8,991	0.0016	28,772	0.0033	59,342
2.5	1	NAIC Designation Category 1.E	8,209,654	XXX	XXX	8,209,654	0.0005	4,105	0.0016	13,135	0.0033	27,092
2.6	1	NAIC Designation Category 1.F	17,094,013	XXX	XXX	17,094,013	0.0005	8,547	0.0016	27,350	0.0033	56,410
2.7	1	NAIC Designation Category 1.G	22,542,186	XXX	XXX	22,542,186	0.0005	11,271	0.0016	36,067	0.0033	74,389
2.8		Subtotal NAIC 1 (2.1+2.2+2.3+2.4+2.5+2.6+2.7)	126,603,191	XXX	XXX	126,603,191	XXX	63,302	XXX	202,565	XXX	417,791
3.1	2	NAIC Designation Category 2.A	37,857,949	XXX	XXX	37,857,949	0.0021	79,502	0.0064	242,291	0.0106	401,294
3.2	2	NAIC Designation Category 2.B	30,124,003	XXX	XXX	30,124,003	0.0021	63,260	0.0064	192,794	0.0106	319,314
3.3	2	NAIC Designation Category 2.C	10,515,464	XXX	XXX	10,515,464	0.0021	22,082	0.0064	67,299	0.0106	111,464
3.4		Subtotal NAIC 2 (3.1+3.2+3.3)	78,497,416	XXX	XXX	78,497,416	XXX	164,845	XXX	502,383	XXX	832,073
4.1	3	NAIC Designation Category 3.A	2,949,795	XXX	XXX	2,949,795	0.0099	29,203	0.0263	77,580	0.0376	110,912
4.2	3	NAIC Designation Category 3.B	2,876,812	XXX	XXX	2,876,812	0.0099	28,480	0.0263	75,660	0.0376	108,168
4.3	3	NAIC Designation Category 3.C	688,056	XXX	XXX	688,056	0.0099	6,812	0.0263	18,096	0.0376	25,871
4.4		Subtotal NAIC 3 (4.1+4.2+4.3)	6,514,664	XXX	XXX	6,514,664	XXX	64,495	XXX	171,336	XXX	244,951
5.1	4	NAIC Designation Category 4.A		XXX	XXX		0.0245		0.0572		0.0817	
5.2	4	NAIC Designation Category 4.B	1,230,831	XXX	XXX	1,230,831	0.0245	30,155	0.0572	70,404	0.0817	100,559
5.3	4	NAIC Designation Category 4.C		XXX	XXX		0.0245		0.0572		0.0817	
5.4		Subtotal NAIC 4 (5.1+5.2+5.3)	1,230,831	XXX	XXX	1,230,831	XXX	30,155	XXX	70,404	XXX	100,559
6.1	5	NAIC Designation Category 5.A		XXX	XXX		0.0630		0.1128		0.1880	
6.2	5	NAIC Designation Category 5.B	499,620	XXX	XXX	499,620	0.0630	31,476	0.1128	56,357	0.1880	93,929
6.3	5	NAIC Designation Category 5.C		XXX	XXX		0.0630		0.1128		0.1880	
6.4		Subtotal NAIC 5 (6.1+6.2+6.3)	499,620	XXX	XXX	499,620	XXX	31,476	XXX	56,357	XXX	93,929
7.	6	NAIC 6	937,908	XXX	XXX	937,908	0.0000		0.2370	222,284	0.2370	222,284
8.		Total Unrated Multi-class Securities Acquired by Conversion		XXX	XXX		XXX		XXX		XXX	
9.		Total Long-Term Bonds (1+2.8+3.4+4.4+5.4+6.4+7+8)	218,728,242	XXX	XXX	218,728,242	XXX	354,273	XXX	1,225,329	XXX	1,911,586
PREFERRED STOCKS												
10.	1	Highest Quality		XXX	XXX		0.0005		0.0016		0.0033	
11.	2	High Quality		XXX	XXX		0.0021		0.0064		0.0106	
12.	3	Medium Quality		XXX	XXX		0.0099		0.0263		0.0376	
13.	4	Low Quality		XXX	XXX		0.0245		0.0572		0.0817	
14.	5	Lower Quality		XXX	XXX		0.0630		0.1128		0.1880	
15.	6	In or Near Default		XXX	XXX		0.0000		0.2370		0.2370	
16.		Affiliated Life with AVR		XXX	XXX		0.0000		0.0000		0.0000	
17.		Total Preferred Stocks (Sum of Lines 10 through 16)		XXX	XXX		XXX		XXX		XXX	

**ASSET VALUATION RESERVE (Continued)**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**DEFAULT COMPONENT**

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
<b>SHORT-TERM BONDS</b>												
18.		Exempt Obligations		XXX	XXX		0.0000		0.0000		0.0000	
19.1	1	NAIC Designation Category 1.A		XXX	XXX		0.0005		0.0016		0.0033	
19.2	1	NAIC Designation Category 1.B		XXX	XXX		0.0005		0.0016		0.0033	
19.3	1	NAIC Designation Category 1.C		XXX	XXX		0.0005		0.0016		0.0033	
19.4	1	NAIC Designation Category 1.D		XXX	XXX		0.0005		0.0016		0.0033	
19.5	1	NAIC Designation Category 1.E		XXX	XXX		0.0005		0.0016		0.0033	
19.6	1	NAIC Designation Category 1.F		XXX	XXX		0.0005		0.0016		0.0033	
19.7	1	NAIC Designation Category 1.G		XXX	XXX		0.0005		0.0016		0.0033	
19.8		Subtotal NAIC 1 (19.1+19.2+19.3+19.4+19.5+19.6+19.7)		XXX	XXX		XXX		XXX		XXX	
20.1	2	NAIC Designation Category 2.A	5,999,418	XXX	XXX	5,999,418	0.0021	12,599	0.0064	38,396	0.0106	63,594
20.2	2	NAIC Designation Category 2.B		XXX	XXX		0.0021		0.0064		0.0106	
20.3	2	NAIC Designation Category 2.C		XXX	XXX		0.0021		0.0064		0.0106	
20.4		Subtotal NAIC 2 (20.1+20.2+20.3)	5,999,418	XXX	XXX	5,999,418	XXX	12,599	XXX	38,396	XXX	63,594
21.1	3	NAIC Designation Category 3.A		XXX	XXX		0.0099		0.0263		0.0376	
21.2	3	NAIC Designation Category 3.B		XXX	XXX		0.0099		0.0263		0.0376	
21.3	3	NAIC Designation Category 3.C		XXX	XXX		0.0099		0.0263		0.0376	
21.4		Subtotal NAIC 3 (21.1+21.2+21.3)		XXX	XXX		XXX		XXX		XXX	
22.1	4	NAIC Designation Category 4.A		XXX	XXX		0.0245		0.0572		0.0817	
22.2	4	NAIC Designation Category 4.B		XXX	XXX		0.0245		0.0572		0.0817	
22.3	4	NAIC Designation Category 4.C		XXX	XXX		0.0245		0.0572		0.0817	
22.4		Subtotal NAIC 4 (22.1+22.2+22.3)		XXX	XXX		XXX		XXX		XXX	
23.1	5	NAIC Designation Category 5.A		XXX	XXX		0.0630		0.1128		0.1880	
23.2	5	NAIC Designation Category 5.B		XXX	XXX		0.0630		0.1128		0.1880	
23.3	5	NAIC Designation Category 5.C		XXX	XXX		0.0630		0.1128		0.1880	
23.4		Subtotal NAIC 5 (23.1+23.2+23.3)		XXX	XXX		XXX		XXX		XXX	
24.	6	NAIC 6		XXX	XXX		0.0000		0.2370		0.2370	
25.		Total Short-Term Bonds (18+19.8+20.4+21.4+22.4+23.4+24)	5,999,418	XXX	XXX	5,999,418	XXX	12,599	XXX	38,396	XXX	63,594
<b>DERIVATIVE INSTRUMENTS</b>												
26.		Exchange Traded		XXX	XXX		0.0005		0.0016		0.0033	
27.	1	Highest Quality		XXX	XXX		0.0005		0.0016		0.0033	
28.	2	High Quality		XXX	XXX		0.0021		0.0064		0.0106	
29.	3	Medium Quality		XXX	XXX		0.0099		0.0263		0.0376	
30.	4	Low Quality		XXX	XXX		0.0245		0.0572		0.0817	
31.	5	Lower Quality		XXX	XXX		0.0630		0.1128		0.1880	
32.	6	In or Near Default		XXX	XXX		0.0000		0.2370		0.2370	
33.		Total Derivative Instruments		XXX	XXX		XXX		XXX		XXX	
34.		Total (Lines 9 + 17 + 25 + 33)	224,727,660	XXX	XXX	224,727,660	XXX	366,872	XXX	1,263,725	XXX	1,975,180

**ASSET VALUATION RESERVE (Continued)**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**DEFAULT COMPONENT**

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols.4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
MORTGAGE LOANS												
In Good Standing:												
35.		Farm Mortgages - CM1 - Highest Quality .....			XXX		0.0011		0.0057		0.0074	
36.		Farm Mortgages - CM2 - High Quality .....			XXX		0.0040		0.0114		0.0149	
37.		Farm Mortgages - CM3 - Medium Quality .....			XXX		0.0069		0.0200		0.0257	
38.		Farm Mortgages - CM4 - Low Medium Quality .....			XXX		0.0120		0.0343		0.0428	
39.		Farm Mortgages - CM5 - Low Quality .....			XXX		0.0183		0.0486		0.0628	
40.		Residential Mortgages - Insured or Guaranteed .....	1,671,626		XXX	1,671,626	0.0003	501	0.0007	1,170	0.0011	1,839
41.		Residential Mortgages - All Other .....	99,522		XXX	99,522	0.0015	149	0.0034	338	0.0046	458
42.		Commercial Mortgages - Insured or Guaranteed .....			XXX		0.0003		0.0007		0.0011	
43.		Commercial Mortgages - All Other - CM1 - Highest Quality .....			XXX		0.0011		0.0057		0.0074	
44.		Commercial Mortgages - All Other - CM2 - High Quality .....			XXX		0.0040		0.0114		0.0149	
45.		Commercial Mortgages - All Other - CM3 - Medium Quality .....			XXX		0.0069		0.0200		0.0257	
46.		Commercial Mortgages - All Other - CM4 - Low Medium Quality .....			XXX		0.0120		0.0343		0.0428	
47.		Commercial Mortgages - All Other - CM5 - Low Quality .....			XXX		0.0183		0.0486		0.0628	
Overdue, Not in Process:												
48.		Farm Mortgages .....			XXX		0.0480		0.0868		0.1371	
49.		Residential Mortgages - Insured or Guaranteed .....			XXX		0.0006		0.0014		0.0023	
50.		Residential Mortgages - All Other .....			XXX		0.0029		0.0066		0.0103	
51.		Commercial Mortgages - Insured or Guaranteed .....			XXX		0.0006		0.0014		0.0023	
52.		Commercial Mortgages - All Other .....			XXX		0.0480		0.0868		0.1371	
In Process of Foreclosure:												
53.		Farm Mortgages .....			XXX		0.0000		0.1942		0.1942	
54.		Residential Mortgages - Insured or Guaranteed .....			XXX		0.0000		0.0046		0.0046	
55.		Residential Mortgages - All Other .....			XXX		0.0000		0.0149		0.0149	
56.		Commercial Mortgages - Insured or Guaranteed .....			XXX		0.0000		0.0046		0.0046	
57.		Commercial Mortgages - All Other .....			XXX		0.0000		0.1942		0.1942	
58.		Total Schedule B Mortgages (Sum of Lines 35 through 57)	1,771,148		XXX	1,771,148	XXX	651	XXX	1,509	XXX	2,297
59.		Schedule DA Mortgages			XXX		0.0034		0.0114		0.0149	
60.		Total Mortgage Loans on Real Estate (Lines 58 + 59)	1,771,148		XXX	1,771,148	XXX	651	XXX	1,509	XXX	2,297

**ASSET VALUATION RESERVE**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**EQUITY AND OTHER INVESTED ASSET COMPONENT**

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
COMMON STOCK												
1.		Unaffiliated - Public .....	12,060	XXX	XXX	12,060	0.0000		0.2431 (a)	2,932	0.2431 (a)	2,932
2.		Unaffiliated - Private .....		XXX	XXX		0.0000		0.1945		0.1945	
3.		Federal Home Loan Bank .....		XXX	XXX		0.0000		0.0061		0.0097	
4.		Affiliated - Life with AVR .....		XXX	XXX		0.0000		0.0000		0.0000	
Affiliated - Investment Subsidiary:												
5.		Fixed Income - Exempt Obligations .....					XXX		XXX		XXX	
6.		Fixed Income - Highest Quality .....					XXX		XXX		XXX	
7.		Fixed Income - High Quality .....					XXX		XXX		XXX	
8.		Fixed Income - Medium Quality .....					XXX		XXX		XXX	
9.		Fixed Income - Low Quality .....					XXX		XXX		XXX	
10.		Fixed Income - Lower Quality .....					XXX		XXX		XXX	
11.		Fixed Income - In/Near Default .....					XXX		XXX		XXX	
12.		Unaffiliated Common Stock - Public .....					0.0000		0.1580 (a)		0.1580 (a)	
13.		Unaffiliated Common Stock - Private .....					0.0000		0.1945		0.1945	
14.		Real Estate .....					(b)		(b)		(b)	
15.		Affiliated - Certain Other (See SVO Purposes and Procedures Manual) .....		XXX	XXX		0.0000		0.1580		0.1580	
16.		Affiliated - All Other .....		XXX	XXX		0.0000		0.1945		0.1945	
17.		Total Common Stock (Sum of Lines 1 through 16)	12,060			12,060	XXX		XXX	2,932	XXX	2,932
REAL ESTATE												
18.		Home Office Property (General Account only) .....					0.0000		0.0912		0.0912	
19.		Investment Properties .....					0.0000		0.0912		0.0912	
20.		Properties Acquired in Satisfaction of Debt .....					0.0000		0.1337		0.1337	
21.		Total Real Estate (Sum of Lines 18 through 20)					XXX		XXX		XXX	
OTHER INVESTED ASSETS												
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF BONDS												
22.		Exempt Obligations .....		XXX	XXX		0.0000		0.0000		0.0000	
23.	1	Highest Quality .....		XXX	XXX		0.0005		0.0016		0.0033	
24.	2	High Quality .....		XXX	XXX		0.0021		0.0064		0.0106	
25.	3	Medium Quality .....		XXX	XXX		0.0099		0.0263		0.0376	
26.	4	Low Quality .....		XXX	XXX		0.0245		0.0572		0.0817	
27.	5	Lower Quality .....		XXX	XXX		0.0630		0.1128		0.1880	
28.	6	In or Near Default .....		XXX	XXX		0.0000		0.2370		0.2370	
29.		Total with Bond Characteristics (Sum of Lines 22 through 28)		XXX	XXX		XXX		XXX		XXX	

**ASSET VALUATION RESERVE (Continued)**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**EQUITY AND OTHER INVESTED ASSET COMPONENT**

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF PREFERRED STOCKS												
30.	1	Highest Quality .....		XXX	XXX		0.0005		0.0016		0.0033	
31.	2	High Quality .....		XXX	XXX		0.0021		0.0064		0.0106	
32.	3	Medium Quality .....		XXX	XXX		0.0099		0.0263		0.0376	
33.	4	Low Quality .....		XXX	XXX		0.0245		0.0572		0.0817	
34.	5	Lower Quality .....		XXX	XXX		0.0630		0.1128		0.1880	
35.	6	In or Near Default .....		XXX	XXX		0.0000		0.2370		0.2370	
36.		Affiliated Life with AVR .....		XXX	XXX		0.0000		0.0000		0.0000	
37.		Total with Preferred Stock Characteristics (Sum of Lines 30 through 36)		XXX	XXX		XXX		XXX		XXX	
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF MORTGAGE LOANS												
In Good Standing Affiliated:												
38.		Mortgages - CM1 - Highest Quality .....			XXX		0.0011		0.0057		0.0074	
39.		Mortgages - CM2 - High Quality .....			XXX		0.0040		0.0114		0.0149	
40.		Mortgages - CM3 - Medium Quality .....			XXX		0.0069		0.0200		0.0257	
41.		Mortgages - CM4 - Low Medium Quality .....			XXX		0.0120		0.0343		0.0428	
42.		Mortgages - CM5 - Low Quality .....			XXX		0.0183		0.0486		0.0628	
43.		Residential Mortgages - Insured or Guaranteed .....			XXX		0.0003		0.0007		0.0011	
44.		Residential Mortgages - All Other .....		XXX	XXX		0.0015		0.0034		0.0046	
45.		Commercial Mortgages - Insured or Guaranteed .....			XXX		0.0003		0.0007		0.0011	
Overdue, Not in Process Affiliated:												
46.		Farm Mortgages .....			XXX		0.0480		0.0868		0.1371	
47.		Residential Mortgages - Insured or Guaranteed .....			XXX		0.0006		0.0014		0.0023	
48.		Residential Mortgages - All Other .....			XXX		0.0029		0.0066		0.0103	
49.		Commercial Mortgages - Insured or Guaranteed .....			XXX		0.0006		0.0014		0.0023	
50.		Commercial Mortgages - All Other .....			XXX		0.0480		0.0868		0.1371	
In Process of Foreclosure Affiliated:												
51.		Farm Mortgages .....			XXX		0.0000		0.1942		0.1942	
52.		Residential Mortgages - Insured or Guaranteed .....			XXX		0.0000		0.0046		0.0046	
53.		Residential Mortgages - All Other .....			XXX		0.0000		0.0149		0.0149	
54.		Commercial Mortgages - Insured or Guaranteed .....			XXX		0.0000		0.0046		0.0046	
55.		Commercial Mortgages - All Other .....			XXX		0.0000		0.1942		0.1942	
56.		Total Affiliated (Sum of Lines 38 through 55)			XXX		XXX		XXX		XXX	
57.		Unaffiliated - In Good Standing With Covenants .....			XXX		(c)		(c)		(c)	
58.		Unaffiliated - In Good Standing Defeased With Government Securities .....			XXX		0.0011		0.0057		0.0074	
59.		Unaffiliated - In Good Standing Primarily Senior .....			XXX		0.0040		0.0114		0.0149	
60.		Unaffiliated - In Good Standing All Other .....			XXX		0.0069		0.0200		0.0257	
61.		Unaffiliated - Overdue, Not in Process .....			XXX		0.0480		0.0868		0.1371	
62.		Unaffiliated - In Process of Foreclosure .....			XXX		0.0000		0.1942		0.1942	
63.		Total Unaffiliated (Sum of Lines 57 through 62)			XXX		XXX		XXX		XXX	
64.		Total with Mortgage Loan Characteristics (Lines 56 + 63)			XXX		XXX		XXX		XXX	

**ASSET VALUATION RESERVE (Continued)**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**EQUITY AND OTHER INVESTED ASSET COMPONENT**

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF COMMON STOCK												
65.		Unaffiliated Public .....		XXX	XXX		0.0000		0.1580 (a)		0.1580 (a)	
66.		Unaffiliated Private .....		XXX	XXX		0.0000		0.1945		0.1945	
67.		Affiliated Life with AVR .....		XXX	XXX		0.0000		0.0000		0.0000	
68.		Affiliated Certain Other (See SVO Purposes & Procedures Manual) .....		XXX	XXX		0.0000		0.1580		0.1580	
69.		Affiliated Other - All Other .....		XXX	XXX		0.0000		0.1945		0.1945	
70.		Total with Common Stock Characteristics (Sum of Lines 65 through 69)		XXX	XXX		XXX		XXX		XXX	
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF REAL ESTATE												
71.		Home Office Property (General Account only) .....					0.0000		0.0912		0.0912	
72.		Investment Properties .....					0.0000		0.0912		0.0912	
73.		Properties Acquired in Satisfaction of Debt .....					0.0000		0.1337		0.1337	
74.		Total with Real Estate Characteristics (Sum of Lines 71 through 73)					XXX		XXX		XXX	
LOW INCOME HOUSING TAX CREDIT INVESTMENTS												
75.		Guaranteed Federal Low Income Housing Tax Credit .....					0.0003		0.0006		0.0010	
76.		Non-guaranteed Federal Low Income Housing Tax Credit .....					0.0063		0.0120		0.0190	
77.		Guaranteed State Low Income Housing Tax Credit .....					0.0003		0.0006		0.0010	
78.		Non-guaranteed State Low Income Housing Tax Credit .....					0.0063		0.0120		0.0190	
79.		All Other Low Income Housing Tax Credit .....					0.0273		0.0600		0.0975	
80.		Total LIHTC (Sum of Lines 75 through 79)					XXX		XXX		XXX	
ALL OTHER INVESTMENTS												
81.		NAIC 1 Working Capital Finance Investments .....		XXX			0.0000		0.0042		0.0042	
82.		NAIC 2 Working Capital Finance Investments .....		XXX			0.0000		0.0137		0.0137	
83.		Other Invested Assets - Schedule BA .....		XXX			0.0000		0.1580		0.1580	
84.		Other Short-Term Invested Assets - Schedule DA .....		XXX			0.0000		0.1580		0.1580	
85.		Total All Other (Sum of Lines 81, 82, 83 and 84) .....		XXX			XXX		XXX		XXX	
86.		Total Other Invested Assets - Schedules BA & DA (Sum of Lines 29, 37, 64, 70, 74, 80 and 85)					XXX		XXX		XXX	

(a) Times the company's weighted average portfolio beta (Minimum .1215, Maximum .2431).  
 (b) Determined using the same factors and breakdowns used for directly owned real estate.  
 (c) This will be the factor associated with the risk category determined in the company generated worksheet.

Asset Valuation Reserve - Replications (Synthetic) Assets

**NONE**

Schedule F - Claims

**NONE**

Schedule H - Part 1 - Analysis of Underwriting Operations

**NONE**

Schedule H - Part 2 - Reserves and Liabilities

**NONE**

Schedule H - Part 3 - Test of Prior Year's Claim Reserves and Liabilities

**NONE**

Schedule H - Part 4 - Reinsurance

**NONE**

Schedule H - Part 5 - Health Claims

**NONE**

Schedule S - Part 1 - Section 1

**NONE**

Schedule S - Part 1 - Section 2

**NONE**



ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE S - PART 2**

Reinsurance Recoverable on Paid and Unpaid Losses Listed by Reinsuring Company as of December 31, Current Year

1 NAIC Company Code	2 ID Number	3 Effective Date	4 Name of Company	5 Domiciliary Jurisdiction	6 Paid Losses	7 Unpaid Losses
65935	04-1590850	09/07/1983	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	MA		1,030,615
65935	04-1590850	01/01/2000	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	MA	3,314,975	6,210,180
0299999. Life and Annuity - U.S. Affiliates - Other					3,314,975	7,240,795
0399999. Total Life and Annuity - U.S. Affiliates					3,314,975	7,240,795
0699999. Total Life and Annuity - Non-U.S. Affiliates						
0799999. Total Life and Annuity - Affiliates					3,314,975	7,240,795
86258	13-2572994	02/08/1999	GENERAL RE LIFE CORPORATION (CO81)	CT	31,360	227,562
65676	35-0472300	02/08/1999	LINCOLN NATIONAL LIFE INSURANCE COMPANY (LN81)	IN	70,091	325,430
66346	58-0828824	02/08/1999	MUNICH AMERICAN REASSURANCE COMPANY (MU81)	GA	116,678	516,013
66346	58-0828824	01/01/1999	MUNICH AMERICAN REASSURANCE COMPANY (MU82)	GA	59,830	345,013
93572	43-1235868	01/01/1999	RG A REINSURANCE COMPANY (AZ82)	MO	12,533	410,612
93572	43-1235868	02/08/1999	RG A REINSURANCE COMPANY (GA81)	MO	40,114	325,430
82627	06-0839705	12/31/2016	SWISS RE LIFE & HEALTH AMERICA INC. (SR16)	MO	4,069,633	3,773,824
0899999. Life and Annuity - U.S. Non-Affiliates					4,400,239	5,923,884
1099999. Total Life and Annuity - Non-Affiliates					4,400,239	5,923,884
1199999. Total Life and Annuity					7,715,214	13,164,679
1499999. Total Accident and Health - U.S. Affiliates						
1799999. Total Accident and Health - Non-U.S. Affiliates						
1899999. Total Accident and Health - Affiliates						
2199999. Total Accident and Health - Non-Affiliates						
2299999. Total Accident and Health						
2399999. Total U.S. (Sum of 0399999, 0899999, 1499999 and 1999999)					7,715,214	13,164,679
2499999. Total Non-U.S. (Sum of 0699999, 0999999, 1799999 and 2099999)						
9999999 Totals - Life, Annuity and Accident and Health					7,715,214	13,164,679

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE S - PART 3 - SECTION 1**

Reinsurance Ceded Life Insurance, Annuities, Deposit Funds and Other Liabilities Without Life or Disability Contingencies, and Related Benefits Listed by Reinsuring Company as of December 31, Current Year

1 NAIC Company Code	2 ID Number	3 Effective Date	4 Name of Company	5 Domi- ciliary Juris- diction	6 Type of Reinsurance Ceded	7 Type of Business Ceded	8 Amount in Force at End of Year	Reserve Credit Taken		11 Premiums	Outstanding Surplus Relief		14 Modified Coinsurance Reserve	15 Funds Withheld Under Coinsurance
								9 Current Year	10 Prior Year		12 Current Year	13 Prior Year		
65935	04-1590850	09/07/1983	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	MA	YRT/I	OL	301,481,117	4,553,030	4,569,858	5,294,341				
65935	04-1590850	01/01/1997	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	MA	OTH/I	OL				110,736				
0299999. General Account - Authorized U.S. Affiliates - Other							301,481,117	4,553,030	4,569,858	5,405,077				
0399999. Total General Account - Authorized U.S. Affiliates							301,481,117	4,553,030	4,569,858	5,405,077				
0699999. Total General Account - Authorized Non-U.S. Affiliates														
0799999. Total General Account - Authorized Affiliates							301,481,117	4,553,030	4,569,858	5,405,077				
80659	82-453188	03/01/1996	CANADA LIFE ASSURANCE COMPANY (CR57)	MI	YRT/I	OL	624,602	2,730	2,761	2,463				
86258	13-2572994	02/08/1999	GENERAL RE LIFE CORPORATION (CO81)	CT	YRT/I	OL	201,789,627	1,984,339	1,965,697	1,257,478				
65676	35-0472300	01/05/1983	LINCOLN NATIONAL LIFE INSURANCE COMPANY (LN16)	IN	YRT/I	OL	2,665,558	11,648	11,784	11,434				
65676	35-0472300	02/08/1999	LINCOLN NATIONAL LIFE INSURANCE COMPANY (LN81)	IN	YRT/I	OL	306,305,799	3,012,213	2,983,894	1,883,643				
66346	58-0828824	05/01/1994	MUNICH AMERICAN REASSURANCE COMPANY (CA48)	GA	YRT/I	OL	178,890	782	791	644				
66346	58-0828824	02/08/1999	MUNICH AMERICAN REASSURANCE COMPANY (MU81)	GA	YRT/I	OL	509,905,563	5,014,336	4,967,308	2,903,577				
66346	58-0828824	01/01/1999	MUNICH AMERICAN REASSURANCE COMPANY (MU82)	GA	YRT/I	OL	135,313,796	1,485,346	1,638,321	901,651				
93572	43-1235868	05/01/1994	RGA REINSURANCE COMPANY (AZ51)	MO	YRT/I	OL	696,955	3,046	3,081	2,459				
93572	43-1235868	01/01/1999	RGA REINSURANCE COMPANY (AZ82)	MO	YRT/I	OL	162,601,479	1,784,640	1,968,328	1,380,983				
93572	43-1235868	02/08/1999	RGA REINSURANCE COMPANY (GA81)	MO	YRT/I	OL	306,305,799	3,012,213	2,983,894	1,852,355				
82627	06-0839705	12/31/2016	SWISS RE LIFE & HEALTH AMERICA INC. (SR16V)	MO	MCO/I	OL	2,028,408,946			12,032,175	24,399,563	26,008,991	127,043,147	
82627	06-0839705	03/01/1996	SWISS RE LIFE & HEALTH AMERICA INC. (SR59)	MO	YRT/I	OL	3,481,084	15,212	15,390	16,858				
0899999. General Account - Authorized U.S. Non-Affiliates							3,658,278,098	16,326,505	16,541,249	22,245,720	24,399,563	26,008,991	127,043,147	
1099999. Total General Account - Authorized Non-Affiliates							3,658,278,098	16,326,505	16,541,249	22,245,720	24,399,563	26,008,991	127,043,147	
1199999. Total General Account Authorized							3,959,759,215	20,879,535	21,111,107	27,650,797	24,399,563	26,008,991	127,043,147	
1499999. Total General Account - Unauthorized U.S. Affiliates														
1799999. Total General Account - Unauthorized Non-U.S. Affiliates														
1899999. Total General Account - Unauthorized Affiliates														
2199999. Total General Account - Unauthorized Non-Affiliates														
2299999. Total General Account Unauthorized														
2599999. Total General Account - Certified U.S. Affiliates														
2899999. Total General Account - Certified Non-U.S. Affiliates														
2999999. Total General Account - Certified Affiliates														
3299999. Total General Account - Certified Non-Affiliates														
3399999. Total General Account Certified														
3699999. Total General Account - Reciprocal Jurisdiction U.S. Affiliates														
3999999. Total General Account - Reciprocal Jurisdiction Non-U.S. Affiliates														
4099999. Total General Account - Reciprocal Jurisdiction Affiliates														
4399999. Total General Account - Reciprocal Jurisdiction Non-Affiliates														
4499999. Total General Account Reciprocal Jurisdiction														
4599999. Total General Account Authorized, Unauthorized, Reciprocal Jurisdiction and Certified							3,959,759,215	20,879,535	21,111,107	27,650,797	24,399,563	26,008,991	127,043,147	
65935	04-1590850	01/01/2000	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	MA	MCO/G	OL	2,213,004,635			310,873			1,194,059,693	
4799999. Separate Accounts - Authorized U.S. Affiliates - Other							2,213,004,635			310,873				1,194,059,693
4899999. Total Separate Accounts - Authorized U.S. Affiliates							2,213,004,635			310,873				1,194,059,693
5199999. Total Separate Accounts - Authorized Non-U.S. Affiliates														
5299999. Total Separate Accounts - Authorized Affiliates							2,213,004,635			310,873				1,194,059,693
82627	06-0839705	12/31/2016	SWISS RE LIFE & HEALTH AMERICA INC. (SR16V)	MO	MCO/I	OL							964,714,878	
5399999. Separate Accounts - Authorized U.S. Non-Affiliates														964,714,878
5599999. Total Separate Accounts - Authorized Non-Affiliates														964,714,878
5699999. Total Separate Accounts Authorized							2,213,004,635			310,873				2,158,774,571
5999999. Total Separate Accounts - Unauthorized U.S. Affiliates														
6299999. Total Separate Accounts - Unauthorized Non-U.S. Affiliates														
6399999. Total Separate Accounts - Unauthorized Affiliates														
6699999. Total Separate Accounts - Unauthorized Non-Affiliates														
6799999. Total Separate Accounts Unauthorized														
7099999. Total Separate Accounts - Certified U.S. Affiliates														
7399999. Total Separate Accounts - Certified Non-U.S. Affiliates														

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE S - PART 3 - SECTION 1**

Reinsurance Ceded Life Insurance, Annuities, Deposit Funds and Other Liabilities Without Life or Disability Contingencies, and Related Benefits Listed by Reinsuring Company as of December 31, Current Year

1 NAIC Company Code	2 ID Number	3 Effective Date	4 Name of Company	5 Domi- ciliary Juris- diction	6 Type of Reinsurance Ceded	7 Type of Business Ceded	8 Amount in Force at End of Year	Reserve Credit Taken		11 Premiums	Outstanding Surplus Relief		14 Modified Coinsurance Reserve	15 Funds Withheld Under Coinsurance
								9 Current Year	10 Prior Year		12 Current Year	13 Prior Year		
7499999. Total Separate Accounts - Certified Affiliates														
7799999. Total Separate Accounts - Certified Non-Affiliates														
7899999. Total Separate Accounts Certified														
8199999. Total Separate Accounts - Reciprocal Jurisdiction U.S. Affiliates														
8499999. Total Separate Accounts - Reciprocal Jurisdiction Non-U.S. Affiliates														
8599999. Total Separate Accounts - Reciprocal Jurisdiction Affiliates														
8899999. Total Separate Accounts - Reciprocal Jurisdiction Non-Affiliates														
8999999. Total Separate Accounts Reciprocal Jurisdiction														
9099999. Total Separate Accounts Authorized, Unauthorized, Reciprocal Jurisdiction and Certified														
9199999. Total U.S. (Sum of 0399999, 0899999, 1499999, 1999999, 2599999, 3099999, 3699999, 4199999, 4899999, 5399999, 5999999, 6499999, 7099999, 7599999, 8199999 and 8699999)														
9299999. Total Non-U.S. (Sum of 0699999, 0999999, 1799999, 2099999, 2899999, 3199999, 3999999, 4299999, 5199999, 5499999, 6299999, 6599999, 7399999, 7699999, 8499999 and 8799999)														
9999999 - Totals														

Schedule S - Part 3 - Section 2

**NONE**

Schedule S - Part 4

**NONE**

Schedule S - Part 4 - Bank Footnote

**NONE**

Schedule S - Part 5

**NONE**

Schedule S - Part 5 - Bank Footnote

**NONE**

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE S - PART 6**

Five Year Exhibit of Reinsurance Ceded Business  
(\$000 Omitted)

	1 2021	2 2020	3 2019	4 2018	5 2017
<b>A. OPERATIONS ITEMS</b>					
1. Premiums and annuity considerations for life and accident and health contracts .....	27,962	29,056	29,332	28,813	35,634
2. Commissions and reinsurance expense allowances .....	10,397	10,227	10,093	10,345	9,250
3. Contract claims .....	50,234	47,279	37,361	37,107	42,255
4. Surrender benefits and withdrawals for life contracts .....	43,102	36,102	45,341	44,165	43,051
5. Dividends to policyholders and refunds to members .....					
6. Reserve adjustments on reinsurance ceded .....	(78,830)	(70,013)	(72,165)	(71,779)	(70,296)
7. Increase in aggregate reserve for life and accident and health contracts .....	(232)	18	(345)	(1,021)	(625)
<b>B. BALANCE SHEET ITEMS</b>					
8. Premiums and annuity considerations for life and accident and health contracts deferred and uncollected .....	1,171	(603)	(831)	(437)	2,549
9. Aggregate reserves for life and accident and health contracts .....	20,880	21,111	21,093	21,438	22,458
10. Liability for deposit-type contracts .....					
11. Contract claims unpaid .....	13,165	12,447	4,565	7,081	14,323
12. Amounts recoverable on reinsurance .....	7,715	7,479	1,679	4,130	4,375
13. Experience rating refunds due or unpaid .....	2,633	2,943	3,718	3,248	420
14. Policyholders' dividends and refunds to members (not included in Line 10) .....					
15. Commissions and reinsurance expense allowances due .....	26,673	28,453	12,590	8,312	14,776
16. Unauthorized reinsurance offset .....					
17. Offset for reinsurance with Certified Reinsurers .....					
<b>C. UNAUTHORIZED REINSURANCE (DEPOSITS BY AND FUNDS WITHHELD FROM)</b>					
18. Funds deposited by and withheld from (F) .....					
19. Letters of credit (L) .....					
20. Trust agreements (T) .....					
21. Other (O) .....					
<b>D. REINSURANCE WITH CERTIFIED REINSURERS (DEPOSITS BY AND FUNDS WITHHELD FROM)</b>					
22. Multiple Beneficiary Trust .....					
23. Funds deposited by and withheld from (F) .....					
24. Letters of credit (L) .....					
25. Trust agreements (T) .....					
26. Other (O) .....					

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE S - PART 7**

Restatement of Balance Sheet to Identify Net Credit for Ceded Reinsurance

	1 As Reported (net of ceded)	2 Restatement Adjustments	3 Restated (gross of ceded)
<b>ASSETS (Page 2, Col. 3)</b>			
1. Cash and invested assets (Line 12) .....	432,281,526		432,281,526
2. Reinsurance (Line 16) .....	48,933,552	(48,933,552)	
3. Premiums and considerations (Line 15) .....	(3,803,929)	1,171,411	(2,632,518)
4. Net credit for ceded reinsurance .....	XXX	65,081,185	65,081,185
5. All other admitted assets (balance) .....	10,604,600		10,604,600
6. Total assets excluding Separate Accounts (Line 26) .....	488,015,749	17,319,043	505,334,792
7. Separate Account assets (Line 27) .....	4,974,831,570		4,974,831,570
8. Total assets (Line 28) .....	5,462,847,319	17,319,043	5,480,166,362
<b>LIABILITIES, CAPITAL AND SURPLUS (Page 3)</b>			
9. Contract reserves (Lines 1 and 2) .....	143,285,875	20,879,534	164,165,409
10. Liability for deposit-type contracts (Line 3) .....	15,980,530		15,980,530
11. Claim reserves (Line 4) .....	9,928,290	13,164,679	23,092,969
12. Policyholder dividends/member refunds/reserves (Lines 5 through 7) .....			
13. Premium & annuity considerations received in advance (Line 8) .....			
14. Other contract liabilities (Line 9) .....	28,043,510	(16,781,392)	11,262,118
15. Reinsurance in unauthorized companies (Line 24.02 minus inset amount) .....			
16. Funds held under reinsurance treaties with unauthorized reinsurers (Line 24.03 minus inset amount) .....			
17. Reinsurance with Certified Reinsurers (Line 24.02 inset amount) .....			
18. Funds held under reinsurance treaties with Certified Reinsurers (Line 24.03 inset amount) .....			
19. All other liabilities (balance) .....	25,347,954	56,222	25,404,176
20. Total liabilities excluding Separate Accounts (Line 26) .....	222,586,158	17,319,043	239,905,202
21. Separate Account liabilities (Line 27) .....	4,974,831,570		4,974,831,570
22. Total liabilities (Line 28) .....	5,197,417,728	17,319,043	5,214,736,772
23. Capital & surplus (Line 38) .....	265,429,591	XXX	265,429,591
24. Total liabilities, capital & surplus (Line 39) .....	5,462,847,319	17,319,043	5,480,166,362
<b>NET CREDIT FOR CEDED REINSURANCE</b>			
25. Contract reserves .....	20,879,534		
26. Claim reserves .....	13,164,679		
27. Policyholder dividends/reserves .....			
28. Premium & annuity considerations received in advance .....			
29. Liability for deposit-type contracts .....			
30. Other contract liabilities .....	(16,781,392)		
31. Reinsurance ceded assets .....	48,933,552		
32. Other ceded reinsurance recoverables .....			
33. Total ceded reinsurance recoverables .....	66,196,374		
34. Premiums and considerations .....	1,171,411		
35. Reinsurance in unauthorized companies .....			
36. Funds held under reinsurance treaties with unauthorized reinsurers .....			
37. Reinsurance with Certified Reinsurers .....			
38. Funds held under reinsurance treaties with Certified Reinsurers .....			
39. Other ceded reinsurance payables/offsets .....	(56,222)		
40. Total ceded reinsurance payable/offsets .....	1,115,189		
41. Total net credit for ceded reinsurance .....	65,081,185		

**ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company**  
**SCHEDULE T - PREMIUMS AND ANNUITY CONSIDERATIONS (b)**

Allocated by States and Territories

States, Etc.	1	Direct Business Only					7
		Life Contracts		4	5	6	
	Active Status (a)	2	3				Accident and Health Insurance Premiums, Including Policy, Membership and Other Fees
		Life Insurance Premiums	Annuity Considerations				
1. Alabama	AL	L	161,928			161,928	
2. Alaska	AK	L	7,146			7,146	
3. Arizona	AZ	L	728,179			728,179	
4. Arkansas	AR	L	85,846			85,846	
5. California	CA	L	3,298,144			3,298,144	
6. Colorado	CO	L	548,058			548,058	
7. Connecticut	CT	L	706,840			706,840	
8. Delaware	DE	L	101,308			101,308	
9. District of Columbia	DC	L	382,273			382,273	
10. Florida	FL	L	1,751,542			1,751,542	
11. Georgia	GA	L	545,915			545,915	
12. Hawaii	HI	L	167,067			167,067	
13. Idaho	ID	L	69,792			69,792	
14. Illinois	IL	L	992,740			992,740	
15. Indiana	IN	L	374,037			374,037	
16. Iowa	IA	L	393,502	1,800		395,302	
17. Kansas	KS	L	228,797			228,797	
18. Kentucky	KY	L	199,353			199,353	
19. Louisiana	LA	L	282,379			282,379	
20. Maine	ME	L	141,077			141,077	
21. Maryland	MD	L	783,318			783,318	
22. Massachusetts	MA	L	856,556			856,556	
23. Michigan	MI	L	1,673,275	6,000		1,679,275	
24. Minnesota	MN	L	370,712			370,712	
25. Mississippi	MS	L	193,724			193,724	
26. Missouri	MO	L	425,208			425,208	
27. Montana	MT	L	181,163			181,163	
28. Nebraska	NE	L	297,603	7,000		304,603	
29. Nevada	NV	L	251,669			251,669	
30. New Hampshire	NH	L	124,507			124,507	
31. New Jersey	NJ	L	1,236,640			1,236,640	
32. New Mexico	NM	L	83,857			83,857	
33. New York	NY	N	124,976			124,976	
34. North Carolina	NC	L	1,081,405			1,081,405	
35. North Dakota	ND	L	6,752			6,752	
36. Ohio	OH	L	1,029,113			1,029,113	
37. Oklahoma	OK	L	692,479			692,479	
38. Oregon	OR	L	292,338			292,338	
39. Pennsylvania	PA	L	1,585,548			1,585,548	
40. Rhode Island	RI	L	185,362			185,362	
41. South Carolina	SC	L	548,188			548,188	
42. South Dakota	SD	L	24,770			24,770	
43. Tennessee	TN	L	501,235			501,235	
44. Texas	TX	L	2,154,839			2,154,839	
45. Utah	UT	L	321,668			321,668	
46. Vermont	VT	L	70,697	1,200		71,897	
47. Virginia	VA	L	1,645,794			1,645,794	
48. Washington	WA	L	540,791			540,791	
49. West Virginia	WV	L	148,524			148,524	
50. Wisconsin	WI	L	279,486			279,486	
51. Wyoming	WY	L	21,142			21,142	
52. American Samoa	AS	N					
53. Guam	GU	N					
54. Puerto Rico	PR	N					
55. U.S. Virgin Islands	VI	N					
56. Northern Mariana Islands	MP	N					
57. Canada	CAN	N	2,820			2,820	
58. Aggregate Other Alien	OT	XXX	52,688			52,688	
59. Subtotal	XXX		28,954,770	16,000		28,970,770	
90. Reporting entity contributions for employee benefits plans	XXX						
91. Dividends or refunds applied to purchase paid-up additions and annuities	XXX						
92. Dividends or refunds applied to shorten endowment or premium paying period	XXX						
93. Premium or annuity considerations waived under disability or other contract provisions	XXX		386,287			386,287	
94. Aggregate or other amounts not allocable by State	XXX						
95. Totals (Direct Business)	XXX		29,341,057	16,000		29,357,057	
96. Plus reinsurance assumed	XXX						
97. Totals (All Business)	XXX		29,341,057	16,000		29,357,057	
98. Less reinsurance ceded	XXX		26,187,005			26,187,005	
99. Totals (All Business) less Reinsurance Ceded	XXX		3,154,052	16,000	(c)	3,170,052	
<b>DETAILS OF WRITE-INS</b>							
58001. ZZZ Other Alien	XXX		52,688			52,688	
58002.	XXX						
58003.	XXX						
58998. Summary of remaining write-ins for Line 58 from overflow page	XXX						
58999. Totals (Lines 58001 through 58003 plus 58998)(Line 58 above)	XXX		52,688			52,688	
9401.	XXX						
9402.	XXX						
9403.	XXX						
9498. Summary of remaining write-ins for Line 94 from overflow page	XXX						
9499. Totals (Lines 9401 through 9403 plus 9498)(Line 94 above)	XXX						

(a) Active Status Counts:

L - Licensed or Chartered - Licensed insurance carrier or domiciled RRG .....50 R - Registered - Non-domiciled RRGs.....  
E - Eligible - Reporting entities eligible or approved to write surplus lines in the state..... Q - Qualified - Qualified or accredited reinsurer.....  
N - None of the above - Not allowed to write business in the state.....7

(b) Explanation of basis of allocation by states, etc., of premiums and annuity considerations

Individual insurance premiums and annuity considerations - allocated to the states in which the policyholder resides (based on Company records when the premium is received). Group premiums - allocated consistent with the 500 lives rule.

(c) Column 4 should balance with Exhibit 1, Lines 6.4, 10.4, and 16.4, Cols. 8, 9, 10, or with Schedule H, Part 1, Line 1, indicate which: Exhibit 1, Lines 6.4, 10.4, and 16.4, Cols. 8, 9, 10.

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE T - PART 2**  
**INTERSTATE COMPACT - EXHIBIT OF PREMIUMS WRITTEN**

Allocated by States and Territories

		Direct Business Only					6 Totals
		1 Life (Group and Individual)	2 Annuities (Group and Individual)	3 Disability Income (Group and Individual)	4 Long-Term Care (Group and Individual)	5 Deposit-Type Contracts	
States, Etc.							
1. Alabama	AL	161,928					161,928
2. Alaska	AK	7,146					7,146
3. Arizona	AZ	728,179					728,179
4. Arkansas	AR	85,846					85,846
5. California	CA	3,298,144					3,298,144
6. Colorado	CO	548,058					548,058
7. Connecticut	CT	706,840					706,840
8. Delaware	DE	101,308					101,308
9. District of Columbia	DC	382,273					382,273
10. Florida	FL	1,751,542					1,751,542
11. Georgia	GA	545,915					545,915
12. Hawaii	HI	167,067					167,067
13. Idaho	ID	69,792					69,792
14. Illinois	IL	992,740					992,740
15. Indiana	IN	374,037					374,037
16. Iowa	IA	393,502	1,800				395,302
17. Kansas	KS	228,797					228,797
18. Kentucky	KY	199,353					199,353
19. Louisiana	LA	282,379					282,379
20. Maine	ME	141,077					141,077
21. Maryland	MD	783,318					783,318
22. Massachusetts	MA	856,556					856,556
23. Michigan	MI	1,673,275	6,000				1,679,275
24. Minnesota	MN	370,712					370,712
25. Mississippi	MS	193,724					193,724
26. Missouri	MO	425,208					425,208
27. Montana	MT	181,163					181,163
28. Nebraska	NE	297,603	7,000				304,603
29. Nevada	NV	251,669					251,669
30. New Hampshire	NH	124,507					124,507
31. New Jersey	NJ	1,236,640					1,236,640
32. New Mexico	NM	83,857					83,857
33. New York	NY	124,976					124,976
34. North Carolina	NC	1,081,405					1,081,405
35. North Dakota	ND	6,752					6,752
36. Ohio	OH	1,029,113					1,029,113
37. Oklahoma	OK	692,479					692,479
38. Oregon	OR	292,338					292,338
39. Pennsylvania	PA	1,585,548					1,585,548
40. Rhode Island	RI	185,362					185,362
41. South Carolina	SC	548,188					548,188
42. South Dakota	SD	24,770					24,770
43. Tennessee	TN	501,235					501,235
44. Texas	TX	2,154,839					2,154,839
45. Utah	UT	321,668					321,668
46. Vermont	VT	70,697	1,200				71,897
47. Virginia	VA	1,645,794					1,645,794
48. Washington	WA	540,791					540,791
49. West Virginia	WV	148,524					148,524
50. Wisconsin	WI	279,486					279,486
51. Wyoming	WY	21,142					21,142
52. American Samoa	AS						
53. Guam	GU						
54. Puerto Rico	PR						
55. U.S. Virgin Islands	VI						
56. Northern Mariana Islands	MP						
57. Canada	CAN	2,820					2,820
58. Aggregate Other Alien	OT	52,688					52,688
59. Total		28,954,770	16,000				28,970,770



**SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP**  
PART 1 – ORGANIZATIONAL CHART

The following entities are general partner level or above of **Massachusetts Mutual Life Insurance Company** (Parent)

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
<b>MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY</b>	04-1590850	65935	Massachusetts
<b>Direct &amp; Indirect Owned Subsidiaries:</b>			
C.M. Life Insurance Company	06-1041383	93432	Connecticut
MML Bay State Life Insurance Company	43-0581430	70416	Connecticut
CML Mezzanine Investor III, LLC	06-1041383		Delaware
CML Special Situations Investor LLC	None		Delaware
CML Global Capabilities LLC	None		Delaware
MM Global Capabilities I LLC	None		Delaware
MassMutual Global Business Services India LLP	None		India
MM Global Capabilities (Netherlands) B.V.	None		Netherlands
MassMutual Global Business Services Romania S.R.L.	None		Romania
MM Global Capabilities II LLC	None		Delaware
MM Global Capabilities I II LLC	None		Delaware
MM/Barings Multifamily TEBS 2020 LLC	None		Delaware
Berkshire Way LLC	04-1590850		Delaware
MML Special Situations Investor LLC	None		Delaware
Timberland Forest Holding LLC	47-5322979		Delaware
Lyme Adirondack Forest Company, LLC	None		Delaware
Lyme Adirondack Timberlands I, LLC	None		Delaware
Lyme Adirondack Timberlands II, LLC	None		Delaware
Lyme Adirondack Timber Sales, LLC	None		Delaware
MSP-SC, LLC	04-1590850		Delaware
Insurance Road LLC	04-1590850		Delaware
MassMutual Trad Private Equity LLC	04-1590850		Delaware
MassMutual Intellectual Property LLC	04-1590850		Delaware
Trad Investments I LLC	None		Delaware
MassMutual Private Equity Funds LLC	04-1590850		Delaware
MassMutual Private Equity Funds Subsidiary LLC	04-1590850		Delaware
ITPS Holding LLC	None		Delaware
HITPS LLC	None		Delaware
EM Opportunities LLC	None		Delaware
MassMutual MCAM Insurance Company, Inc.	None		Vermont
JFIN Parent LLC	None		Delaware
Jefferies Finance LLC	27-0105644		Delaware
JFIN GP Adviser LLC	None		Delaware
JFIN Fund III LLC	None		Delaware
Jefferies Credit Partners LLC	None		Delaware
APEX Credit Partners LLC	None		Delaware
JFAM GP LLC	None		Delaware

**SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP**  
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
JFAM GP LP	None		Delaware
Jefferies Direct Lending Fund C LP	None		Delaware
Jefferies DLF C Holdings LLC	None		Delaware
Jefferies Direct Lending Fund C SPE LLC	None		Delaware
Jefferies Senior Lending LLC	None		Delaware
JFIN Revolver Holdings LLC	None		Delaware
JFIN Revolver Holdings II LLC	None		Delaware
JFIN Co-Issuer Corporation	None		Delaware
JFIN Europe GP, S.a.r.l.	None		Luxembourg
Jefferies Finance Europe, S.L.P.	None		Luxembourg
Jefferies Finance Europe, SCSp	None		Luxembourg
Jefferies Finance Business Credit LLC	None		Delaware
JFIN Business Credit Fund I LLC	None		Delaware
JFIN Funding 2021 LLC	None		Delaware
JFIN High Yield Investments LLC	None		Delaware
JFIN LC Fund LLC	None		Delaware
JFIN Revolver CLO 2017 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017-III Ltd.	None		Cayman Islands
JFIN Revolver CLO 2018 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2019 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2019-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2020 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2021-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2021-V Ltd.	None		Cayman Islands
JFIN Revolver Fund, L.P.	None		Delaware
JFIN Revolver Funding 2021 Ltd.	None		Delaware
JFIN Revolver Funding 2021-III Ltd.	None		Delaware
JFIN Revolver Funding 2021-IV Ltd.	None		Delaware
Apex Credit Holdings LLC	None		Delaware
JFIN CLO 2012 Ltd.	None		Cayman Islands
JFIN CLO 2013 Ltd.	None		Cayman Islands
JFIN CLO 2014 Ltd.	None		Cayman Islands
JFIN CLO 2014-II Ltd.	None		Cayman Islands
JFIN CLO 2015 Ltd.	None		Cayman Islands
JFIN CLO 2015-II Ltd.	None		Cayman Islands
JFIN CLO 2016 Ltd.	None		Cayman Islands
JFIN CLO 2017 Ltd.	None		Cayman Islands
JFIN CLO 2017 II Ltd.	None		Cayman Islands

**SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP**  
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Glidepath Holdings Inc.	86-2294635		Delaware
Great American Life Insurance Company	13-1935920	63312	Ohio
AAG Insurance Agency, LLC	31-1422717		Kentucky
Annuity Investors Life Insurance Company	31-1021738	93661	Ohio
Great American Advisors, LLC	31-1395344		Ohio
Manhattan National Holding LLC	26-3260520		Ohio
Manhattan National Life Insurance Company	45-0252531	67083	Ohio
MassMutual Mortgage Lending LLC	None		Delaware
MM Copper Hill Road LLC	04-1590850		Delaware
MM Direct Private Investments Holding LLC	None		Delaware
MM Direct Private Investments UK Limited	None		United Kingdom
MM Investment Holding	None		Cayman Islands
MassMutual Asset Finance LLC	26-0073611		Delaware
MMAF Equipment Finance LLC 2013-A	90-1005837		Delaware
MMAF Equipment Finance LLC 2014-A	36-4785301		Delaware
MMAF Equipment Finance LLC 2015-A	38-3969560		Delaware
MMAF Equipment Finance LLC 2016-A	32-0489588		Delaware
MMAF Equipment Finance LLC 2017-A	35-2590691		Delaware
MMAF Equipment Finance LLC 2017-B	32-0546197		Delaware
MMAF Equipment Finance LLC 2018-A	82-5335801		Delaware
MMAF Equipment Finance LLC 2019-A	83-3722640		Delaware
MMAF Equipment Finance LLC 2019-B	None		Delaware
MMAF Equipment Finance LLC 2021-A	None		Delaware
Rozier LLC	None		Delaware
MML Management Corporation	04-2443240		Massachusetts
MassMutual International Holding MSC, Inc.	04-3548444		Massachusetts
MassMutual Holding MSC, Inc.	04-3341767		Massachusetts
MML CM LLC	None		Delaware
Blueprint Income LLC	None		New York
Flourish Digital Assets LLC	None		Delaware
Flourish Financial LLC	None		Delaware
Flourish Technologies LLC	None		Delaware
MML Distributors LLC	04-3356880		Massachusetts
MML Investment Advisers, LLC	None		Delaware
MML Strategic Distributors, LLC	46-3238013		Delaware
The MassMutual Trust Company, FSB	06-1563535		Connecticut
MML Private Placement Investment Company I, LLC	04-1590850		Delaware
MML Private Equity Fund Investor LLC	04-1590850		Delaware
MM Private Equity Intercontinental LLC	04-1590850		Delaware
Pioneers Gate LLC	45-2738137		Delaware
MassMutual Holding LLC	04-2854319		Delaware
Fern Street LLC	37-1732913		Delaware

**SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP**  
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Sleeper Street LLC	None		Delaware
Haven Life Insurance Agency, LLC	46-2252944		Delaware
MassMutual Assignment Company	06-1597528		North Carolina
MassMutual Capital Partners LLC	04-1590850		Delaware
MassMutual Ventures Holding LLC	None		Delaware
Athens Fund Management LLC	None		Delaware
Crane Venture Partners LLP	None		United Kingdom
MassMutual Ventures Management LLC	None		Delaware
MassMutual Ventures SEA Management Private Limited	None		Singapore
MassMutual Ventures Southeast Asia I LLC	None		Delaware
MassMutual Ventures Southeast Asia II LLC	None		Delaware
MassMutual Ventures UK LLC	None		Delaware
MassMutual Ventures US I LLC	47-1296410		Delaware
MassMutual Ventures US II LLC	None		Delaware
MassMutual Ventures US III LLC	None		Delaware
MassMutual Ventures US IV LLC	None		Delaware
Open Alternatives LLC	None		Delaware
MM Catalyst Fund LLC	None		Delaware
MM Rothesay Holdco US LLC	04-1590850		Delaware
Rothesay Limited	None		United Kingdom
Rothesay Life Plc	None		United Kingdom
Rothesay MA No.1 Limited	None		United Kingdom
Rothesay MA No.2 Limited	None		United Kingdom
Rothesay MA No.3 Limited	None		United Kingdom
Rothesay MA No.4 Limited	None		United Kingdom
LT Mortgage Finance Limited	None		United Kingdom
Rothesay Property Partnership 1 LLP	None		United Kingdom
Rothesay Foundation	None		United Kingdom
Rothesay Pensions Management Limited	None		United Kingdom
Rothesay Asset Management UK Limited	None		United Kingdom
Rothesay Asset Management Australia Pty Ltd	None		Australia
Rothesay Asset Management US LLC	None		Delaware
MML Investors Services, LLC	04-1590850		Massachusetts
MML Insurance Agency, LLC	04-1590850		Massachusetts
MMLISI Financial Alliances, LLC	41-2011634		Delaware
LifeScore Labs, LLC	47-1466022		Massachusetts
MM Asset Management Holding LLC	45-4000072		Delaware
Barings LLC	51-0504477		Delaware
Baring Asset Management (Asia) Holdings Limited	98-0524271		Hong Kong, Special Administrative Region of China
Baring International Fund Managers (Bermuda) Limited	98-0457465		Bermuda
Baring Asset Management (Asia) Limited	98-0457463		Hong Kong, Special Administrative Region of China

# SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP

## PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Baring Asset Management Korea Limited	None		Korea
Barings Investment Management (Shanghai) Limited	None		Hong Kong, Special Administrative Region of China
Barings Overseas Investment Fund Management (Shanghai) Limited	None		Hong Kong, Special Administrative Region of China
Baring SICE (Taiwan) Limited	98-0457707		Taiwan ROC
Barings Singapore Pte. Ltd.	None		Singapore
Barings Japan Limited	98-0236449		Japan
Barings Australia Holding Company Pty Ltd	None		Australia
Barings Australia Pty Ltd	98-0457456		Australia
Barings Finance LLC	80-0875475		Delaware
BCF Europe Funding Limited	None		Ireland
BCF Senior Funding I LLC	None		Delaware
BCF Senior Funding I Designated Activity Company	None		Ireland
Barings Securities LLC	04-3238351		Delaware
Barings Guernsey Limited	98-0437588		Guernsey
Barings Europe Limited	None		United Kingdom
Barings Asset Management Spain SL	None		Spain
Barings Italy S.r.l.	None		Italy
Barings Sweden AB	None		Sweden
Barings Netherlands B.V.	None		Netherlands
Barings Real Estate UK Holdings Limited	None		Delaware
Barings Real Estate Advisers (Continental Europe) Limited	98-0654401		United Kingdom
Barings Real Estate GmbH	98-1194368		Germany
Baring Asset Management Limited	98-0241935		United Kingdom
Barings European Direct Lending 1 GP LLP	None		United Kingdom
Barings Global Advisors Limited	98-1012393		United Kingdom
Baring International Investment Limited	98-0457328		United Kingdom
Baring International Investment Management Holdings	98-0457587		United Kingdom
Baring Asset Management UK Holdings Limited	98-0457576		United Kingdom
Baring International Fund Managers (Ireland) Limited	98-0524272		Ireland
Baring Asset Management Switzerland Sàrl	None		Switzerland
Baring France SAS	98-0497550		France
Baring Fund Managers Limited	98-0457586		United Kingdom
BCGSS 2 GP LLP	None		United Kingdom
Baring Investment Services Limited	98-0457578		United Kingdom
Barings Core Fund Feeder I GP S.à.r.l.	None		Luxembourg
Barings Investment Fund (LUX) GP S.à r.l.	None		Luxembourg
Barings BME GP S.à.r.l.	None		United Kingdom
Barings GPC GP S.à.r.l.	None		Luxembourg
Barings European Core Property Fund GP Sà.r.l	None		United Kingdom
Barings Umbrella Fund (LUX) GP S.à.r.l.	None		Luxembourg
GPLF4(S) GP S.à r.l	None		Luxembourg

**SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP**  
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
PREIF Holdings Limited Partnership	None		United Kingdom
Barings (U.K.) Limited	98-0432153		United Kingdom
BMC Holdings DE LLC	None		Delaware
Barings Real Estate Advisers Inc.	04-3238351		California
CRA Aircraft Holding LLC	81-4258759		Delaware
Aland Royalty Holdings LP	None		Delaware
GASL Holdings LLC	None		Delaware
Intermodal Holding II LLC	46-2344300		Delaware
Novation Companies, Inc.	None		Maryland
Red Lake Ventures, LLC	46-5460309		Delaware
Remington L & W Holdings LLC	81-4065378		Connecticut
Tamiami Citrus, LLC	None		Delaware
Teaktree Acquisition, LLC	None		Delaware
Techquity, LP	None		Delaware
Validus Holding Company LLC	46-0687392		Delaware
Validus Pharmaceuticals LLC	None		Delaware
VGS Acquisition Holding, LLC	None		Delaware
Aland Royalty GP, LLC	None		Delaware
Alaska Future Fund GP, LLC	None		Delaware
BAI Funds SLP, LLC	None		Delaware
BAI GP, LLC	None		Delaware
Baring Asset-Based Income Fund (US) GP, LLC	None		Delaware
Barings CMS Fund GP, LLC	None		Delaware
Barings Hotel Opportunity Venture I GP, LLC	None		Delaware
Barings Investment Series LLC	None		Delaware
Barings Emerging Generation Fund GP, LLC	None		Delaware
Barings ERS PE Emerging Manager III GP, LLC	None		Delaware
Barings Global Investment Funds (U.S.) Management LLC	04-1590850		Delaware
Barings CLO Investment Partners GP, LLC	None		Delaware
Barings Core Property Fund GP LLC	None		Delaware
Barings Direct Lending GP Ltd.	None		Cayman Islands
Barings Emerging Generation Fund LP	84-3784245		Delaware
Barings Global Energy Infrastructure Advisors, LLC	None		Delaware
Barings Global Real Assets Fund GP, LLC	None		Delaware
Barings GPSF	None		Delaware
Barings North American Private Loan Fund Management, LLC	None		Delaware
Barings North American Private Loan Fund Management II, LLC	None		Delaware

# SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP

## PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Barings Small Business Fund LLC	84-5063008		Delaware
Benton Street Advisors, Inc.	98-0536233		Cayman Islands
BHOVI Incentive LLC	None		Delaware
BIG Real Estate Fund GP LLC	None		Delaware
BRECS VII GP LLC	None		Delaware
BREDIF GP LLC	None		Delaware
CHY Venture GP LLC	None		Delaware
CREF X GP LLC	None		Delaware
Great Lakes III GP, LLC	04-1590850		Delaware
Lake Jackson LLC	None		Delaware
Loan Strategies Management LLC	04-1590850		Delaware
Mezzco III LLC	41-2280126		Delaware
Mezzco IV LLC	80-0920285		Delaware
Mezzco Australia II LLC	None		Delaware
RECSA-NY GP LLC	None		Delaware
SBNP SIA II LLC	None		Delaware
SBNP SIA III LLC	None		Delaware
Somerset Special Opportunities Management LLC	04-1590850		Delaware
Amherst Long Term Holdings, LLC	None		Delaware
MassMutual International LLC	04-3313782		Delaware
MassMutual Solutions LLC	None		Delaware
Haven Technologies Asia Limited	None		Hong Kong
Yunfeng Financial Group Limited	None		Hong Kong
MassMutual Asia Limited (SPV)	None		Hong Kong
MML Mezzanine Investor II, LLC	04-1590850		Delaware
MML Mezzanine Investor III, LLC	04-1590850		Delaware
MassMutual External Benefits Group LLC	27-3576835		Delaware
<b>Other Affiliates &amp; Funds:</b>			
100 w. 3 <sup>rd</sup> Street LLC	04-1590850		Delaware
300 South Tryon Hotel LLC	82-2432216		Delaware
2160 Grand Manager LLC	04-1590850		Delaware
300 South Tryon LLC	04-1590850		Delaware
Almack Mezzanine Fund II Unleveraged LP	None		United Kingdom
Barings Affordable Housing Mortgage Fund I LLC	82-3468147		Delaware
Barings Affordable Housing Mortgage Fund II LLC	61-1902329		Delaware
Barings Affordable Housing Mortgage Fund III LLC	85-3036663		Delaware
Barings Asset-Based Income Fund (US) LP	36-4868350		Delaware
Barings Emerging Markets Corporate Bond Fund	None		Ireland
Barings European Real Estate Debt Income Fund	None		Luxembourg
Babson Capital Global Special Situation Credit Fund 2	98-1206017		Delaware

**SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP**  
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Babson Capital Loan Strategies Fund, L.P.	37-1506417		Delaware
Barings US High Yield Bond Fund	None		Ireland
Babson CLO Ltd. 2012-II	None		Cayman Islands
Babson CLO Ltd. 2013-I	None		Cayman Islands
Babson CLO Ltd. 2014-I	None		Cayman Islands
Babson CLO Ltd. 2015-I	None		Cayman Islands
Babson CLO Ltd. 2015-II	None		Cayman Islands
Babson CLO Ltd. 2016-I	None		Cayman Islands
Babson CLO Ltd. 2016-II	None		Cayman Islands
Barings CLO Ltd. 2017-I	None		Cayman Islands
Barings CLO 2018-III	None		Cayman Islands
Barings CLO 2018-IV	None		Cayman Islands
Barings CLO 2019-II	98-1473665		Cayman Islands
Barings CLO 2019-III	None		Cayman Islands
Barings CLO 2019-IV	None		Cayman Islands
Barings CLO 2020-I	None		Cayman Islands
Barings CLO 2020-II	None		Cayman Islands
Barings CLO 2020-III	None		Cayman Islands
Barings CLO 2020-IV	None		Cayman Islands
Barings CLO 2021-I	None		Cayman Islands
Barings CLO 2021-II	None		Cayman Islands
Babson Euro CLO 2014-I BV	None		Netherlands
Babson Euro CLO 2014-II BV	None		Netherlands
Babson Euro CLO 2015-I BV	None		Netherlands
Barings Euro CLO 2019-I	36037260H		Ireland
Barings Euro CLO 2019-II	None		Ireland
Barings Euro CLO 2020-I DAC	None		Ireland
Barings Euro CLO 2021-I DAC	3715576VH		Ireland
Barings Euro CLO 2021-II DAC	3750378QH		Ireland
Barings Global Em. Markets Equity Fund	82-5330194		North Carolina
Barings Global Energy Infrastructure Fund I LP	98-1332384		Cayman Islands
Barings Global Inv. Grade Strat Fund	None		Ireland
Barings Global Private Loan Fund	None		Luxembourg
Barings Global Real Assets Fund LP	82-3867745		Delaware
Barings Global Special Situations Credit Fund 3	None		Ireland
Barings Global Special Situations Credit 4 Delaware	85-1465973		Delaware
Barings Global Special Situations Credit 4 LUX	98-1570693		Luxembourg
Barings Hotel Opportunity Venture	87-0977058		Connecticut
Barings Innovations & Growth Real Estate Fund	86-3661023		Delaware
Barings Middle Market CLO 2017-I Ltd & LLC	None		Cayman Islands
Barings Middle Market CLO 2018-I	None		Cayman Islands



**SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP**  
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Barings Middle Market CLO 2019-I	None		Cayman Islands
Barings Middle Market CLO Ltd 2021-I	98-1612604		Cayman Islands
Barings North American Private Loan Fund LP	38-4010344		Delaware
Barings RE Credit Strategies VII LP	98-1332384		Delaware
Barings CLO Investment Partners LP	81-0841854		Delaware
Barings Euro Value Add II (BREEVA II)	None		Luxembourg
Barings Real Estate European Value Add I SCSp	None		United Kingdom
Barings Real Estate Debt Income Fund LP	85-3449260		Delaware
Barings Transportation Fund LP	87-1262754		Delaware
Braemar Energy Ventures I, L.P.	None		Delaware
Barings European Core Property Fund SCSp	None		Luxembourg
Barings European Private Loan Fund III A	46-5001122		Luxembourg
Benchmark 2018-B2 Mortgage Trust	38-4059932		New York
Benchmark 2018-B4	None		New York
Benchmark 2018-B8	38-4096530		New York
Barings Core Property Fund LP	20-5578089		Delaware
Cornerstone Real Estate Fund X LP	46-5432619		Delaware
Gateway Mezzanine Partners II LP	90-0991195		Delaware
Great Lakes III, L.P.	37-1708623		Delaware
GIA EU Holdings - Emerson JV Sarl	None		Luxembourg
JPMCC Commercial Mortgage Securities Trust 2017-JP7	38-4041011; 38-4041012		New York
JPMDB Commercial Mortgage Securities Trust 2017-C5	38-4032059		New York
KKR-MM Vector LP	82-1512591		Delaware
Marco Hotel LLC	46-4255307		Delaware
Miami Douglas One GP LLC	04-1590850		Delaware
Miami Douglas Two GP LLC	04-1590850		Delaware
Miami Douglas One LP	04-1590850		Delaware
Miami Douglas Two LP	04-1590850		Delaware
Miami Douglas Three MM LLC	04-1590850		Delaware
MM BIG Peninsula Co-Invest Member LLC	87-4021641		Delaware
NYDIG Digital Assets Fund II LP	85-3886824		Delaware
HB Naples Golf Owner LLC	45-3623262		Delaware
MM CM Holding LLC	None		Delaware
MM Debt Participations LLC	81-3000420		Delaware
RB Apartments LLC	82-4411267		Delaware
Reston Arboretum LLC	75-2901061		Delaware
Somerset Special Opportunities Fund L.P.	20-8856877		Delaware
SouthPointe Industrial LLC	04-1590850		Delaware

**SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP**  
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Ten Fan Pier Boulevard LLC	35-2553915		Delaware
Tower Square Capital Partners III, L.P.	41-2280127		Delaware
Tower Square Capital Partners IIIA, L.P.	41-2280129		Delaware
Trailside MM Member LLC	04-1590850		Delaware
Washington Gateway Two LLC	83-1325764		Delaware
Washington Gateway Three LLC	32-0574045		Delaware
West 46 <sup>th</sup> Street Hotel LLC	05-1590850		Delaware
<b>Barings Affiliates &amp; Funds:</b>			
Babson Capital Loan Strategies Master Fund LP	None		Cayman Islands
Barings China Aggregate Bond Private Securities Investment Fund	None		Peoples Republic of China
Barings European Growth Trust Fund	None		United Kingdom
Barings Global High Yield Fund	47-3790192		Massachusetts
CCIC Fund	None		Peoples Republic of China
Great Lakes II LLC	71-1018134		Delaware
Wood Creek Venture Fund LLC	04-1590850		Delaware
<b>Barings Real Estate Affiliates &amp; Funds:</b>			
50 Liberty LLC	36-4823011		Delaware
Barings California Mortgage Fund IV	None		California
Barings Umbrella Fund LUX SCSp SICAV RAIF	None		Luxembourg
Calgary Railway Holding LLC	82-2285211		Delaware
Combrook PRS Holdings LLC	82-3307907		Delaware
Cornerstone California Mortgage Fund I LLC	95-4207717		California
Cornerstone California Mortgage Fund II LLC	95-4207717		California
Cornerstone California Mortgage Fund III LLC	95-4207717		California
Cornerstone Fort Pierce Development LLC	56-2630592		Delaware
Cornerstone Permanent Mortgage Fund	45-2632610		Massachusetts
Cornerstone Permanent Mortgage Fund II	61-1750537		Massachusetts
Cornerstone Permanent Mortgage Fund III	35-2531693		Massachusetts
Cornerstone Permanent Mortgage Fund IV	61-1793735		Massachusetts
CREA/PPC Venture LLC	20-0348173		Delaware
CREA Madison Member LLC	81-0890084		Delaware
Danville Riverwalk Venture, LLC	82-2783393		Delaware
Euro Real Estate Holdings LLC	04-1590850		Delaware
Fan Pier Development LLC	20-3347091		Delaware
GIA EU Holdings LLC	04-1590850		Delaware
Landmark Manchester Holdings LLC	81-5360103		Delaware
MM Brookhaven Member LLC	04-1590850		Delaware
MM East South Crossing Member LLC	04-1590850		Delaware
MM Horizon Savannah Member LLC	04-1590850		Delaware
One Harbor Shore LLC	80-0948028		Delaware
PACO France Logistics LLC	04-1590850		Delaware

**SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP**  
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Portland 400 Sixth Manager LLC	82-3393166		Delaware
Salomon Brothers Commercial Mortgage Trust 2001-MM	None		Delaware
Sawgrass Village Shopping Center LLC	27-2977720		Delaware
STOA Holding LLC	None		Delaware
Three PW Office Holding LLC	81-5273574		Delaware
Twenty Two Liberty LLC	35-2484550		Massachusetts
Unna, Dortmund Holding LLC	82-3250684		Delaware
Washington Gateway Apartments Venture LLC	45-5401109		Delaware
<b>MassMutual Premier Funds:</b>			
MassMutual Premier Focused International Fund	02-0754273		Massachusetts
MassMutual Premier Main Street Fund	51-0529328		Massachusetts
MassMutual Premier Strategic Emerging Markets Fund	26-3229251		Massachusetts
<b>MassMutual Select Funds:</b>			
MassMutual Select Diversified Value Fund	01-0821120		Massachusetts
MassMutual Select Fundamental Growth Fund	04-3512593		Massachusetts
MassMutual Select Mid-Cap Value Fund	42-1710935		Massachusetts
MassMutual Select Small Capital Value Equity Fund	02-0769954		Massachusetts
MassMutual Select Small Company Value Fund	04-3584140		Massachusetts
MassMutual Select T. Rowe Price Retirement 2005 Fund	82-3347422		Massachusetts
MassMutual Select T. Rowe Price Retirement 2010 Fund	82-3355639		Massachusetts
MassMutual Select T. Rowe Price Retirement 2015 Fund	82-3382389		Massachusetts
MassMutual Select T. Rowe Price Retirement 2020 Fund	82-3396442		Massachusetts
MassMutual Select T. Rowe Price Retirement 2025 Fund	82-3417420		Massachusetts
MassMutual Select T. Rowe Price Retirement 2030 Fund	82-3430358		Massachusetts
MassMutual Select T. Rowe Price Retirement 2035 Fund	82-3439837		Massachusetts
MassMutual Select T. Rowe Price Retirement 2040 Fund	82-3451779		Massachusetts
MassMutual Select T. Rowe Price Retirement 2045 Fund	82-3472295		Massachusetts
MassMutual Select T. Rowe Price Retirement 2050 Fund	82-3481715		Massachusetts
MassMutual Select T. Rowe Price Retirement 2055 Fund	82-3502011		Massachusetts
MassMutual Select T. Rowe Price Retirement 2060 Fund	82-3525148		Massachusetts
MassMutual Select T. Rowe Price Retirement Balanced Fund	82-3533944		Massachusetts
<b>MML Series Investment Funds:</b>			
MML Series International Equity Fund	46-4257056		Massachusetts
<b>MML Series Investment Funds II:</b>			
MML Series II Asset Momentum Fund	47-3517233		Massachusetts
MML Series II Dynamic Bond Fund	47-3529636		Massachusetts
MML Series II Equity Rotation Fund	47-3544629		Massachusetts
MML Series II Special Situations Fund	47-3559064		Massachusetts
<b>MassMutual RetireSMART Funds:</b>			
MassMutual RetireSMART 2035 Fund	27-1933380		Massachusetts
MassMutual RetireSMART 2045 Fund	27-1932769		Massachusetts

# SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP

## PART 1 – ORGANIZATIONAL CHART

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	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
MassMutual RetireSMART 2055 Fund	46-3289207		Massachusetts
MassMutual RetireSMART 2060 Fund	47-5326235		Massachusetts
MassMutual 20/80 Allocation Fund	45-1618155		Massachusetts
MassMutual 80/20 Allocation Fund	45-1618222		Massachusetts
MassMutual RetireSMART In Retirement Fund	03-0532464		Massachusetts
MassMutual 40/60 Allocation Fund	45-1618262		Massachusetts
MassMutual 60/40 Allocation Fund	45-1618046		Massachusetts

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domiciliary Location	Relationship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percentage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Required? (Yes/No)	*
.0435	Massachusetts Mut Life Ins Co	65935	04-1590850	3848388			Massachusetts Mutual Life Insurance Company (MMLIC)	MA	UIP	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0435	Massachusetts Mut Life Ins Co	93432	06-1041383				C.M. Life Insurance Company	CT	UDP	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0435	Massachusetts Mut Life Ins Co	70416	43-0581430				MML Bay State Life Insurance Company	CT	RE	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
.0000			06-1041383				CML Mezzanine Investor III, LLC	DE	NIA	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
.0000							CML Special Situations Investor LLC	DE	NIA	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
.0000							CML Global Capabilities LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Global Capabilities I LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MassMutual Global Business Services India LLP	IND	NIA	MM Global Capabilities I LLC	Ownership	100.000	MMLIC		
.0000							MM Global Capabilities (Netherlands) B.V.	NLD	NIA	MM Global Capabilities I LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Global Business Services Romania S.R.L.	ROU	NIA	MM Global Capabilities (Netherlands) B.V.	Ownership	100.000	MMLIC		
.0000							MM Global Capabilities II LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Global Capabilities III LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM/Barings Multifamily TEBS 2020 LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MML Special Situations Investor LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			47-5322979				Timberland Forest Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			47-5322979				Timberland Forest Holding LLC	DE	NIA	C.M. Life Insurance Company	Influence		MMLIC		
.0000			47-5322979				Timberland Forest Holding LLC	DE	NIA	Wood Creek Capital Management LLC	Management		MMLIC		
.0000							Lyme Adirondack Forest Company, LLC	DE	NIA	Timberland Forest Holding LLC	Ownership	100.000	MMLIC		
.0000							Lyme Adirondack Timberlands I, LLC	DE	NIA	Lyme Adirondack Forest Company, LLC	Ownership	100.000	MMLIC		
.0000							Lyme Adirondack Timberlands II, LLC	DE	NIA	Lyme Adirondack Forest Company, LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Berkshire Way LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MSP-SC, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							EM Opportunities LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MassMutual MCAM Insurance Company, Inc.	VT	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				Insurance Road LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Trad Private Equity LLC	DE	NIA	Insurance Road LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Intellectual Property LLC	DE	NIA	Insurance Road LLC	Ownership	100.000	MMLIC		
.0000							Trad Investments I LLC	DE	NIA	Insurance Road LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Private Equity Funds LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Private Equity Funds Subsidiary LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							ITPSHolding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							HITPS LLC	DE	NIA	ITPS Holding LLC	Ownership	100.000	MMLIC		
.0000							JFIN Parent LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			27-0105644				Jefferies Finance LLC	DE	NIA	JFIN Parent LLC	Ownership	50.000	MMLIC		1

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**  
**PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM**

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Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percentage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
.0000	Massachusetts Mut Life Ins Co	63312	86-2294635				Glidpath Holdings Inc.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000	Massachusetts Mut Life Ins Co	63312	13-1935920				Great American Life Insurance Company	OH	IA	Glidpath Holdings Inc.	Ownership	100.000	MMLIC		
.0000	Massachusetts Mut Life Ins Co	93661	31-1422717				AAG Insurance Agency, LLC	KY	NIA	Great American Life Insurance Company	Ownership	100.000	MMLIC		
.0000	Massachusetts Mut Life Ins Co	93661	31-1021738				Annuity Investors Life Insurance Company	OH	IA	Great American Life Insurance Company	Ownership	100.000	MMLIC		
.0000	Massachusetts Mut Life Ins Co	67083	31-1395344				Great American Advisors, LLC	OH	NIA	Great American Life Insurance Company	Ownership	100.000	MMLIC		
.0000	Massachusetts Mut Life Ins Co	67083	26-3260520				Manhattan National Holding LLC	OH	NIA	Great American Life Insurance Company	Ownership	100.000	MMLIC		
.0000	Massachusetts Mut Life Ins Co	67083	45-0252531				Manhattan National Life Insurance Company	OH	IA	Manhattan National Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Mortgage Lending LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							JFIN GP Adviser LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Fund III LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Credit Partners LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Apex Credit Partners LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFAM GP LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFAM GP LP	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Direct Lending Fund C LP	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							Jefferies DLF C Holdings LLC	DE	NIA	JFAM GP LP	Ownership	100.000	MMLIC		
.0000							Jefferies Direct Lending Fund C SPE LLC	DE	NIA	Jefferies DLF C Holdings LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Senior Lending LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Holdings LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Holdings II LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Co-Issuer Corporation	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Europe GP, S.a.r.l.	LUX	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Finance Europe, S.L.P.	LUX	NIA	JFIN Europe GP, S.a.r.l.	Ownership	100.000	MMLIC		
.0000							Jefferies Finance Europe, SCSp	LUX	NIA	JFIN Europe GP, S.a.r.l.	Ownership	100.000	MMLIC		
.0000							Jefferies Finance Business Credit LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Business Credit Fund I LLC	DE	NIA	Jefferies Finance Business Credit LLC	Ownership	100.000	MMLIC		
.0000							JFIN Funding 2021 LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN High Yield Investments LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN LC Fund LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2017 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2017-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2017-III Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2018 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2019 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2019-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2020 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2021-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2021-V Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Fund, L.P.	DE	NIA	Jefferies Finance LLC	Ownership	90.000	MMLIC		
.0000							JFIN Revolver Funding 2021 Ltd.	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Funding 2021 III Ltd.	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Funding 2021 IV Ltd.	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Apex Credit Holdings LLC	DE	NIA	JFIN Parent LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2012 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2013 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2014 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2014-II Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2015 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2015-II Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	85.000	MMLIC		
.0000							JFIN CLO 2016 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2017 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2017-II Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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.0000			04-1590850				MM Copper Hill Road LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Direct Private Investments Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Direct Private Investments UK Limited	GBR	NIA	MM Direct Private Investments Holding LLC	Ownership	100.000	MMLIC		
.0000							MM Investment Holding	CYM	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			26-0073611				MassMutual Asset Finance LLC	DE	NIA	MM Investment Holding	Ownership	99.600	MMLIC		
.0000			26-0073611				MassMutual Asset Finance LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.400	MMLIC		
.0000			90-1005837				MMAF Equipment Finance LLC 2013-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			36-4785301				MMAF Equipment Finance LLC 2014-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			38-3969560				MMAF Equipment Finance LLC 2015-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			32-0489588				MMAF Equipment Finance LLC 2016-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			35-2590691				MMAF Equipment Finance LLC 2017-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			32-0546197				MMAF Equipment Finance LLC 2017-B	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			82-5335801				MMAF Equipment Finance LLC 2018-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			83-3722640				MMAF Equipment Finance LLC 2019-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2019-B	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2021-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000							Rozier LLC	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			04-2443240				MML Management Corporation	MA	NIA	MM Investment Holding	Ownership	100.000	MMLIC		
.0000			04-3548444				MassMutual International Holding MSC, Inc.	MA	NIA	MML Management Corporation	Ownership	100.000	MMLIC		
.0000			04-3341767				MassMutual Holding MSC, Inc.	MA	NIA	MML Management Corporation	Ownership	100.000	MMLIC		
.0000							MML CM LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Blueprint Income LLC	NY	NIA	MML CM LLC	Ownership	100.000	MMLIC		
.0000							Flourish Digital Assets LLC	DE	NIA	MML CM LLC	Ownership	100.000	MMLIC		
.0000							Flourish Financial LLC	DE	NIA	MML CM LLC	Ownership	100.000	MMLIC		
.0000							Flourish Technologies LLC	DE	NIA	MML CM LLC	Ownership	100.000	MMLIC		
.0000			04-3356880				MML Distributors LLC	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	99.000	MMLIC		
.0000			04-3356880				MML Distributors LLC	MA	NIA	MassMutual Holding LLC	Ownership	1.000	MMLIC		
.0000							MML Investment Advisers, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			46-3238013				MML Strategic Distributors, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			06-1563535	2881445			The MassMutual Trust Company, FSB	CT	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Private Placement Investment Company I, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Private Equity Fund Investor LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Private Equity Fund Investor LLC	DE	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000			04-1590850				MM Private Equity Intercontinental LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			45-2738137				Pioneers Gate LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-2854319	2392316			MassMutual Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			06-1597528				MassMutual Assignment Company	NC	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			37-1732913				Fern Street LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							Steeper Street LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			46-2252944				Haven Life Insurance Agency, LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Capital Partners LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM**

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0000							MassMutual Ventures Holding LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000							Athens Fund Management LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
0000							Crane Venture Partners LLP	GBR	NIA	MassMutual Ventures Holding LLC	Ownership	33.000	MMLIC		
0000							MassMutual Ventures Management LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
0000							MassMutual Ventures SEA Management Private Limited	DE	NIA	MassMutual Ventures Management LLC	Ownership	100.000	MMLIC		
0000							MassMutual Ventures Southeast Asia I LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
0000							MassMutual Ventures Southeast Asia II LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
0000							MassMutual Ventures UK LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
0000			47-1296410				MassMutual Ventures US I LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
0000							MassMutual Ventures US II LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
0000							MassMutual Ventures US III LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
0000							MassMutual Ventures US IV LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
0000							Open Alternatives LLC	DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
0000			04-1590850				MM Rothesay Holdco US LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000							Rothesay Limited	GBR	NIA	MM Rothesay Holdco US LLC	Ownership	48.900	MMLIC		
0000							Rothesay Life Plc	GBR	NIA	Rothesay Limited	Ownership	100.000	MMLIC		
0000							Rothesay MA No.1 Limited	GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
0000							Rothesay MA No.2 Limited	GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
0000							Rothesay MA No.3 Limited	GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
0000							Rothesay MA No.4 Limited	GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
0000							LT Mortgage Finance Limited	GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
0000							Rothesay Property Partnership 1 LLP	GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
0000							Rothesay Foundation	GBR	NIA	Rothesay Limited	Ownership	100.000	MMLIC		
0000							Rothesay Pensions Management Limited	GBR	NIA	Rothesay Limited	Ownership	100.000	MMLIC		
0000							Rothesay Asset Management UK Limited	GBR	NIA	Rothesay Limited	Ownership	100.000	MMLIC		
0000							Rothesay Asset Management Australia Pty Ltd	AUS	NIA	Rothesay Asset Management UK Limited	Ownership	100.000	MMLIC		
0000							Rothesay Asset Management US LLC	DE	NIA	Rothesay Asset Management UK Limited	Ownership	100.000	MMLIC		
0000							MM Catalyst Fund LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			47-1466022				LifeScore Labs, LLC	MA	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			04-1590850				MML Investors Services, LLC	MA	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			04-1590850				MML Insurance Agency, LLC	MA	NIA	MML Investors Services, LLC	Ownership	100.000	MMLIC		
0000			41-2011634				MMLISI Financial Alliances, LLC	DE	NIA	MML Investors Services, LLC	Ownership	100.000	MMLIC		
0000			45-4000072				MM Asset Management Holding LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			51-0504477				Barings LLC	DE	NIA	MassMutual Asset Management Holding LLC	Ownership	100.000	MMLIC		
0000			98-0524271				Baring Asset Management (Asia) Holdings Limited	HKG	NIA	Barings LLC	Ownership	100.000	MMLIC		
0000			98-0457465				Baring International Fund Managers (Bermuda) Limited	BMU	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
0000			98-0457463				Baring Asset Management (Asia) Limited	HKG	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
0000							Baring Asset Management Korea Limited	KOR	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
0000							Barings Investment Management (Shanghai) Limited	HKG	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
0000							Barings Overseas Investment Fund Management (Shanghai) Limited	HKG	NIA	Barings Investment Management (Shanghai) Limited	Ownership	100.000	MMLIC		
0000			98-0457707				Baring SICE (Taiwan) Limited	TWN	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
0000							Barings Singapore Pte. Ltd.	SGP	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
0000			98-0236449				Barings Japan Limited	JPN	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
0000							Barings Australia Holding Company Pty Ltd	AUS	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		



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**SCHEDULE Y**

**PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM**

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.0000			98-0457456				Barings Australia Pty Ltd	AUS	NIA	Baring Australia Holding Company Pty Ltd.	Ownership	100.000	MMLIC		
.0000			80-0875475				Barings Finance LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BCF Europe Funding Limited	IRL	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							BCF Senior Funding I LLC	DE	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							BCF Senior Funding I Designated Activity Company	IRL	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000			04-3238351				Barings Securities LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0437588				Barings Guernsey Limited	GGY	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Europe Limited	GBR	NIA	Barings Guernsey Limited	Ownership	100.000	MMLIC		
.0000							Barings Asset Management Spain SL	ESP	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Italy S.r.l.	ITA	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Sweden AB	SWE	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Netherlands B.V.	NLD	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Real Estate UK Holdings Limited	DE	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000			98-0654401				Barings Real Estate Advisers (Continental Europe) Limited	GBR	NIA	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-1194368				Barings Real Estate GmbH	DEU	NIA	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0241935				Barings Asset Management Limited	GBR	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings European Direct Lending 1 GP LLP	GBR	NIA	Barings Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-1012393				Barings Global Advisors Limited	GBR	NIA	Barings Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457328				Barings International Investment Limited	GBR	NIA	Barings Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457587				Barings International Investment Management Holdings	GBR	NIA	Barings Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457576				Barings International Investment Management Holdings	GBR	NIA	Barings International Investment Management Holdings	Ownership	100.000	MMLIC		
.0000			98-0524272				Barings International Fund Managers (Ireland) Limited	IRL	NIA	Barings Asset Management UK Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Asset Management Switzerland Srl	CHE	NIA	Barings Asset Management UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0497550				Barings France SAS	FRA	NIA	Barings Asset Management UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0457586				Barings Fund Managers Limited	GBR	NIA	Barings Asset Management Limited	Ownership	100.000	MMLIC		
.0000							BCGSS 2 GP LLP	GBR	NIA	Barings Fund Managers Limited	Ownership	100.000	MMLIC		
.0000			98-0457578				Barings Investment Services Limited	GBR	NIA	Barings Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings Core Fund Feeder 1 GP S.à.r.l.	LUX	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings BME GP S.à.r.l.	GBR	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings GPC GP S.à.r.l.	LUX	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings European Core Property Fund GP Sarl	GBR	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Investment Fund (LUX) GP S.à.r.l.	LUX	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Umbrella Fund (LUX) GP S.à.r.l.	LUX	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							GPLF4(S) GP S.à.r.l.	LUX	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							PREIF Holdings Limited Partnership	GBR	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000			98-0432153				Barings (U.K.) Limited	GBR	NIA	Barings Guernsey Limited	Ownership	100.000	MMLIC		
.0000							BMC Holdings DE LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-3238351	3456895			Barings Real Estate Advisers Inc.	CA	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			81-4258759				CRA Aircraft Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	40.000	MMLIC		
.0000			81-4258759				CRA Aircraft Holding LLC	DE	NIA	Barings LLC	Influence		MMLIC		
.0000			83-0560183				Aland Royalty Holdings LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	26.700	MMLIC		
.0000			83-0560183				Aland Royalty Holdings LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000			82-2932156				GASL Holdings LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	11.300	MMLIC		
.0000			82-2932156				GASL Holdings LLC	DE	NIA	Barings LLC	BOARD		MMLIC		

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domiciliary Location	Relationship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percentage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Required? (Yes/No)	*
.0000			46-2344300				Intermodal Holdings II LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	18.000	MMLIC		
.0000			46-2344300				Intermodal Holdings II LLC	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Novation Companies, Inc.	MD	NIA	Massachusetts Mutual Life Insurance Company	Ownership	16.500	MMLIC		
.0000							Novation Companies, Inc.	MD	NIA	Barings LLC	Influence		MMLIC		
.0000			46-5460309				Red Lake Ventures, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	31.500	MMLIC		
.0000			46-5460309				Red Lake Ventures, LLC	DE	NIA	Barings LLC	Influence		MMLIC		
.0000			81-4065378				Remington L & W Holdings LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	19.900	MMLIC		
.0000			81-4065378				Remington L & W Holdings LLC	DE	NIA	Barings LLC	Influence		MMLIC		
.0000							Tamiami Citrus, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	15.700	MMLIC		
.0000							Tamiami Citrus, LLC	DE	NIA	Barings LLC	Management/Board		MMLIC		
.0000							Teaktree Acquisition, LLC	DE	NIA	MassMutual Holding LLC	Ownership/Influence	14.700	MMLIC		
.0000							Teaktree Acquisition, LLC	DE	NIA	Barings LLC	Influence		MMLIC		
.0000							Techquity, LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	15.600	MMLIC		
.0000							Techquity, LP	DE	NIA	Barings LLC	Influence		MMLIC		
.0000			46-0687392				Validus Holdings Company LLC	DE	NIA	Barings LLC	Ownership	40.400	MMLIC		
.0000							Validus Pharmaceuticals LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	70.000	MMLIC		
.0000							Validus Pharmaceuticals LLC	DE	NIA	Barings LLC	BOARD		MMLIC		
.0000							VGS Acquisition Holding, LLC	DE	NIA	MassMutual Holding LLC	Ownership/Influence	33.300	MMLIC		
.0000							VGS Acquisition Holding, LLC	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Aland Royalty GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Alaska Future Fund GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BAI GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BAI Funds SLP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Asset-Based Income Fund (US) GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings CMS Fund GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Hotel Opportunity Venture I GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Investment Series LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Emerging Generation Fund GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings ERS PE Emerging Manager III GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Global Investment Funds (U.S.) Management LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Barings CLO Investment Partners GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Core Property Fund GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Direct Lending GP Ltd.	CYM	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			84-3784245				Barings Emerging Generation Fund LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	59.100	MMLIC		
.0000			84-3784245				Barings Emerging Generation Fund LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Energy Infrastructure Advisors, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings North American Private Loan Fund Management, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings North American Private Loan Fund Management II, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Global Real Assets Fund GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings GPSF	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			84-5063008				Barings Small Business Fund LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	73.500	MMLIC		

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM**

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.0000			84-5063008				Barings Small Business Fund LLC	DE	NIA	Barings LLC	Management				
.0000			98-0536233				Benton Street Advisors, Inc.	CVI	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BHOVI Incentive LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BIG Real Estate Fund GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BRECS VII GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BREDIF GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							CHY Venture GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							CREX X GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Great Lakes III GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Lake Jackson LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Loan Strategies Management LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			41-2280126				Mezzco III LLC	DE	NIA	Barings LLC	Ownership	99.300	MMLIC		
.0000			80-0920285				Mezzco IV LLC	DE	NIA	Barings LLC	Ownership	99.300	MMLIC		
.0000							Mezzco Australia II LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							RECSA-NY GP LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				SBNP SIA II LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							SBNP SIA III LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Somerset Special Opportunities Management LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Massachusetts Mutual Life Insurance Company								
.0000							Amherst Long Term Holdings, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	24.500	MMLIC		
.0000			04-3313782				MassMutual International LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MassMutual Solutions LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Haven Technologies Asia Limited	HKG	NIA	MassMutual Solutions LLC	Ownership	100.000	MMLIC		
.0000							Yunfeng Financial Group Limited	HKG	NIA	MassMutual International LLC	Ownership	24.900	MMLIC		
.0000							MassMutual Asia Limited (SPV)	HKG	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Mezzanine Investor II, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Mezzanine Investor III, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	11.100	MMLIC		
.0000			27-3576835				MassMutual External Benefits Group LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				100 w. 3rd Street LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				2160 Grand Manager LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	5.000	MMLIC		
.0000			82-2432216				300 South Tryon Hotel LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				300 South Tryon LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Almack Mezzanine Fund II Unleveraged LP	GBR	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	72.900	MMLIC		
.0000							Barings Affordable Housing Mortgage Fund I LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Barings Affordable Housing Mortgage Fund I LLC	DE	NIA	Barings LLC	Management		MMLIC		
.0000			61-1902329				Barings Affordable Housing Mortgage Fund II LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			61-1902329				Barings Affordable Housing Mortgage Fund II LLC	DE	NIA	Barings LLC	Management		MMLIC		
.0000			85-3036663				Barings Affordable Housing Mortgage Fund III LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM**

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.0000			85-3036663				Barings Affordable Housing Mortgage Fund III LLC	DE	NIA	Barings LLC	Management		MMLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	11.200	MMLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NIA	C.M. Life Insurance Company	Ownership/Influence	1.100	MMLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Emerging Markets Corporate Bond Fund	IRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	48.700	MMLIC		
.0000							Barings Emerging Markets Corporate Bond Fund	IRL	NIA	Barings LLC	Ownership	15.200	MMLIC		
.0000							Barings European Real Estate Debt Income Fund	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	94.800	MMLIC		
.0000							Barings European Real Estate Debt Income Fund	LUX	NIA	Barings LLC	Influence		MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	25.500	MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	DE	NIA	C.M. Life Insurance Company	Ownership	1.600	MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	DE	NIA	Barings LLC	Management		MMLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	75.700	MMLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	3.800	MMLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings US High Yield Bond Fund	IRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	53.900	MMLIC		
.0000							Barings US High Yield Bond Fund	IRL	NIA	Barings LLC	Management		MMLIC		
.0000							Babson CLO Ltd. 2013-I	CYM	NIA	Barings LLC	Influence		MMLIC		3
.0000							Babson CLO Ltd. 2014-I	CYM	NIA	Barings LLC	Influence		MMLIC		2
.0000							Babson CLO Ltd. 2015-I	CYM	NIA	Barings LLC	Influence		MMLIC		4
.0000							Babson CLO Ltd. 2015-II	CYM	NIA	Barings LLC	Influence		MMLIC		5
.0000							Babson CLO Ltd. 2016-I	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson CLO Ltd. 2016-II	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO Ltd. 2017-I	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2018-III	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2018-IV	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000			98-1473665				Barings CLO 2019-II	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2019-III	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2019-IV	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2020-I	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2020-II	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2020-III	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2020-IV	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2021-I	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2021-II	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson Euro CLO 2014-I BV	NLD	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson Euro CLO 2014-II BV	NLD	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson Euro CLO 2015-I BV	NLD	NIA	Barings LLC	Influence		MMLIC		
.0000			36-037260H				Barings Euro CLO 2019-I BV	IRL	NIA	Barings LLC	Influence		MMLIC		
.0000			00-3750378				Barings Euro CLO 2019-II BV	IRL	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2020-I DAC	IRL	NIA	Barings LLC	Influence		MMLIC		
.0000			37-15576VH				Barings Euro CLO 2021-I DAC	IRL	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2021-II DAC	IRL	NIA	Barings LLC	Influence		MMLIC		

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM**

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.0000			81-0841854				Barings CLO Investment Partners LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	99.300	MMLIC		
.0000			81-0841854				Barings CLO Investment Partners LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Euro Value Add II (BREEVA II)	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	62.700	MMLIC		
.0000							Barings Euro Value Add II (BREEVA II)	LUX	NIA	C.M. Life Insurance Company	Ownership	5.500	MMLIC		
.0000							Barings Euro Value Add II (BREEVA II)	LUX	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Real Estate European Value Add I SCSp	GBR	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	44.600	MMLIC		
.0000							Barings Real Estate European Value Add I SCSp	GBR	NIA	C.M. Life Insurance Company	Ownership	5.000	MMLIC		
.0000							Barings Real Estate European Value Add I SCSp	GBR	NIA	Barings LLC	Management		MMLIC		
.0000			85-3449260				Barings Real Estate Debt Income Fund LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	71.800	MMLIC		
.0000			85-3449260				Barings Real Estate Debt Income Fund LP	DE	NIA	C.M. Life Insurance Company	Ownership		MMLIC		
.0000			85-3449260				Barings Real Estate Debt Income Fund LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000			82-5330194				Barings Global Em. Markets Equity Fund	NC	NIA	Barings LLC	Management		MMLIC		
.0000			98-1332384				Barings Global Energy Infrastructure Fund I LP	CYM	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	99.200	MMLIC		
.0000			98-1332384				Barings Global Energy Infrastructure Fund I LP	CYM	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000							Barings Global Dividends Champion Fund	IRL	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Inv. Grade Strat Fund	IRL	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Private Loan Fund	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	8.900	MMLIC		
.0000							Barings Global Private Loan Fund	LUX	NIA	Barings LLC	Management		MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	42.500	MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	DE	NIA	C.M. Life Insurance Company	Ownership	7.500	MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Special Situations Credit Fund 3	IRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	16.100	MMLIC		
.0000							Barings Global Special Situations Credit 4 Delaware	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	67.100	MMLIC		
.0000							Barings Global Special Situations Credit 4 Delaware	DE	NIA	C.M. Life Insurance Company	Ownership	3.500	MMLIC		
.0000							Barings Global Special Situations Credit 4 Delaware	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Special Situations Credit 4 LUX	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	14.400	MMLIC		
.0000							Barings Global Special Situations Credit 4 LUX	LUX	NIA	C.M. Life Insurance Company	Ownership	0.800	MMLIC		
.0000							Barings Global Special Situations Credit 4 LUX	LUX	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Special Situations Credit Fund 3	IRL	NIA	Barings LLC	Management		MMLIC		
.0000			87-0977058				Barings Hotel Opportunity Venture	CT	NIA	Barings LLC	Ownership/Influence	94.500	MMLIC		
.0000			87-0977058				Barings Hotel Opportunity Venture	CT	NIA	Barings LLC	Management		MMLIC		
.0000			86-3661023				Barings Innovations & Growth Real Estate Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	46.500	MMLIC		
.0000			86-3661023				Barings Innovations & Growth Real Estate Fund	DE	NIA	C.M. Life Insurance Company	Ownership	0.800	MMLIC		
.0000							Barings Middle Market CLO 2017-I Ltd & LLC	CYM	NIA	Barings LLC	Influence		MMLIC		

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM**

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.0000							Barings Middle Market CLO 2018-1	.CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Middle Market CLO 2019-1	.CYM	NIA	Barings LLC	Influence		MMLIC		
.0000			98-1612604				Barings Middle Market CLO Ltd 2021-1	.CYM	NIA	Barings LLC	Influence		MMLIC		
.0000			38-4010344				Barings North American Private Loan Fund LP	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	37.400	MMLIC		
.0000			38-4010344				Barings North American Private Loan Fund LP	.DE	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000			98-1332384				Barings RE Credit Strategies VII LP	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	33.700	MMLIC		
.0000			98-1332384				Barings RE Credit Strategies VII LP	.DE	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000			87-1262754				Barings Transportation Fund LP	.DE	NIA	MassMutual Holding LLC	Ownership/Influence	13.100	MMLIC		
.0000			87-1262754				Barings Transportation Fund LP	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	9.700	MMLIC		
.0000							Braemar Energy Ventures I, L.P.	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	74.400	MMLIC		
.0000							Braemar Energy Ventures I, L.P.	.DE	NIA	C.M. Life Insurance Company	Ownership	1.100	MMLIC		
.0000							Braemar Energy Ventures I, L.P.	.DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings European Core Property Fund SCSp	.LUX	NIA	MassMutual Holding LLC	Ownership/Influence	9.100	MMLIC		
.0000							Barings European Core Property Fund SCSp	.LUX	NIA	C.M. Life Insurance Company	Ownership	0.600	MMLIC		
.0000							Barings European Core Property Fund SCSp	.LUX	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000			46-5001122				Barings European Private Loan Fund III A	.LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	20.000	MMLIC		
.0000			38-4059932				Benchmark 2018-B2 Mortgage Trust	.NY	NIA	Barings LLC	Influence		MMLIC		
.0000							Benchmark 2018-B4	.NY	NIA	Barings LLC	Influence		MMLIC		
.0000			38-4096530				Benchmark 2018-B8	.NY	NIA	Barings LLC	Influence		MMLIC		
.0000			20-5578089				Barings Core Property Fund LP	.DE	NIA	MassMutual Holding LLC	Ownership/Influence	21.000	MMLIC		
.0000			20-5578089				Barings Core Property Fund LP	.DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000			46-5432619				Cornerstone Real Estate Fund X LP	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	24.500	MMLIC		
.0000			46-5432619				Cornerstone Real Estate Fund X LP	.DE	NIA	C.M. Life Insurance Company	Ownership	2.700	MMLIC		
.0000			46-5432619				Cornerstone Real Estate Fund X LP	.DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000			35-2531693				Cornerstone Permanent Mortgage Fund III LLC	.MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC		
.0000			61-1793735				Cornerstone Permanent Mortgage Fund IV LLC	.MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	32.100	MMLIC		
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	.DE	NIA	C.M. Life Insurance Company	Ownership	4.800	MMLIC		
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	.DE	NIA	Barings LLC	Management		MMLIC		
.0000			37-1708623				Great Lakes III, L.P.	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	41.400	MMLIC		
.0000			37-1708623				Great Lakes III, L.P.	.DE	NIA	Barings LLC	Management		MMLIC		
.0000							GIA EU Holdings - Emerson JV Sarl	.LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	40.600	MMLIC		
.0000							GIA EU Holdings - Emerson JV Sarl	.LUX	NIA	Barings LLC	Management		MMLIC		
.0000			38-4041011				JPIMCC Commercial Mortgage Securities Trust 2017-JP7	.NY	NIA	Barings LLC	Influence		MMLIC		
.0000			38-4032059				JPIMDB Commercial Mortgage Securities Trust 2017-C5	.NY	NIA	Barings LLC	Influence		MMLIC		
.0000			82-1512591				KKR-MM Vector LP	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC		
.0000			46-4255307				Marco Hotel LLC	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				Miami Douglas One GP LLC	.DE	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domiciliary Location	Relationship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percentage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Required? (Yes/No)	*
.0000			04-1590850				Miami Douglas One GP LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.500	MMLIC		
.0000			04-1590850				Miami Douglas Two GP LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			04-1590850				Miami Douglas Two GP LLC	DE	NIA	C.M. Life Insurance Company	Influence		MMLIC		
.0000			04-1590850				Miami Douglas One LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MMLIC		
.0000			04-1590850				Miami Douglas One LP	DE	NIA	C.M. Life Insurance Company	Ownership	10.000	MMLIC		
.0000			04-1590850				Miami Douglas Two LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MMLIC		
.0000			04-1590850				Miami Douglas Two LP	DE	NIA	C.M. Life Insurance Company	Ownership	10.000	MMLIC		
.0000			04-1590850				Miami Douglas Three MM LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			87-4021641				MM BIG Peninsula Co-Invest Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	91.500	MMLIC		
.0000			87-4021641				MM BIG Peninsula Co-Invest Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	2.800	MMLIC		
.0000			85-3886824				NYDIG Digital Assets Fund II LP	DE	NIA	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
.0000			45-3623262				HB Naples Golf Owner LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM CM Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			81-3000420				MM Debt Participations LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC		
.0000			81-3000420				MM Debt Participations LLC	DE	NIA	Barings LLC	Management		MMLIC		
.0000			82-4411267				RB Apartments LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			75-2901061				Reston Arboretum LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			20-8856877				Somerset Special Opportunities Fund L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	40.100	MMLIC		
.0000			20-8856877				Somerset Special Opportunities Fund L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	1.900	MMLIC		
.0000			04-1590850				SouthPointe Industrial LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			35-2553915				Ten Fan Pier Boulevard LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			41-2280127				Tower Square Capital Partners III, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
.0000			41-2280127				Tower Square Capital Partners III, L.P.	DE	NIA	MassMutual Holding LLC	Ownership/Influence	18.600	MMLIC		
.0000			41-2280129				Tower Square Capital Partners IIIA, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC		
.0000			41-2280129				Tower Square Capital Partners IIIA, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
.0000			04-1590850				Trailside MM Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	59.600	MMLIC		
.0000			04-1590850				Trailside MM Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	7.400	MMLIC		
.0000			83-1325764				Washington Gateway Two LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	89.300	MMLIC		
.0000			83-1325764				Washington Gateway Two LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.700	MMLIC		
.0000			32-0574045				Washington Gateway Three LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	83.900	MMLIC		
.0000			32-0574045				Washington Gateway Three LLC	DE	NIA	C.M. Life Insurance Company	Ownership	11.400	MMLIC		
.0000			04-1590850				West 46th Street Hotel LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Babson Capital Loan Strategies Master Fund LP	CYV	NIA	Barings LLC	Management		MMLIC		
.0000							Barings China Aggregate Bond Private Securities Investment Fund	CHN	NIA	Barings LLC	Management		MMLIC		

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domiciliary Location	Relationship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percentage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Required? (Yes/No)	*
.0000			47-3790192				Barings European Growth Trust Fund	GBR	NIA	Barings LLC	Ownership/Influence	21.400	MMLIC		
.0000							Barings Global High Yield Fund	MA	NIA	Barings LLC	Management		MMLIC		
.0000							CCIC Fund	CHN	NIA	Barings LLC	Ownership/Influence	60.100	MMLIC		
.0000			71-1018134				Great Lakes II LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	10.600	MMLIC		
.0000			71-1018134				Great Lakes III LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.100	MMLIC		
.0000			04-1590850				Wood Creek Venture Fund LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	40.000	MMLIC		
.0000			36-4823011				50 Liberty LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	65.000	MMLIC		
.0000			36-4823011				50 Liberty LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.800	MMLIC		
.0000							Barings California Mortgage Fund IV	CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Barings Umbrella Fund LUX SCSp SICAV RAIF	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	50.000	MMLIC		
.0000							Barings Umbrella Fund LUX SCSp SICAV RAIF	LUX	NIA	C.M. Life Insurance Company	Ownership	2.300	MMLIC		
.0000			82-2285211				Calgary Railway Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MMLIC		
.0000			82-2285211				Calgary Railway Holding LLC	DE	NIA	C.M. Life Insurance Company	Ownership	10.000	MMLIC		
.0000			82-3307907				Cornbrook PRS Holdings LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			95-4207717				Cornerstone California Mortgage Fund I LLC	CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			95-4207717				Cornerstone California Mortgage Fund II LLC	CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			95-4207717				Cornerstone California Mortgage Fund III LLC	CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MMLIC		
.0000			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.900	MMLIC		
.0000			45-2632610				Cornerstone Permanent Mortgage Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			45-2632610				Cornerstone Permanent Mortgage Fund	MA	NIA	Barings LLC	Management		MMLIC		
.0000			61-1750537				Cornerstone Permanent Mortgage Fund II	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			61-1750537				Cornerstone Permanent Mortgage Fund II	MA	NIA	Barings LLC	Management		MMLIC		
.0000			61-1793735				Cornerstone Permanent Mortgage Fund IV	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			81-0890084				CREA Madison Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
.0000			20-0348173				CREA/PPC Venture LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	31.300	MMLIC		
.0000			82-2783393				Danville Riverwalk Venture, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	94.400	MMLIC		
.0000			04-1590850				Euro Real Estate Holdings LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	50.000	MMLIC		
.0000			20-3347091				Fan Pier Development LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	67.300	MMLIC		
.0000			20-3347091				Fan Pier Development LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.900	MMLIC		
.0000			04-1590850				GIA EU Holdings LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			81-5360103				Landmark Manchester Holdings LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MM Brookhaven Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	95.000	MMLIC		



ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domiciliary Location	Relationship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percentage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Required? (Yes/No)	*
.0000			04-1590850				MM East South Crossing Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	95.000	MMLIC		
.0000			04-1590850				MM Horizon Savannah Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	88.700	MMLIC		
.0000			04-1590850				MM Horizon Savannah Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	3.700	MMLIC		
.0000			80-0948028				One Harbor Shore LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	10.800	MMLIC		
.0000			80-0948028				One Harbor Shore LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.000	MMLIC		
.0000			04-1590850				PACO France Logistics LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			82-3393166				Portland 400 Sixth Manager LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	5.000	MMLIC		
.0000							Salomon Brothers Commercial Mortgage Trust 2001-MM	DE	NIA	Barings Real Estate Advisers LLC	Influence		MMLIC		
.0000			27-2977720				Sawgrass Village Shopping Center LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	84.200	MMLIC		
.0000			27-2977720				Sawgrass Village Shopping Center LLC	DE	NIA	C.M. Life Insurance Company	Ownership	15.800	MMLIC		
.0000							STOA Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	50.000	MMLIC		
.0000			81-5273574				Three PW Office Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	95.100	MMLIC		
.0000			35-2484550				Twenty Two Liberty LLC	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	35.000	MMLIC		
.0000			35-2484550				Twenty Two Liberty LLC	MA	NIA	C.M. Life Insurance Company	Ownership	35.000	MMLIC		
.0000			82-3250684				Unna, Dortmund Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.700	MMLIC		
.0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	C.M. Life Insurance Company	Ownership	4.800	MMLIC		
.0000			51-0529328		0000927972	00	MassMutual Premier Main Street Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.200	MMLIC		
.0000			26-3229251		0000927972	00	MassMutual Premier Strategic Emerging Markets Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	3.400	MMLIC		
.0000			01-0821120		0000916053	00	MassMutual Select Diversified Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.800	MMLIC		
.0000			04-3512593		0000916053	00	MassMutual Select Fundamental Growth Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	2.100	MMLIC		
.0000			42-1710935		0000916053	00	MassMutual Select Mid-Cap Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	26.000	MMLIC		
.0000			02-0769954		0000916053	00	MassMutual Select Small Capital Value Equity Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			04-3584140		0000916053	00	MassMutual Select Small Company Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	9.600	MMLIC		
.0000			82-3347422		0000916053	00	MassMutual Select T. Rowe Price Retirement 2005 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	6.100	MMLIC		
.0000			82-3355639		0000916053	00	MassMutual Select T. Rowe Price Retirement 2010 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			82-3382389		0000916053	00	MassMutual Select T. Rowe Price Retirement 2015 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			82-3396442		0000916053	00	MassMutual Select T. Rowe Price Retirement 2020 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			82-3417420		0000916053	00	MassMutual Select T. Rowe Price Retirement 2025 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM**

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.0000			82-3430358		0000916053	QO	MassMutual Select T. Rowe Price Retirement 2030 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			82-3439837		0000916053	QO	MassMutual Select T. Rowe Price Retirement 2035 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			82-3451779		0000916053	QO	MassMutual Select T. Rowe Price Retirement 2040 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			82-3472295		0000916053	QO	MassMutual Select T. Rowe Price Retirement 2045 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			82-3481715		0000916053	QO	MassMutual Select T. Rowe Price Retirement 2050 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			82-3502011		0000916053	QO	MassMutual Select T. Rowe Price Retirement 2055 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			82-3525148		0000916053	QO	MassMutual Select T. Rowe Price Retirement 2060 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			82-3533944		0000916053	QO	MassMutual Select T. Rowe Price Retirement Balanced Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			46-4257056				MML Series International Equity Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			47-3517233				MML Series II Asset Momentum Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			47-3529636				MML Series II Dynamic Bond Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			47-3544629				MML Series II Equity Rotation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	95.200	MMLIC		
.0000			47-3559064				MML Series II Special Situations Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	97.100	MMLIC		
.0000			27-1933389		0000916053	QO	MassMutual RetireSMART 2035 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	2.500	MMLIC		
.0000			27-1932769		0000916053	QO	MassMutual RetireSMART 2045 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	6.400	MMLIC		
.0000			46-3289207		0000916053	QO	MassMutual RetireSMART 2055 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	24.000	MMLIC		
.0000			47-5326235		0000916053	QO	MassMutual RetireSMART 2060 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	52.600	MMLIC		
.0000			45-1618155		0000916053	QO	MassMutual 20/80 Allocation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			45-1618222		0000916053	QO	MassMutual 80/20 Allocation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			03-0532464		0000916053	QO	MassMutual RetireSMART In Retirement Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	2.100	MMLIC		
.0000			45-1618262		0000916053	QO	MassMutual 40/60 Allocation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		
.0000			45-1618046		0000916053	QO	MassMutual 60/40 Allocation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence		MMLIC		

Asterisk	Explanation
1	Massachusetts Mutual Life Insurance Company owns 14.23% of the affiliated debt of Jefferies Finance LLC
2	Debt investors own .6% and includes only Great Lakes III, L.P.
3	Debt investors own 9.6% and includes only Babson Capital Loan Strategies Fund, L.P.
4	Debt investors own .5% and includes only Great Lakes III, L.P.
5	Debt investors own .2% and includes only Great Lakes III, L.P.

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

Asterisk	Explanation

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 2 - SUMMARY OF INSURER'S TRANSACTIONS WITH ANY AFFILIATES**

1	2	3	4	5	6	7	8	9	10	11	12	13
NAIC Company Code	ID Number	Names of Insurers and Parent, Subsidiaries or Affiliates	Shareholder Dividends	Capital Contributions	Purchases, Sales or Exchanges of Loans, Securities, Real Estate, Mortgage Loans or Other Investments	Income/ (Disbursements) Incurred in Connection with Guarantees or Undertakings for the Benefit of any Affiliate(s)	Management Agreements and Service Contracts	Income/ (Disbursements) Incurred Under Reinsurance Agreements	*	Any Other Material Activity Not in the Ordinary Course of the Insurer's Business	Totals	Reinsurance Recoverable/ (Payable) on Losses and/or Reserve Credit Taken/(Liability)
65935	04-1590850	Massachusetts Mutual Life Insurance Company (MMLIC)	1,477,406,409	(2,744,902,053)	20,000,000						(1,247,495,644)	(98,811,453)
93432	06-1041383	C.M. Life Insurance Company	(141,134,536)	(10,497,636)							(151,632,172)	71,934,015
70416	43-0581430	MML Bay State Life Insurance Company	(27,000,035)								(27,000,035)	10,555,770
	04-1590850	2160 Grand Manager LLC		5,384,420							5,384,420	
	83-0560183	Aland Royalty Holdings LP	(402,959)	(259,507)							(662,466)	
	37-1506417	Babson Capital Loan Strategies Fund, L.P.	(1,730,081)								(1,730,081)	
		Barings Affordable Housing Mortgage Fund I LLC	(4,281,158)	34,857,993							30,576,835	
	61-1902329	Barings Affordable Housing Mortgage Fund II LLC	(2,314,091)	48,293,619							45,979,528	
	85-3036663	Barings Affordable Housing Mortgage Fund III LLC	(702,122)	4,826,945							4,124,823	
	36-4868350	Barings Asset-Based Income Fund (US) LP		14,661,673							14,661,673	
		Barings California Mortgage Fund IV		34,484							34,484	
	81-0841854	Barings CLO Investment Partners LP	(11,142,482)	748,242							(10,394,240)	
	84-3784245	Barings Emerging Generation Fund LP	(4,152,235)	10,923,511							6,771,276	
		Barings European Core Property Fund SCSp	(494,634)	(1,565)							(496,199)	
	46-5001122	Barings European Private Loan Fund III A		45,276,000							45,276,000	
		Barings European Real Estate Debt Income Fund	(6,233,129)	64,265,365							58,032,236	
	80-0875475	Barings Finance LLC			(20,000,000)						(20,000,000)	
		Barings Global Private Loan Fund	(4,325,754)	(23,357,606)							(27,683,360)	
	82-3867745	Barings Global Real Assets Fund LP		10,210,705							10,210,705	
		Barings Global Special Situations Credit Fund 3	(21,248,892)	(3,916,604)							(25,165,497)	
		Barings Global Special Situations Credit 4 Delaware		13,814,280							13,814,280	
		Barings Global Special Situations Credit 4 LUX	(33,481)	13,682,306							13,648,824	
	87-0977058	Barings Hotel Opportunity Venture		7,950,264							7,950,264	
	86-3661023	Barings Innovations & Growth Real Estate Fund	(920,114)	70,439,770							69,519,656	
	38-4010344	Barings North American Private Loan Fund LP	(1,749,937)	(7,626,660)							(9,376,597)	
	98-1332384	Barings RE Credit Strategies VII LP	(9,522,257)	5,607,140							(3,915,117)	
	85-3449260	Barings Real Estate Debt Income Fund LP	(5,625,555)	90,614,931							84,989,376	
		Barings Real Estate European Value Add I SCSp	(24,704,713)	(11,585,861)							(36,290,575)	
	84-5063008	Barings Small Business Fund LLC		3,723,213							3,723,213	
	87-1262754	Barings Transportation Fund LP		36,369,620							36,369,620	
		Barings Umbrella Fund LUX SCSp SICAV RAIF		33,438,743							33,438,743	

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 2 - SUMMARY OF INSURER'S TRANSACTIONS WITH ANY AFFILIATES**

1	2	3	4	5	6	7	8	9	10	11	12	13
NAIC Company Code	ID Number	Names of Insurers and Parent, Subsidiaries or Affiliates	Shareholder Dividends	Capital Contributions	Purchases, Sales or Exchanges of Loans, Securities, Real Estate, Mortgage Loans or Other Investments	Income/ (Disbursements) Incurred in Connection with Guarantees or Undertakings for the Benefit of any Affiliate(s)	Management Agreements and Service Contracts	Income/ (Disbursements) Incurred Under Reinsurance Agreements	*	Any Other Material Activity Not in the Ordinary Course of the Insurer's Business	Totals	Reinsurance Recoverable/ (Payable) on Losses and/or Reserve Credit Taken/(Liability)
	04-1590850	Berkshire Way LLC		550,000							550,000	
		Braemar Energy Ventures I, L.P.		122,024							122,024	
	06-1041383	CML Mezzanine Investor III, LLC	(830)	(12,237)							(13,067)	
		CML Special Situations Investor LLC	(106,025)	(104,130)							(210,155)	
	82-3307907	Cornbrook PRS Holdings LLC		3,448,455							3,448,455	
	95-4207717	Cornerstone California Mortgage Fund I LLC										
			(3,527,026)	(2,419,174)							(5,946,200)	
	95-4207717	Cornerstone California Mortgage Fund II LLC										
			(2,013,552)	8,925,850							6,912,298	
	95-4207717	Cornerstone California Mortgage Fund III LLC										
			(878,608)	32,872,906							31,994,298	
	56-2630592	Cornerstone Fort Pierce Development LLC		149,863							149,863	
	45-2632610	Cornerstone Permanent Mortgage Fund	(5,815,415)	76,662							(5,738,753)	
	61-1750537	Cornerstone Permanent Mortgage Fund II	(4,881,964)	(267,286)							(5,149,250)	
	35-2531693	Cornerstone Permanent Mortgage Fund III LLC										
			(5,439,657)	10,772,814							5,333,156	
	61-1793735	Cornerstone Permanent Mortgage Fund IV LLC										
			(3,707,628)	25,628,631							21,921,003	
	46-5432619	Cornerstone Real Estate Fund X LP	(13,082,537)	(565,017)							(13,647,553)	
	81-0890084	CREA Madison Member LLC		(21,600,000)							(21,600,000)	
	20-0348173	CREA/PPC Venture LLC	1,650,000	(1,650,000)								
	82-2783393	Danville Riverwalk Venture, LLC		650,526							650,526	
		EM Opportunities LLC		375,000							375,000	
	04-1590850	Euro Real Estate Holdings LLC		10,921,066							10,921,066	
	20-3347091	Fan Pier Development LLC	(260,688)								(260,688)	
	90-0991195	Gateway Mezzanine Partners II LP		(9,842,702)							(9,842,702)	
	04-1590850	GIA EU Holdings LLC		12,702,667							12,702,667	
	71-1018134	Great Lakes II LLC	(850,237)	2,395							(847,842)	
	37-1708623	Great Lakes III, L.P.	(1,362,417)	(1,235,265)							(2,597,683)	
	04-1590850	Insurance Road LLC	(388,769,775)	(22,427,545)							(411,197,320)	
	46-2344300	Intermodal Holdings II LLC	(345,918)	(615,282)							(961,200)	
	82-1512591	KKR-MM Vector LP	(10,596,625)								(10,596,625)	
	81-5360103	Landmark Manchester Holdings LLC		(17,037,155)							(17,037,155)	
	04-2854319	MassMutual Holding LLC	(544,000,000)	63,226,461							(480,773,539)	
	04-3313782	MassMutual International LLC		(186,662,868)							(186,662,868)	
	04-1590850	MassMutual Private Equity Funds LLC		75,572,288							75,572,288	
	42-1710935	MassMutual Select Mid-Cap Value Fund	(11,856)								(11,856)	
	06-1563535	The MassMutual Trust Company, FSB	(5,000,000)								(5,000,000)	
	04-1590850	Miami Douglas Three MM LLC		17,714,932							17,714,932	
	04-1590850	Miami Douglas Two GP LLC		1,265							1,265	
	04-1590850	Miami Douglas Two LP		12,651,363							12,651,363	
		MM/Barings Multifamily TEBS 2020 LLC		(188,306)							(188,306)	
	87-4021641	MM BIG Peninsula Co-Invest Member LLC		77,104,921							77,104,921	
	04-1590850	MM Brookhaven Member LLC		44,893,110							44,893,110	

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ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 2 - SUMMARY OF INSURER'S TRANSACTIONS WITH ANY AFFILIATES**

1	2	3	4	5	6	7	8	9	10	11	12	13
NAIC Company Code	ID Number	Names of Insurers and Parent, Subsidiaries or Affiliates	Shareholder Dividends	Capital Contributions	Purchases, Sales or Exchanges of Loans, Securities, Real Estate, Mortgage Loans or Other Investments	Income/ (Disbursements) Incurred in Connection with Guarantees or Undertakings for the Benefit of any Affiliate(s)	Management Agreements and Service Contracts	Income/ (Disbursements) Incurred Under Reinsurance Agreements	*	Any Other Material Activity Not in the Ordinary Course of the Insurer's Business	Totals	Reinsurance Recoverable/ (Payable) on Losses and/or Reserve Credit Taken/(Liability)
		MM CM Holding LLC		44,613,283							44,613,283	
	04-1590850	MM Copper Hill Road LLC		3,457,471							3,457,471	
	81-3000420	MM Debt Participations LLC		110,000							110,000	
	04-1590850	MM East South Crossing Member LLC		16,223,209							16,223,209	
		MM Global Capabilities I LLC		(224,408)							(224,408)	
		MM Global Capabilities III LLC		199,826							199,826	
		MM Global Capabilities II LLC		199,711							199,711	
	04-1590850	MM Horizon Savannah Member LLC		43,417,838							43,417,838	
		MassMutual MCAM Insurance Company, Inc.		15,000,000							15,000,000	
	04-1590850	MM Rothesay Holdco US LLC		1,884,294,587							1,884,294,587	
		MML Investment Advisers, LLC	(90,695,861)	(6)							(90,695,867)	
	04-1590850	MML Mezzanine Investor II, LLC		(828,206)							(828,206)	
	04-1590850	MML Mezzanine Investor III, LLC	(23,358)	(93,913)							(117,271)	
	04-1590850	MML Private Equity Fund Investor LLC	(70,277,135)	60,905,908							(9,371,227)	
	47-3517233	MML Series II Asset Momentum Fund	(13,821,144)								(13,821,144)	
	47-3544629	MML Series II Equity Rotation Fund	(13,915,792)								(13,915,792)	
	47-3559064	MML Series II Special Situations Fund	(9,262,818)								(9,262,818)	
		MML Special Situations Investor LLC	(1,661,064)	(2,352,698)							(4,013,761)	
	04-1590850	New Haven Holdco LLC		76,938,243							76,938,243	
	85-3886824	NYDIG Digital Assets Fund II LP		2,415,693							2,415,693	
	80-0948028	One Harbor Shore LLC		513,000							513,000	
	04-1590850	PACO France Logistiques LLC		(545,135)							(545,135)	
	82-3393166	Portland 400 Sixth Manager LLC		5,605,000							5,605,000	
	46-5460309	Red Lake Ventures, LLC		28,364							28,364	
	81-4065378	Remington L & W Holdings LLC	(497,277)	(1,034,336)							(1,531,613)	
		Rothesay Life Plc										16,321,668
	27-2977720	Sawgrass Village Shopping Center LLC	(1,629,133)	(1,345,867)							(2,975,000)	
		STOA Holding LLC		(2,279,679)							(2,279,679)	
		Tamiami Citurus, LLC		607,107							607,107	
	81-5273574	Three PW Office Holding LLC		4,046,308							4,046,308	
	47-5322979	Timberland Forest Holding LLC		(477,755)							(477,755)	
	41-2280129	Tower Square Capital Partners IIIA, L.P.	(14,282,993)	3,417,005							(10,865,988)	
	35-2484550	Twenty Two Liberty LLC	(780,000)								(780,000)	
	82-3250684	Unna, Dortmund Holding LLC		(1,069,321)							(1,069,321)	
	45-5401109	Washington Gateway Apartments Venture LLC										(3,840,910)
			(3,840,910)								(3,840,910)	
	32-0574045	Washington Gateway Three LLC		1,169,210							1,169,210	
	83-1325764	Washington Gateway Two LLC		377,598							377,598	
9999999	Control Totals								XXX			

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ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE Y**

**PART 3 - ULTIMATE CONTROLLING PARTY AND LISTING OF OTHER U.S. INSURANCE GROUPS OR ENTITIES UNDER THAT ULTIMATE CONTROLLING PARTY'S CONTROL**

1 Insurers in Holding Company	2 Owners with Greater Than 10% Ownership	3 Ownership Percentage Column 2 of Column 1	4 Granted Disclaimer of Control/ Affiliation of Column 2 Over Column 1 (Yes/No)	5 Ultimate Controlling Party	6 U.S. Insurance Groups or Entities Controlled by Column 5	7 Ownership Percentage (Column 5 of Column 6)	8 Granted Disclaimer of Control/ Affiliation of Column 5 Over Column 6 (Yes/No)
Massachusetts Mutual Life Insurance Company .....	Massachusetts Mutual Life Insurance Company .....	100.000	NO	Massachusetts Mutual Life Insurance Company .....	Massachusetts Mutual Life Insurance Company .....	100.000	NO
C.M. Life Insurance Company .....	Massachusetts Mutual Life Insurance Company .....	100.000	NO	Massachusetts Mutual Life Insurance Company .....	Massachusetts Mutual Life Insurance Company .....	100.000	NO
MML Bay State Life Insurance Company .....	C.M. Life Insurance Company .....	100.000	NO	Massachusetts Mutual Life Insurance Company .....	Massachusetts Mutual Life Insurance Company .....	100.000	NO
Great American Life Insurance Company .....	Glidepath Holdings Inc. ....	100.000	NO	Massachusetts Mutual Life Insurance Company .....	Massachusetts Mutual Life Insurance Company .....	100.000	NO
Annuity Investors Life Insurance Company .....	Great American Life Insurance Company .....	100.000	NO	Massachusetts Mutual Life Insurance Company .....	Massachusetts Mutual Life Insurance Company .....	100.000	NO
Manhattan National Life Insurance Company .....	Manhattan National Holding LLC .....	100.000	NO	Massachusetts Mutual Life Insurance Company .....	Massachusetts Mutual Life Insurance Company .....	100.000	NO

## SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

The following supplemental reports are required to be filed as part of your statement filing unless specifically waived by the domiciliary state. However, in the event that your domiciliary state waives the filing requirement, your response of WAIVED to the specific interrogatory will be accepted in lieu of filing a "NONE" report and a bar code will be printed below. If the supplement is required of your company but is not being filed for whatever reason enter SEE EXPLANATION and provide an explanation following the interrogatory questions.

	Responses
<b>MARCH FILING</b>	
1. Will the Supplemental Compensation Exhibit be filed with the state of domicile by March 1? .....	YES
2. Will the confidential Risk-based Capital Report be filed with the NAIC by March 1? .....	YES
3. Will the confidential Risk-based Capital Report be filed with the state of domicile, if required, by March 1? .....	YES
4. Will an actuarial opinion be filed by March 1? .....	YES
<b>APRIL FILING</b>	
5. Will Management's Discussion and Analysis be filed by April 1? .....	YES
6. Will the Life, Health & Annuity Guaranty Association Assessable Premium Exhibit - Parts 1 and 2 be filed with the state of domicile and the NAIC by April 1? (Not applicable to fraternal benefit societies) .....	YES
7. Will the Supplemental Investment Risks Interrogatories be filed by April 1? .....	YES
<b>JUNE FILING</b>	
8. Will an audited financial report be filed by June 1? .....	YES
9. Will Accountant's Letter of Qualifications be filed with the state of domicile and electronically with the NAIC by June 1? .....	YES

The following supplemental reports are required to be filed as part of your annual statement filing **if your company is engaged in the type of business covered by the supplement. However, in the event that your company does not transact the type of business for which the special report must be filed, your response of NO to the specific interrogatory will be accepted in lieu of filing a "NONE" report and a bar code will be printed below.** If the supplement is required of your company but is not being filed for whatever reason enter SEE EXPLANATION and provide an explanation following the interrogatory questions.

<b>MARCH FILING</b>	
10. Will Schedule SIS (Stockholder Information Supplement) be filed with the state of domicile by March 1? (Not applicable to fraternal benefit societies) ...	NO
11. Will the Medicare Supplement Insurance Experience Exhibit be filed with the state of domicile and the NAIC by March 1? .....	NO
12. Will the Trusteed Surplus Statement be filed with the state of domicile and the NAIC by March 1? .....	NO
13. Will the actuarial opinion on participating and non-participating policies as required in Interrogatories 1 and 2 to Exhibit 5 be filed with the state of domicile and electronically with the NAIC by March 1? .....	NO
14. Will the actuarial opinion on non-guaranteed elements as required in interrogatory #3 to Exhibit 5 be filed with the state of domicile and electronically with the NAIC by March 1? .....	YES
15. Will the actuarial opinion on X-Factors be filed with the state of domicile and electronically with the NAIC by March 1? .....	NO
16. Will the actuarial opinion on Separate Accounts Funding Guaranteed Minimum Benefit be filed with the state of domicile and electronically with the NAIC by March 1? .....	NO
17. Will the actuarial opinion on Synthetic Guaranteed Investment Contracts be filed with the state of domicile and electronically with the NAIC by March 1? .....	NO
18. Will the Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV be filed with the state of domicile and electronically with the NAIC by March 1? .....	NO
19. Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXV be filed with the state of domicile and electronically with the NAIC by March 1? .....	NO
20. Will the Reasonableness of Assumptions Certification for Implied Guaranteed Rate Method required by Actuarial Guideline XXXVI be filed with the state of domicile and electronically with the NAIC by March 1? .....	NO
21. Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Average Market Value) be filed with the state of domicile and electronically with the NAIC by March 1? .....	NO
22. Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Market Value) be filed with the state of domicile and electronically with the NAIC by March 1? .....	NO
23. Will the C-3 RBC Certifications required under C-3 Phase I be filed with the state of domicile and electronically with the NAIC by March 1? .....	YES
24. Will the C-3 RBC Certifications required under C-3 Phase II be filed with the state of domicile and electronically with the NAIC by March 1? .....	YES
25. Will the Actuarial Certifications Related to Annuity Nonforfeiture Ongoing Compliance for Equity Indexed Annuities be filed with the state of domicile and electronically with the NAIC by March 1? .....	NO



ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company  
**SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES**

- 26. Will the actuarial opinion required by the Modified Guaranteed Annuity Model Regulation be filed with the state of domicile and electronically with the NAIC by March 1? ..... NO
- 27. Will the Actuarial Certification regarding the use of 2001 Preferred Class Tables required by the Model Regulation Permitting the Recognition of Preferred Mortality Tables for Use in Determining Minimum Reserve Liabilities be filed with the state of domicile and electronically with the NAIC by March 1? ..... NO
- 28. Will the Worker's Compensation Carve-Out Supplement be filed by March 1? (Not applicable to fraternal benefit societies) ..... NO
- 29. Will Supplemental Schedule O be filed with the state of domicile and the NAIC by March 1? ..... NO
- 30. Will the Medicare Part D Coverage Supplement be filed with the state of domicile and the NAIC by March 1? ..... NO
- 31. Will an approval from the reporting entity's state of domicile for relief related to the five-year rotation requirement for lead audit partner be filed electronically with the NAIC by March 1? ..... NO
- 32. Will an approval from the reporting entity's state of domicile for relief related to the one-year cooling off period for independent CPA be filed electronically with the NAIC by March 1? ..... NO
- 33. Will an approval from the reporting entity's state of domicile for relief related to the Requirements for Audit Committees be filed electronically with the NAIC by March 1? ..... NO
- 34. Will the VM-20 Reserves Supplement be filed with the state of domicile and the NAIC by March 1? ..... NO
- 35. Will the Health Care Receivables Supplement be filed with the state of domicile and the NAIC by March 1? ..... NO

**APRIL FILING**

- 36. Will the confidential Regulatory Asset Adequacy Issues Summary (RAAIS) required by the Valuation Manual be filed with the state of domicile by April 1? ..... YES
- 37. Will the Long-Term Care Experience Reporting Forms be filed with the state of domicile and the NAIC by April 1? ..... NO
- 38. Will the Credit Insurance Experience Exhibit be filed with the state of domicile and the NAIC by April 1? (Not applicable to fraternal benefit societies) ... NO
- 39. Will the Accident and Health Policy Experience Exhibit be filed by April 1? ..... NO
- 40. Will the Supplemental Health Care Exhibit (Parts 1, 2 and 3) be filed with the state of domicile and the NAIC by April 1? ..... NO
- 41. Will the regulator only (non-public) Supplemental Health Care Exhibit's Expense Allocation Report be filed with the state of domicile and the NAIC by April 1? ..... YES
- 42. Will the confidential Actuarial Memorandum required by Actuarial Guideline XXXVIII 8D be filed with the state of domicile by April 30? ..... NO
- 43. Will the Supplemental Term and Universal Life Insurance Reinsurance Exhibit be filed with the state of domicile and the NAIC by April 1? ..... NO
- 44. Will the Variable Annuities Supplement be filed with the state of domicile and the NAIC by April 1? ..... YES
- 45. Will the confidential Executive Summary of the PBR Actuarial Report be filed with the state of domicile by April 1? ..... NO
- 46. Will the confidential Life Summary of the PBR Actuarial Report be filed with the state of domicile by April 1? ..... NO
- 47. Will the confidential Variable Annuities Summary of the PBR Actuarial Report be filed with the state of domicile by April 1? ..... NO

**AUGUST FILING**

- 48. Will Management's Report of Internal Control Over Financial Reporting be filed with the state of domicile by August 1? ..... NO

Explanations:

- 10. Not Required
- 11. This line of business is not written by the company.
- 12. Not Required
- 13. Not Required
- 15. Not Required
- 16. Not Required
- 17. Not Required
- 18. Not Required
- 19. Not Required
- 20. Not Required
- 21. Not Required
- 22. Not Required
- 25. Not Required
- 26. Not Required
- 27. Not Required
- 28. This line of business is not written by the company.
- 29. This line of business is not written by the company.
- 30. This line of business is not written by the company.
- 31. Not Required
- 32. Not Required
- 33. Not Required
- 34. c
- 35. This line of business is not written by the company.
- 37. This line of business is not written by the company.
- 38. Not Required
- 39. This line of business is not written by the company.
- 40. This line of business is not written by the company.
- 42. Not Required
- 43. Not Required
- 45. This line of business is not written by the company.
- 46. This line of business is not written by the company.
- 47. This line of business is not written by the company.
- 48. Not Required

Bar Codes:

- 10. SIS Stockholder Information Supplement [Document Identifier 420]



- 11. Medicare Supplement Insurance Experience Exhibit [Document Identifier 360]



- 12. Trusteed Surplus Statement [Document Identifier 490]



- 13. Participating Opinion for Exhibit 5 [Document Identifier 371]



- 15. Actuarial Opinion on X-Factors [Document Identifier 442]



- 16. Actuarial Opinion on Separate Accounts Funding Guaranteed Minimum Benefit [Document Identifier 443]



- 17. Actuarial Opinion on Synthetic Guaranteed Investment Contracts [Document Identifier 444]

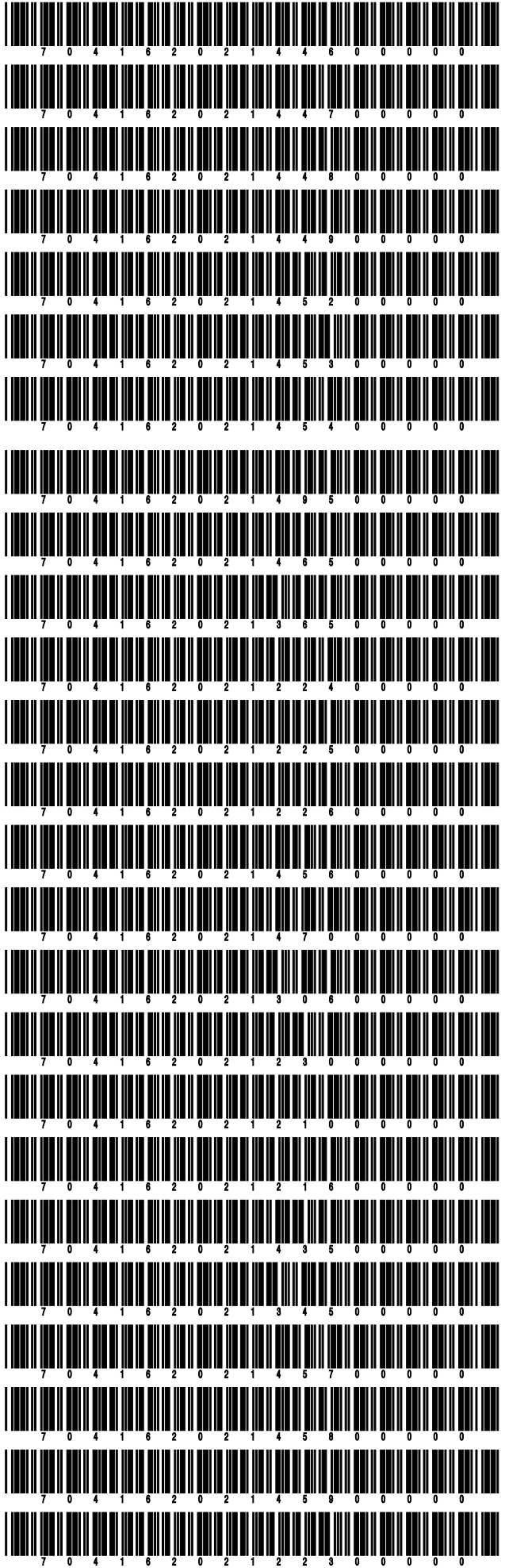


- 18. Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV [Document Identifier 445]



# SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

- 19. Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXV [Document Identifier 446]
- 20. Reasonableness of Assumptions Certification for Implied Guaranteed Rate Method required by Actuarial Guideline XXXVI [Document Identifier 447]
- 21. Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI [Document Identifier 448]
- 22. Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Market Value) [Document Identifier 449]
- 25. Actuarial Certifications Related to Annuity Nonforfeiture Ongoing Compliance for Equity Indexed Annuities [Document Identifier 452]
- 26. Modified Guaranteed Annuity Model Regulation [Document Identifier 453]
- 27. Actuarial Certification regarding the use of 2001 Preferred Class Tables required by the Model Regulation Permitting the Recognition of Preferred Mortality Tables for Use in Determining Minimum Reserve Liabilities [Document Identifier 454]
- 28. Workers' Compensation Carve-Out Supplement [Document Identifier 495]
- 29. Supplemental Schedule O [Document Identifier 465]
- 30. Medicare Part D Coverage Supplement [Document Identifier 365]
- 31. Relief from the five-year rotation requirement for lead audit partner [Document Identifier 224]
- 32. Relief from the one-year cooling off period for independent CPA [Document Identifier 225]
- 33. Relief from the Requirements for Audit Committees [Document Identifier 226]
- 34. VM-20 Reserves Supplement [Document Identifier 456]
- 35. Health Care Receivables Supplement [Document Identifier 470]
- 37. Long-Term Care Experience Reporting Forms [Document Identifier 306]
- 38. Credit Insurance Experience Exhibit [Document Identifier 230]
- 39. Accident and Health Policy Experience Exhibit [Document Identifier 210]
- 40. Supplemental Health Care Exhibit (Parts 1, 2 and 3) [Document Identifier 216]
- 42. Actuarial Memorandum Required by Actuarial Guideline XXXVIII 8D [Document Identifier 435]
- 43. Supplemental Term and Universal Life Insurance Reinsurance Exhibit [Document Identifier 345]
- 45. Executive Summary of the PBR Actuarial Report [Document Identifier 457]
- 46. Life Summary of the PBR Actuarial Report [Document Identifier 458]
- 47. Variable Annuities Summary of the PBR Actuarial Report [Document Identifier 459]
- 48. Management's Report of Internal Control Over Financial Reporting [Document Identifier 223]



**OVERFLOW PAGE FOR WRITE-INS**

**NONE**

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SUMMARY INVESTMENT SCHEDULE**

Investment Categories	Gross Investment Holdings		Admitted Assets as Reported in the Annual Statement			
	1 Amount	2 Percentage of Column 1 Line 13	3 Amount	4 Securities Lending Reinvested Collateral Amount	5 Total (Col. 3 + 4) Amount	6 Percentage of Column 5 Line 13
1. Long-Term Bonds (Schedule D, Part 1):						
1.01 U.S. governments .....	4,444,612	1.028	4,444,612		4,444,612	1.028
1.02 All other governments .....		0.000				0.000
1.03 U.S. states, territories and possessions, etc. guaranteed .....		0.000				0.000
1.04 U.S. political subdivisions of states, territories, and possessions, guaranteed .....		0.000				0.000
1.05 U.S. special revenue and special assessment obligations, etc. non-guaranteed .....	29,260	0.007	29,260		29,260	0.007
1.06 Industrial and miscellaneous .....	213,262,249	49.334	213,262,249		213,262,249	49.334
1.07 Hybrid securities .....		0.000				0.000
1.08 Parent, subsidiaries and affiliates .....	992,122	0.230	992,122		992,122	0.230
1.09 SVO identified funds .....		0.000				0.000
1.10 Unaffiliated Bank loans .....		0.000				0.000
1.11 Total long-term bonds .....	218,728,243	50.599	218,728,243		218,728,243	50.599
2. Preferred stocks (Schedule D, Part 2, Section 1):						
2.01 Industrial and miscellaneous (Unaffiliated) .....		0.000				0.000
2.02 Parent, subsidiaries and affiliates .....		0.000				0.000
2.03 Total preferred stocks .....		0.000				0.000
3. Common stocks (Schedule D, Part 2, Section 2):						
3.01 Industrial and miscellaneous Publicly traded (Unaffiliated) .....	12,060	0.003	12,060		12,060	0.003
3.02 Industrial and miscellaneous Other (Unaffiliated) .....		0.000				0.000
3.03 Parent, subsidiaries and affiliates Publicly traded .....		0.000				0.000
3.04 Parent, subsidiaries and affiliates Other .....		0.000				0.000
3.05 Mutual funds .....		0.000				0.000
3.06 Unit investment trusts .....		0.000				0.000
3.07 Closed-end funds .....		0.000				0.000
3.08 Total common stocks .....	12,060	0.003	12,060		12,060	0.003
4. Mortgage loans (Schedule B):						
4.01 Farm mortgages .....		0.000				0.000
4.02 Residential mortgages .....	1,771,148	0.410	1,771,148		1,771,148	0.410
4.03 Commercial mortgages .....		0.000				0.000
4.04 Mezzanine real estate loans .....		0.000				0.000
4.05 Total valuation allowance .....		0.000				0.000
4.06 Total mortgage loans .....	1,771,148	0.410	1,771,148		1,771,148	0.410
5. Real estate (Schedule A):						
5.01 Properties occupied by company .....		0.000				0.000
5.02 Properties held for production of income .....		0.000				0.000
5.03 Properties held for sale .....		0.000				0.000
5.04 Total real estate .....		0.000				0.000
6. Cash, cash equivalents and short-term investments:						
6.01 Cash (Schedule E, Part 1) .....	7,111,307	1.645	7,111,307		7,111,307	1.645
6.02 Cash equivalents (Schedule E, Part 2) .....	107,988,780	24.981	107,988,780		107,988,780	24.981
6.03 Short-term investments (Schedule DA) .....	5,999,418	1.388	5,999,418		5,999,418	1.388
6.04 Total cash, cash equivalents and short-term investments .....	121,099,505	28.014	121,099,505		121,099,505	28.014
7. Contract loans .....	90,670,570	20.975	90,670,570		90,670,570	20.975
8. Derivatives (Schedule DB) .....		0.000				0.000
9. Other invested assets (Schedule BA) .....		0.000				0.000
10. Receivables for securities .....		0.000				0.000
11. Securities Lending (Schedule DL, Part 1) .....		0.000		XXX	XXX	XXX
12. Other invested assets (Page 2, Line 11) .....		0.000				0.000
13. Total invested assets	432,281,526	100.000	432,281,526		432,281,526	100.000

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE A - VERIFICATION BETWEEN YEARS**

Real Estate

1.	Book/adjusted carrying value, December 31 of prior year .....	
2.	Cost of acquired:	
2.1	Actual cost at time of acquisition (Part 2, Column 6) .....	
2.2	Additional investment made after acquisition (Part 2, Column 9) .....	
3.	Current year change in encumbrances:	
3.1	Totals, Part 1, Column 13 .....	
3.2	Totals, Part 3, Column 11 .....	
4.	Total gain (loss) on disposals, Part 3, Column 18 .....	
5.	Deduct amounts received on disposals, Part 3, Column 15 .....	
6.	Total foreign exchange change in book/adjusted carrying value:	
6.1	Totals, Part 1, Column 15 .....	
6.2	Totals, Part 3, Column 13 .....	
7.	Deduct current year's other than temporary impairment recognized:	
7.1	Totals, Part 1, Column 12 .....	
7.2	Totals, Part 3, Column 10 .....	
8.	Deduct current year's depreciation:	
8.1	Totals, Part 1, Column 11 .....	
8.2	Totals, Part 3, Column 9 .....	
9.	Book/adjusted carrying value at the end of current period (Lines 1+2+3+4-5+6-7-8) .....	
10.	Deduct total nonadmitted amounts .....	
11.	Statement value at end of current period (Line 9 minus Line 10) .....	

**NONE**

**SCHEDULE B - VERIFICATION BETWEEN YEARS**

Mortgage Loans

1.	Book value/recorded investment excluding accrued interest, December 31 of prior year .....	2,090,393
2.	Cost of acquired:	
2.1	Actual cost at time of acquisition (Part 2, Column 7) .....	
2.2	Additional investment made after acquisition (Part 2, Column 8) .....	735
3.	Capitalized deferred interest and other:	
3.1	Totals, Part 1, Column 12 .....	
3.2	Totals, Part 3, Column 11 .....	
4.	Accrual of discount .....	(6,782)
5.	Unrealized valuation increase (decrease):	
5.1	Totals, Part 1, Column 9 .....	
5.2	Totals, Part 3, Column 8 .....	
6.	Total gain (loss) on disposals, Part 3, Column 18 .....	
7.	Deduct amounts received on disposals, Part 3, Column 15 .....	311,249
8.	Deduct amortization of premium and mortgage interest points and commitment fees .....	1,949
9.	Total foreign exchange change in book value/recorded investment excluding accrued interest:	
9.1	Totals, Part 1, Column 13 .....	
9.2	Totals, Part 3, Column 13 .....	
10.	Deduct current year's other than temporary impairment recognized:	
10.1	Totals, Part 1, Column 11 .....	
10.2	Totals, Part 3, Column 10 .....	
11.	Book value/recorded investment excluding accrued interest at end of current period (Lines 1+2+3+4+5+6-7-8+9-10) .....	1,771,148
12.	Total valuation allowance .....	
13.	Subtotal (Line 11 plus 12) .....	1,771,148
14.	Deduct total nonadmitted amounts .....	
15.	Statement value of mortgages owned at end of current period (Line 13 minus Line 14) .....	1,771,148

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE BA - VERIFICATION BETWEEN YEARS**

Other Long-Term Invested Assets

1.	Book/adjusted carrying value, December 31 of prior year .....	
2.	Cost of acquired:	
2.1	Actual cost at time of acquisition (Part 2, Column 8) .....	
2.2	Additional investment made after acquisition (Part 2, Column 9) .....	
3.	Capitalized deferred interest and other:	
3.1	Totals, Part 1, Column 16 .....	
3.2	Totals, Part 3, Column 12 .....	
4.	Accrual of discount .....	
5.	Unrealized valuation increase (decrease):	
5.1	Totals, Part 1, Column 13 .....	
5.2	Totals, Part 3, Column 9 .....	
6.	Total gain (loss) on disposals, Part 3, Column 19 .....	
7.	Deduct amounts received on disposals, Part 3, Column 16 .....	
8.	Deduct amortization of premium and depreciation .....	
9.	Total foreign exchange change in book/adjusted carrying value:	
9.1	Totals, Part 1, Column 17 .....	
9.2	Totals, Part 3, Column 14 .....	
10.	Deduct current year's other than temporary impairment recognized:	
10.1	Totals, Part 1, Column 15 .....	
10.2	Totals, Part 3, Column 11 .....	
11.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10) .....	
12.	Deduct total nonadmitted amounts .....	
13.	Statement value at end of current period (Line 11 minus Line 12) .....	

**NONE**

**SCHEDULE D - VERIFICATION BETWEEN YEARS**

Bonds and Stocks

1.	Book/adjusted carrying value, December 31 of prior year .....	243,446,731
2.	Cost of bonds and stocks acquired, Part 3, Column 7 .....	7,438,555
3.	Accrual of discount .....	513,258
4.	Unrealized valuation increase (decrease):	
4.1.	Part 1, Column 12 .....	17,466
4.2.	Part 2, Section 1, Column 15 .....	
4.3.	Part 2, Section 2, Column 13 .....	7,419
4.4.	Part 4, Column 11 .....	47
		24,932
5.	Total gain (loss) on disposals, Part 4, Column 19 .....	1,106,259
6.	Deduction consideration for bonds and stocks disposed of, Part 4, Column 7 .....	33,487,123
7.	Deduct amortization of premium .....	293,028
8.	Total foreign exchange change in book/adjusted carrying value:	
8.1.	Part 1, Column 15 .....	
8.2.	Part 2, Section 1, Column 19 .....	
8.3.	Part 2, Section 2, Column 16 .....	
8.4.	Part 4, Column 15 .....	
9.	Deduct current year's other than temporary impairment recognized:	
9.1.	Part 1, Column 14 .....	11,573
9.2.	Part 2, Section 1, Column 17 .....	
9.3.	Part 2, Section 2, Column 14 .....	
9.4.	Part 4, Column 13 .....	353
		11,926
10.	Total investment income recognized as a result of prepayment penalties and/or acceleration fees, Note 5Q, Line 2 .....	2,645
11.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9+10) .....	218,740,303
12.	Deduct total nonadmitted amounts .....	
13.	Statement value at end of current period (Line 11 minus Line 12) .....	218,740,303

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE D - SUMMARY BY COUNTRY**

Long-Term Bonds and Stocks OWNED December 31 of Current Year

Description		1 Book/Adjusted Carrying Value	2 Fair Value	3 Actual Cost	4 Par Value of Bonds
<b>BONDS</b>					
Governments (Including all obligations guaranteed by governments)	1. United States .....	4,444,612	4,427,099	4,443,413	4,446,848
	2. Canada .....				
	3. Other Countries .....				
	4. Totals	4,444,612	4,427,099	4,443,413	4,446,848
U.S. States, Territories and Possessions (Direct and guaranteed)	5. Totals				
U.S. Political Subdivisions of States, Territories and Possessions (Direct and guaranteed)	6. Totals				
U.S. Special Revenue and Special Assessment Obligations and all Non- Guaranteed Obligations of Agencies and Authorities of Governments and their Political Subdivisions	7. Totals	29,260	33,217	30,490	28,834
Industrial and Miscellaneous, SVO Identified Funds, Unaffiliated Bank Loans and Hybrid Securities (unaffiliated)	8. United States .....	196,010,940	205,365,306	193,595,194	194,640,062
	9. Canada .....	4,307,634	4,643,049	4,301,718	4,320,000
	10. Other Countries .....	12,943,675	14,268,776	12,902,521	13,420,000
	11. Totals	213,262,249	224,277,131	210,799,433	212,380,062
Parent, Subsidiaries and Affiliates	12. Totals	992,122	990,891	991,990	1,000,000
	13. Total Bonds	218,728,243	229,728,338	216,265,326	217,855,744
<b>PREFERRED STOCKS</b>					
Industrial and Miscellaneous (unaffiliated)	14. United States .....				
	15. Canada .....				
	16. Other Countries .....				
	17. Totals				
Parent, Subsidiaries and Affiliates	18. Totals				
	19. Total Preferred Stocks				
<b>COMMON STOCKS</b>					
Industrial and Miscellaneous (unaffiliated)	20. United States .....	12,060	12,060	4,641	
	21. Canada .....				
	22. Other Countries .....				
	23. Totals	12,060	12,060	4,641	
Parent, Subsidiaries and Affiliates	24. Totals				
	25. Total Common Stocks	12,060	12,060	4,641	
	26. Total Stocks	12,060	12,060	4,641	
	27. Total Bonds and Stocks	218,740,303	229,740,398	216,269,967	

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE D - PART 1A - SECTION 1**

Quality and Maturity Distribution of All Bonds Owned December 31, at Book/Adjusted Carrying Values by Major Types of Issues and NAIC Designations

NAIC Designation	1 1 Year or Less	2 Over 1 Year Through 5 Years	3 Over 5 Years Through 10 Years	4 Over 10 Years Through 20 Years	5 Over 20 Years	6 No Maturity Date	7 Total Current Year	8 Col. 7 as a % of Line 11.7	9 Total from Col. 7 Prior Year	10 % From Col. 8 Prior Year	11 Total Publicly Traded	12 Total Privately Placed (a)
<b>1. U.S. Governments</b>												
1.1 NAIC 1	697	4,443,915				XXX	4,444,612	1.3	4,504,992	1.3	4,444,612	
1.2 NAIC 2						XXX						
1.3 NAIC 3						XXX						
1.4 NAIC 4						XXX						
1.5 NAIC 5						XXX						
1.6 NAIC 6						XXX						
1.7 Totals	697	4,443,915				XXX	4,444,612	1.3	4,504,992	1.3	4,444,612	
<b>2. All Other Governments</b>												
2.1 NAIC 1						XXX						
2.2 NAIC 2						XXX						
2.3 NAIC 3						XXX						
2.4 NAIC 4						XXX						
2.5 NAIC 5						XXX						
2.6 NAIC 6						XXX						
2.7 Totals						XXX						
<b>3. U.S. States, Territories and Possessions etc., Guaranteed</b>												
3.1 NAIC 1						XXX						
3.2 NAIC 2						XXX						
3.3 NAIC 3						XXX						
3.4 NAIC 4						XXX						
3.5 NAIC 5						XXX						
3.6 NAIC 6						XXX						
3.7 Totals						XXX						
<b>4. U.S. Political Subdivisions of States, Territories and Possessions, Guaranteed</b>												
4.1 NAIC 1						XXX						
4.2 NAIC 2						XXX						
4.3 NAIC 3						XXX						
4.4 NAIC 4						XXX						
4.5 NAIC 5						XXX						
4.6 NAIC 6						XXX						
4.7 Totals						XXX						
<b>5. U.S. Special Revenue &amp; Special Assessment Obligations, etc., Non-Guaranteed</b>												
5.1 NAIC 1	6,371	16,839	6,051			XXX	29,261	0.0	35,264	0.0	29,261	
5.2 NAIC 2						XXX						
5.3 NAIC 3						XXX						
5.4 NAIC 4						XXX						
5.5 NAIC 5						XXX						
5.6 NAIC 6						XXX						
5.7 Totals	6,371	16,839	6,051			XXX	29,261	0.0	35,264	0.0	29,261	

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ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE D - PART 1A - SECTION 1 (Continued)**

Quality and Maturity Distribution of All Bonds Owned December 31, at Book/Adjusted Carrying Values by Major Types of Issues and NAIC Designations

NAIC Designation	1 1 Year or Less	2 Over 1 Year Through 5 Years	3 Over 5 Years Through 10 Years	4 Over 10 Years Through 20 Years	5 Over 20 Years	6 No Maturity Date	7 Total Current Year	8 Col. 7 as a % of Line 11.7	9 Total from Col. 7 Prior Year	10 % From Col. 8 Prior Year	11 Total Publicly Traded	12 Total Privately Placed (a)
<b>6. Industrial &amp; Miscellaneous (Unaffiliated)</b>												
6.1 NAIC 1	16,585,170	82,884,843	40,235,685	1,353,662	1,517,827	XXX	142,577,187	42.9	196,734,964	56.4	112,355,281	30,221,906
6.2 NAIC 2	100,818,306	38,266,822	33,832,250	1,573,263	999,594	XXX	175,490,235	52.7	121,327,818	34.8	61,383,261	114,106,974
6.3 NAIC 3	21,804	2,631,090	3,861,627	144		XXX	6,514,665	2.0	20,054,570	5.7	6,428,065	86,600
6.4 NAIC 4		1,230,831				XXX	1,230,831	0.4	5,147,267	1.5	833,677	397,154
6.5 NAIC 5	6,398	483,458	7,337	2,428		XXX	499,621	0.2	492,530	0.1	31,343	468,278
6.6 NAIC 6		746,832			191,076	XXX	937,908	0.3	697,083	0.2		937,908
6.7 Totals	117,431,678	126,243,876	77,936,899	2,929,497	2,708,497	XXX	327,250,447	98.4	344,454,232	98.7	181,031,627	146,218,820
<b>7. Hybrid Securities</b>												
7.1 NAIC 1						XXX						
7.2 NAIC 2						XXX						
7.3 NAIC 3						XXX						
7.4 NAIC 4						XXX						
7.5 NAIC 5						XXX						
7.6 NAIC 6						XXX						
7.7 Totals						XXX						
<b>8. Parent, Subsidiaries and Affiliates</b>												
8.1 NAIC 1						XXX						
8.2 NAIC 2		992,122				XXX	992,122	0.3				992,122
8.3 NAIC 3						XXX						
8.4 NAIC 4						XXX						
8.5 NAIC 5						XXX						
8.6 NAIC 6						XXX						
8.7 Totals		992,122				XXX	992,122	0.3				992,122
<b>9. SVO Identified Funds</b>												
9.1 NAIC 1	XXX	XXX	XXX	XXX	XXX							
9.2 NAIC 2	XXX	XXX	XXX	XXX	XXX							
9.3 NAIC 3	XXX	XXX	XXX	XXX	XXX							
9.4 NAIC 4	XXX	XXX	XXX	XXX	XXX							
9.5 NAIC 5	XXX	XXX	XXX	XXX	XXX							
9.6 NAIC 6	XXX	XXX	XXX	XXX	XXX							
9.7 Totals	XXX	XXX	XXX	XXX	XXX							
<b>10. Unaffiliated Bank Loans</b>												
10.1 NAIC 1						XXX						
10.2 NAIC 2						XXX						
10.3 NAIC 3						XXX						
10.4 NAIC 4						XXX						
10.5 NAIC 5						XXX						
10.6 NAIC 6						XXX						
10.7 Totals						XXX						

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE D - PART 1A - SECTION 1 (Continued)**

Quality and Maturity Distribution of All Bonds Owned December 31, at Book/Adjusted Carrying Values by Major Types of Issues and NAIC Designations

NAIC Designation	1 1 Year or Less	2 Over 1 Year Through 5 Years	3 Over 5 Years Through 10 Years	4 Over 10 Years Through 20 Years	5 Over 20 Years	6 No Maturity Date	7 Total Current Year	8 Col. 7 as a % of Line 11.7	9 Total from Col. 7 Prior Year	10 % From Col. 8 Prior Year	11 Total Publicly Traded	12 Total Privately Placed (a)
<b>11. Total Bonds Current Year</b>												
11.1 NAIC 1	(d) 16,592,238	87,345,597	40,241,736	1,353,662	1,517,827		147,051,060	44.2	XXX	XXX	116,829,154	30,221,906
11.2 NAIC 2	(d) 100,818,306	39,258,944	33,832,250	1,573,263	999,594		176,482,357	53.0	XXX	XXX	61,383,261	115,099,096
11.3 NAIC 3	(d) 21,804	2,631,090	3,861,627	144			6,514,665	2.0	XXX	XXX	6,428,065	86,600
11.4 NAIC 4	(d)	1,230,831					1,230,831	0.4	XXX	XXX	833,677	397,154
11.5 NAIC 5	(d) 6,398	483,458	7,337	2,428			(c) 499,621	0.2	XXX	XXX	31,343	468,278
11.6 NAIC 6	(d)	746,832			191,076		(c) 937,908	0.3	XXX	XXX		937,908
11.7 Totals	117,438,746	131,696,752	77,942,950	2,929,497	2,708,497		(b) 332,716,442	100.0	XXX	XXX	185,505,500	147,210,942
11.8 Line 11.7 as a % of Col. 7	35.3	39.6	23.4	0.9	0.8		100.0	XXX	XXX	XXX	55.8	44.2
<b>12. Total Bonds Prior Year</b>												
12.1 NAIC 1	81,478,630	44,259,096	72,332,246	1,673,324	1,531,924		XXX	XXX	201,275,220	57.7	111,766,663	89,508,557
12.2 NAIC 2	36,162,746	34,349,725	48,566,939	1,248,819	999,589		XXX	XXX	121,327,818	34.8	72,170,689	49,157,129
12.3 NAIC 3	121,065	5,386,695	14,546,810				XXX	XXX	20,054,570	5.7	19,948,458	106,112
12.4 NAIC 4		1,097,347	4,049,920				XXX	XXX	5,147,267	1.5	4,752,078	395,189
12.5 NAIC 5	26,675	465,855					XXX	XXX	(c) 492,530	0.1		492,530
12.6 NAIC 6		460,626			236,457		XXX	XXX	(c) 697,083	0.2	4,594	692,489
12.7 Totals	117,789,116	86,019,344	139,495,915	2,922,143	2,767,970		XXX	XXX	(b) 348,994,488	100.0	208,642,482	140,352,006
12.8 Line 12.7 as a % of Col. 9	33.8	24.6	40.0	0.8	0.8		XXX	XXX	100.0	XXX	59.8	40.2
<b>13. Total Publicly Traded Bonds</b>												
13.1 NAIC 1	198,888	81,374,838	33,175,006	1,087,482	992,940		116,829,154	35.1	111,766,663	32.0	116,829,154	XXX
13.2 NAIC 2	2,730,777	31,270,353	25,232,025	1,150,513	999,594		61,383,262	18.4	72,170,689	20.7	61,383,262	XXX
13.3 NAIC 3	1,532	2,579,848	3,846,541	144			6,428,065	1.9	19,948,458	5.7	6,428,065	XXX
13.4 NAIC 4		833,678					833,678	0.3	4,752,078	1.4	833,678	XXX
13.5 NAIC 5	6,398	15,179	7,337	2,428			31,342	0.0			31,342	XXX
13.6 NAIC 6									4,594	0.0		XXX
13.7 Totals	2,937,595	116,073,896	62,260,909	2,240,567	1,992,534		185,505,501	55.8	208,642,482	59.8	185,505,501	XXX
13.8 Line 13.7 as a % of Col. 7	1.6	62.6	33.6	1.2	1.1		100.0	XXX	XXX	XXX	100.0	XXX
13.9 Line 13.7 as a % of Line 11.7, Col. 7, Section 11	0.9	34.9	18.7	0.7	0.6		55.8	XXX	XXX	XXX	55.8	XXX
<b>14. Total Privately Placed Bonds</b>												
14.1 NAIC 1	16,393,350	5,970,759	7,066,730	266,180	524,887		30,221,906	9.1	89,508,557	25.6	XXX	30,221,906
14.2 NAIC 2	98,087,529	7,988,591	8,600,225	422,750			115,099,095	34.6	49,157,129	14.1	XXX	115,099,095
14.3 NAIC 3	20,272	51,242	15,086				86,600	0.0	106,112	0.0	XXX	86,600
14.4 NAIC 4		397,153					397,153	0.1	395,189	0.1	XXX	397,153
14.5 NAIC 5		468,279					468,279	0.1	492,530	0.1	XXX	468,279
14.6 NAIC 6		746,832			191,076		937,908	0.3	692,489	0.2	XXX	937,908
14.7 Totals	114,501,151	15,622,856	15,682,041	688,930	715,963		147,210,941	44.2	140,352,006	40.2	XXX	147,210,941
14.8 Line 14.7 as a % of Col. 7	77.8	10.6	10.7	0.5	0.5		100.0	XXX	XXX	XXX	XXX	100.0
14.9 Line 14.7 as a % of Line 11.7, Col. 7, Section 11	34.4	4.7	4.7	0.2	0.2		44.2	XXX	XXX	XXX	XXX	44.2

(a) Includes \$ 147,094,951 freely tradable under SEC Rule 144 or qualified for resale under SEC Rule 144A.

(b) Includes \$ 992,122 current year of bonds with Z designations and \$ prior year of bonds with Z designations. The letter "Z" means the NAIC designation was not assigned by the Securities Valuation Office (SVO) at the date of the statement.

(c) Includes \$ current year, \$ 26,677 prior year of bonds with 5GI designations and \$ 191,076 current year, \$ 236,457 prior year of bonds with 6\* designations. "5GI" means the NAIC designation was assigned by the (SVO) in reliance on the insurer's certification that the issuer is current in all principal and interest payments. "6\*" means the NAIC designation was assigned by the SVO due to inadequate certification of principal and interest payments.

(d) Includes the following amount of short-term and cash equivalent bonds by NAIC designation: NAIC 1 \$ 15,998,406 ; NAIC 2 \$ 97,989,792 ; NAIC 3 \$ ; NAIC 4 \$ ; NAIC 5 \$ ; NAIC 6 \$

**ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company**  
**SCHEDULE D - PART 1A - SECTION 2**

Maturity Distribution of All Bonds Owned December 31, at Book/Adjusted Carrying Values by Major Type and Subtype of Issues

Distribution by Type	1 1 Year or Less	2 Over 1 Year Through 5 Years	3 Over 5 Years Through 10 Years	4 Over 10 Years Through 20 Years	5 Over 20 Years	6 No Maturity Date	7 Total Current Year	8 Col. 7 as a % of Line 11.08	9 Total from Col. 7 Prior Year	10 % From Col. 8 Prior Year	11 Total Publicly Traded	12 Total Privately Placed
<b>1. U.S. Governments</b>												
1.01 Issuer Obligations .....		4,442,770				XXX	4,442,770	1.3	4,502,145	1.3	4,442,770	
1.02 Residential Mortgage-Backed Securities .....	697	1,145				XXX	1,842	0.0	2,847	0.0	1,842	
1.03 Commercial Mortgage-Backed Securities .....						XXX						
1.04 Other Loan-Backed and Structured Securities .....						XXX						
1.05 Totals	697	4,443,915				XXX	4,444,612	1.3	4,504,992	1.3	4,444,612	
<b>2. All Other Governments</b>												
2.01 Issuer Obligations .....						XXX						
2.02 Residential Mortgage-Backed Securities .....						XXX						
2.03 Commercial Mortgage-Backed Securities .....						XXX						
2.04 Other Loan-Backed and Structured Securities .....						XXX						
2.05 Totals						XXX						
<b>3. U.S. States, Territories and Possessions, Guaranteed</b>												
3.01 Issuer Obligations .....						XXX						
3.02 Residential Mortgage-Backed Securities .....						XXX						
3.03 Commercial Mortgage-Backed Securities .....						XXX						
3.04 Other Loan-Backed and Structured Securities .....						XXX						
3.05 Totals						XXX						
<b>4. U.S. Political Subdivisions of States, Territories and Possessions, Guaranteed</b>												
4.01 Issuer Obligations .....						XXX						
4.02 Residential Mortgage-Backed Securities .....						XXX						
4.03 Commercial Mortgage-Backed Securities .....						XXX						
4.04 Other Loan-Backed and Structured Securities .....						XXX						
4.05 Totals						XXX						
<b>5. U.S. Special Revenue &amp; Special Assessment Obligations etc., Non-Guaranteed</b>												
5.01 Issuer Obligations .....						XXX						
5.02 Residential Mortgage-Backed Securities .....	6,371	16,839	6,051			XXX	29,261	0.0	35,264	0.0	29,261	
5.03 Commercial Mortgage-Backed Securities .....						XXX						
5.04 Other Loan-Backed and Structured Securities .....						XXX						
5.05 Totals	6,371	16,839	6,051			XXX	29,261	0.0	35,264	0.0	29,261	
<b>6. Industrial and Miscellaneous</b>												
6.01 Issuer Obligations .....	116,765,039	60,872,152	66,784,273	1,991,637	1,992,533	XXX	248,405,634	74.7	246,342,555	70.6	113,465,879	134,939,755
6.02 Residential Mortgage-Backed Securities .....	236,253	590,321	386,732	352,767	206,632	XXX	1,772,705	0.5	934,335	0.3	720,303	1,052,402
6.03 Commercial Mortgage-Backed Securities .....		61,105,420	7,968,171			XXX	69,073,591	20.8	86,375,099	24.7	66,012,837	3,060,754
6.04 Other Loan-Backed and Structured Securities .....	430,386	3,675,983	2,797,723	585,093	509,332	XXX	7,998,517	2.4	10,802,243	3.1	832,609	7,165,908
6.05 Totals	117,431,678	126,243,876	77,936,899	2,929,497	2,708,497	XXX	327,250,447	98.4	344,454,232	98.7	181,031,628	146,218,819
<b>7. Hybrid Securities</b>												
7.01 Issuer Obligations .....						XXX						
7.02 Residential Mortgage-Backed Securities .....						XXX						
7.03 Commercial Mortgage-Backed Securities .....						XXX						
7.04 Other Loan-Backed and Structured Securities .....						XXX						
7.05 Totals						XXX						
<b>8. Parent, Subsidiaries and Affiliates</b>												
8.01 Issuer Obligations .....		992,122				XXX	992,122	0.3				992,122
8.02 Residential Mortgage-Backed Securities .....						XXX						
8.03 Commercial Mortgage-Backed Securities .....						XXX						
8.04 Other Loan-Backed and Structured Securities .....						XXX						
8.05 Affiliated Bank Loans - Issued .....						XXX						
8.06 Affiliated Bank Loans - Acquired .....						XXX						
8.07 Totals		992,122				XXX	992,122	0.3				992,122

**ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company**  
**SCHEDULE D - PART 1A - SECTION 2 (Continued)**

Maturity Distribution of All Bonds Owned December 31, at Book/Adjusted Carrying Values by Major Type and Subtype of Issues

Distribution by Type	1 1 Year or Less	2 Over 1 Year Through 5 Years	3 Over 5 Years Through 10 Years	4 Over 10 Years Through 20 Years	5 Over 20 Years	6 No Maturity Date	7 Total Current Year	8 Col. 7 as a % of Line 11.08	9 Total from Col. 7 Prior Year	10 % From Col. 8 Prior Year	11 Total Publicly Traded	12 Total Privately Placed
<b>9. SVO Identified Funds</b>												
9.01 Exchange Traded Funds Identified by the SVO	XXX	XXX	XXX	XXX	XXX							
<b>10. Unaffiliated Bank Loans</b>												
10.01 Unaffiliated Bank Loans - Issued						XXX						
10.02 Unaffiliated Bank Loans - Acquired						XXX						
10.03 Totals						XXX						
<b>11. Total Bonds Current Year</b>												
11.01 Issuer Obligations	116,765,039	66,307,044	66,784,273	1,991,637	1,992,533	XXX	253,840,526	76.3	XXX	XXX	117,908,649	135,931,877
11.02 Residential Mortgage-Backed Securities	243,321	608,305	392,783	352,767	206,632	XXX	1,803,808	0.5	XXX	XXX	751,406	1,052,402
11.03 Commercial Mortgage-Backed Securities		61,105,420	7,968,171			XXX	69,073,591	20.8	XXX	XXX	66,012,837	3,060,754
11.04 Other Loan-Backed and Structured Securities	430,386	3,675,983	2,797,723	585,093	509,332	XXX	7,998,517	2.4	XXX	XXX	832,609	7,165,908
11.05 SVO Identified Funds	XXX	XXX	XXX	XXX	XXX				XXX	XXX		
11.06 Affiliated Bank Loans						XXX			XXX	XXX		
11.07 Unaffiliated Bank Loans						XXX			XXX	XXX		
11.08 Totals	117,438,746	131,696,752	77,942,950	2,929,497	2,708,497		332,716,442	100.0	XXX	XXX	185,505,501	147,210,941
11.09 Line 11.08 as a % of Col. 7	35.3	39.6	23.4	0.9	0.8		100.0	XXX	XXX	XXX	55.8	44.2
<b>12. Total Bonds Prior Year</b>												
12.01 Issuer Obligations	110,578,471	49,354,126	86,916,258	1,998,862	1,996,983	XXX	XXX	XXX	250,844,700	71.9	128,134,122	122,710,578
12.02 Residential Mortgage-Backed Securities	201,834	459,226	214,184	97,065	137	XXX	XXX	XXX	972,446	0.3	906,829	65,617
12.03 Commercial Mortgage-Backed Securities	6,161,584	31,689,827	48,523,688			XXX	XXX	XXX	86,375,099	24.7	78,685,947	7,689,152
12.04 Other Loan-Backed and Structured Securities	847,228	4,516,164	3,841,785	826,216	770,850	XXX	XXX	XXX	10,802,243	3.1	915,584	9,886,659
12.05 SVO Identified Funds	XXX	XXX	XXX	XXX	XXX							
12.06 Affiliated Bank Loans						XXX						
12.07 Unaffiliated Bank Loans						XXX						
12.08 Totals	117,789,117	86,019,343	139,495,915	2,922,143	2,767,970		XXX	XXX	348,994,488	100.0	208,642,482	140,352,006
12.09 Line 12.08 as a % of Col. 9	33.8	24.6	40.0	0.8	0.8		XXX	XXX	100.0	XXX	59.8	40.2
<b>13. Total Publicly Traded Bonds</b>												
13.01 Issuer Obligations	2,703,706	57,344,999	53,875,774	1,991,637	1,992,533	XXX	117,908,649	35.4	128,134,122	36.7	117,908,649	XXX
13.02 Residential Mortgage-Backed Securities	134,238	358,511	172,070	86,587		XXX	751,406	0.2	906,829	0.3	751,406	XXX
13.03 Commercial Mortgage-Backed Securities		58,044,665	7,968,171			XXX	66,012,836	19.8	78,685,947	22.5	66,012,836	XXX
13.04 Other Loan-Backed and Structured Securities	99,651	325,721	244,895	162,343		XXX	832,610	0.3	915,584	0.3	832,610	XXX
13.05 SVO Identified Funds	XXX	XXX	XXX	XXX	XXX							XXX
13.06 Affiliated Bank Loans						XXX						XXX
13.07 Unaffiliated Bank Loans						XXX						XXX
13.08 Totals	2,937,595	116,073,896	62,260,910	2,240,567	1,992,533		185,505,501	55.8	208,642,482	59.8	185,505,501	XXX
13.09 Line 13.08 as a % of Col. 7	1.6	62.6	33.6	1.2	1.1		100.0	XXX	XXX	XXX	100.0	XXX
13.10 Line 13.08 as a % of Line 11.08, Col. 7, Section 11	0.9	34.9	18.7	0.7	0.6		55.8	XXX	XXX	XXX	55.8	XXX
<b>14. Total Privately Placed Bonds</b>												
14.01 Issuer Obligations	114,061,333	8,962,045	12,908,499			XXX	135,931,877	40.9	122,710,578	35.2	XXX	135,931,877
14.02 Residential Mortgage-Backed Securities	109,083	249,794	220,713	266,180	206,632	XXX	1,052,402	0.3	65,617	0.0	XXX	1,052,402
14.03 Commercial Mortgage-Backed Securities		3,060,755				XXX	3,060,755	0.9	7,689,152	2.2	XXX	3,060,755
14.04 Other Loan-Backed and Structured Securities	330,735	3,350,262	2,552,828	422,750	509,332	XXX	7,165,907	2.2	9,886,659	2.8	XXX	7,165,907
14.05 SVO Identified Funds	XXX	XXX	XXX	XXX	XXX							XXX
14.06 Affiliated Bank Loans						XXX						XXX
14.07 Unaffiliated Bank Loans						XXX						XXX
14.08 Totals	114,501,151	15,622,856	15,682,040	688,930	715,964		147,210,941	44.2	140,352,006	40.2	XXX	147,210,941
14.09 Line 14.08 as a % of Col. 7	77.8	10.6	10.7	0.5	0.5		100.0	XXX	XXX	XXX	XXX	100.0
14.10 Line 14.08 as a % of Line 11.08, Col. 7, Section 11	34.4	4.7	4.7	0.2	0.2		44.2	XXX	XXX	XXX	XXX	44.2

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company

**SCHEDULE DA - VERIFICATION BETWEEN YEARS**

Short-Term Investments

	1	2	3	4	5
	Total	Bonds	Mortgage Loans	Other Short-term Investment Assets (a)	Investments in Parent, Subsidiaries and Affiliates
1. Book/adjusted carrying value, December 31 of prior year .....	56,062,226	56,062,226			
2. Cost of short-term investments acquired .....	106,423,200	106,423,200			
3. Accrual of discount .....	112,551	112,551			
4. Unrealized valuation increase (decrease) .....					
5. Total gain (loss) on disposals .....	408	408			
6. Deduct consideration received on disposals .....	156,598,967	156,598,967			
7. Deduct amortization of premium .....					
8. Total foreign exchange change in book/adjusted carrying value .....					
9. Deduct current year's other than temporary impairment recognized .....					
10. Book adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9) .....	5,999,418	5,999,418			
11. Deduct total nonadmitted amounts .....					
12. Statement value at end of current period (Line 10 minus Line 11)	5,999,418	5,999,418			

(a) Indicate the category of such assets, for example, joint ventures, transportation equipment:

Schedule DB - Part A - Verification - Options, Caps, Floors, Collars, Swaps and Forwards

**N O N E**

Schedule DB - Part B - Verification - Futures Contracts

**N O N E**

Schedule DB - Part C - Section 1 - Replication (Synthetic Asset) Transactions (RSATs) Open

**N O N E**

Schedule DB-Part C-Section 2-Reconciliation of Replication (Synthetic Asset) Transactions Open

**N O N E**

Schedule DB - Verification - Book/Adjusted Carrying Value, Fair Value and Potential Exposure of  
Derivatives

**N O N E**

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE MML Bay State Life Insurance Company  
**SCHEDULE E - PART 2 - VERIFICATION BETWEEN YEARS**

(Cash Equivalents)

	1 Total	2 Bonds	3 Money Market Mutual funds	4 Other (a)
1. Book/adjusted carrying value, December 31 of prior year .....	49,485,532	49,485,532		
2. Cost of cash equivalents acquired .....	1,333,369,363	1,333,369,363		
3. Accrual of discount .....	132,828	132,828		
4. Unrealized valuation increase (decrease) .....				
5. Total gain (loss) on disposals .....	150	150		
6. Deduct consideration received on disposals .....	1,274,999,093	1,274,999,093		
7. Deduct amortization of premium .....				
8. Total foreign exchange change in book/adjusted carrying value .....				
9. Deduct current year's other than temporary impairment recognized .....				
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9) .....	107,988,780	107,988,780		
11. Deduct total nonadmitted amounts .....				
12. Statement value at end of current period (Line 10 minus Line 11)	107,988,780	107,988,780		

(a) Indicate the category of such investments, for example, joint ventures, transportation equipment: