



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

QUARTERLY STATEMENT

AS OF JUNE 30, 2022

OF THE CONDITION AND AFFAIRS OF THE

Massachusetts Mutual Life Insurance Company

NAIC Group Code 0435 0435 NAIC Company Code 65935 Employer's ID Number 04-1590850

Organized under the Laws of Massachusetts, State of Domicile or Port of Entry MA

Country of Domicile United States of America

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

Incorporated/Organized 05/15/1851 Commenced Business 08/01/1851

Statutory Home Office 1295 State Street Springfield, MA, US 01111

Main Administrative Office 1295 State Street Springfield, MA, US 01111 413-788-8411

Mail Address 1295 State Street Springfield, MA, US 01111

Primary Location of Books and Records 1295 State Street Springfield, MA, US 01111 413-788-8411

Internet Website Address www.massmutual.com

Statutory Statement Contact Trevor Wade Gordon 617-695-4321

OFFICERS

President and Chief Executive Officer Roger William Crandall Treasurer Julieta Giselle Sinisgalli

OTHER

Elizabeth Ward Chicares, Chief Financial Officer Michael Robert Fanning, Head of MassMutual U.S. Melvin Timothy Corbett, Chief Investment Officer

DIRECTORS OR TRUSTEES

Roger William Crandall - Chairman Mark Thomas Bertolini Kathleen Ann Corbet

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

## STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**ASSETS**

	Current Statement Date			4 December 31 Prior Year Net Admitted Assets
	1 Assets	2 Nonadmitted Assets	3 Net Admitted Assets (Cols. 1 - 2)	
1. Bonds .....	128,137,003,648		128,137,003,648	124,286,602,019
2. Stocks:				
2.1 Preferred stocks .....	522,806,489		522,806,489	554,665,007
2.2 Common stocks .....	25,573,913,886	183,808	25,573,730,078	25,917,031,110
3. Mortgage loans on real estate:				
3.1 First liens .....	24,777,463,014		24,777,463,014	26,344,845,562
3.2 Other than first liens.....				
4. Real estate:				
4.1 Properties occupied by the company (less \$ encumbrances) .....	376,803,691		376,803,691	377,966,253
4.2 Properties held for the production of income (less \$ .....865,000,000 encumbrances) .....	(105,199,310)		(105,199,310)	16,931,489
4.3 Properties held for sale (less \$ encumbrances) .....	30,954,259		30,954,259	
5. Cash (\$ .....746,720,955 ), cash equivalents (\$ .....3,034,348,478 ) and short-term investments (\$ .....2,019,347,457 ) .....	5,800,416,890		5,800,416,890	5,942,799,274
6. Contract loans (including \$ ..... premium notes) .....	16,207,994,959	40,668	16,207,954,290	16,119,781,299
7. Derivatives .....	17,533,259,378		17,533,259,378	16,378,561,586
8. Other invested assets .....	13,001,160,555	52,486,729	12,948,673,826	12,545,487,974
9. Receivables for securities .....	1,998,710,097		1,998,710,097	1,287,124,292
10. Securities lending reinvested collateral assets .....				
11. Aggregate write-ins for invested assets .....				
12. Subtotals, cash and invested assets (Lines 1 to 11) .....	233,855,287,556	52,711,205	233,802,576,351	229,771,795,867
13. Title plants less \$ ..... charged off (for Title insurers only) .....				
14. Investment income due and accrued .....	4,089,505,383	4,573,685	4,084,931,698	3,583,739,803
15. Premiums and considerations:				
15.1 Uncollected premiums and agents' balances in the course of collection .....	144,218,515		144,218,515	160,958,506
15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due (including \$ ..... earned but unbilled premiums) .....	967,409,916		967,409,916	1,021,645,302
15.3 Accrued retrospective premiums (\$ ..... ) and contracts subject to redetermination (\$ ..... ) .....				
16. Reinsurance:				
16.1 Amounts recoverable from reinsurers .....	78,623,195	1,508,999	77,114,196	95,482,348
16.2 Funds held by or deposited with reinsured companies .....				
16.3 Other amounts receivable under reinsurance contracts .....	96,970,888		96,970,888	142,829,065
17. Amounts receivable relating to uninsured plans .....				
18.1 Current federal and foreign income tax recoverable and interest thereon .....	10,455,257		10,455,257	55,008,554
18.2 Net deferred tax asset .....	941,719,285		941,719,285	709,692,126
19. Guaranty funds receivable or on deposit .....	7,833,057		7,833,057	8,391,196
20. Electronic data processing equipment and software .....	217,863,490	207,111,454	10,752,035	13,709,888
21. Furniture and equipment, including health care delivery assets (\$ ..... ) .....	45,302,581	45,302,581		
22. Net adjustment in assets and liabilities due to foreign exchange rates .....				
23. Receivables from parent, subsidiaries and affiliates .....	95,494,403		95,494,403	127,639,697
24. Health care (\$ ..... ) and other amounts receivable .....				
25. Aggregate write-ins for other than invested assets .....	3,826,163,811	1,077,061,962	2,749,101,849	3,116,510,053
26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25) .....	244,376,847,336	1,388,269,887	242,988,577,449	238,807,402,404
27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts .....	58,436,538,817		58,436,538,817	76,159,844,023
28. Total (Lines 26 and 27) .....	302,813,386,153	1,388,269,887	301,425,116,265	314,967,246,427
<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 through 1103 plus 1198)(Line 11 above) .....				
2501. Corporate owned life insurance .....	2,619,685,257		2,619,685,257	2,667,336,639
2502. Fully refundable deposits, prepayments and miscellaneous assets .....	104,116,555	35,505,071	68,611,484	384,170,889
2503. Employee insurance plan advances .....	39,801,369	5,037	39,796,333	38,927,150
2598. Summary of remaining write-ins for Line 25 from overflow page .....	1,062,560,630	1,041,551,854	21,008,776	26,075,375
2599. Totals (Lines 2501 through 2503 plus 2598)(Line 25 above) .....	3,826,163,811	1,077,061,962	2,749,101,849	3,116,510,053

## STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**LIABILITIES, SURPLUS AND OTHER FUNDS**

	1 Current Statement Date	2 December 31 Prior Year
1. Aggregate reserve for life contracts \$ ..... 139,997,995,398 less \$ ..... included in Line 6.3 (including \$ ..... 143,087,240 Modco Reserve) .....	139,997,995,398	134,668,226,295
2. Aggregate reserve for accident and health contracts (including \$ ..... Modco Reserve) .....	3,678,302,859	3,600,781,585
3. Liability for deposit-type contracts (including \$ ..... Modco Reserve) .....	17,763,024,741	17,041,384,885
4. Contract claims:		
4.1 Life .....	531,466,835	716,241,129
4.2 Accident and health .....	32,969,565	25,642,780
5. Policyholders' dividends/refunds to members \$ ..... 9,888,113 and coupons \$ ..... due and unpaid .....	9,888,113	9,927,208
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) .....	1,867,738,878	1,817,887,042
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 \$ ..... 11,709,617 accident and health premiums .....	58,706,084	47,546,285
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 .....	12,629,478	7,671,842
9.3 Other amounts payable on reinsurance, including \$ ..... 11,679,497 assumed and \$ ..... (19,976,364) ceded .....	(8,296,867)	99,626,723
9.4 Interest Maintenance Reserve .....	586,444,717	1,552,353,881
10. Commissions to agents due or accrued-life and annuity contracts \$ ..... 33,917,346 , accident and health \$ ..... 137,002 and deposit-type contract funds \$ .....	34,054,348	31,901,431
11. Commissions and expense allowances payable on reinsurance assumed .....	3,251,683	3,251,156
12. General expenses due or accrued .....	1,026,631,317	1,385,083,327
13. Transfers to Separate Accounts due or accrued (net) (including \$ ..... (68,966,864) accrued for expense allowances recognized in reserves, net of reinsured allowances) .....	(79,805,862)	(103,155,236)
14. Taxes, licenses and fees due or accrued, excluding federal income taxes .....	37,734,235	92,894,406
15.1 Current federal and foreign income taxes, including \$ ..... on realized capital gains (losses) .....		
15.2 Net deferred tax liability .....		
16. Unearned investment income .....	501,830,690	238,003,640
17. Amounts withheld or retained by reporting entity as agent or trustee .....	6,464,428	25,618,860
18. Amounts held for agents' account, including \$ ..... agents' credit balances .....	353,130,848	432,802,377
19. Remittances and items not allocated .....	1,656,627,205	1,954,730,877
20. Net adjustment in assets and liabilities due to foreign exchange rates .....		
21. Liability for benefits for employees and agents if not included above .....	211,618,375	232,733,194
22. Borrowed money \$ ..... 249,789,458 and interest thereon \$ .....	249,789,458	249,984,222
23. Dividends to stockholders declared and unpaid .....		
24. Miscellaneous liabilities:		
24.01 Asset valuation reserve .....	5,724,243,169	6,414,184,335
24.02 Reinsurance in unauthorized and certified (\$ ..... ) companies .....	115,229	122,421
24.03 Funds held under reinsurance treaties with unauthorized and certified (\$ ..... ) reinsurers .....	9,467,680,456	7,757,716,485
24.04 Payable to parent, subsidiaries and affiliates .....	138,220,257	64,824,977
24.05 Drafts outstanding .....		
24.06 Liability for amounts held under uninsured plans .....		
24.07 Funds held under coinsurance .....	11,613,964,149	11,497,302,189
24.08 Derivatives .....	9,589,963,629	10,876,753,492
24.09 Payable for securities .....	155,553,101	12,694,663
24.10 Payable for securities lending .....		
24.11 Capital notes \$ ..... and interest thereon \$ .....		
25. Aggregate write-ins for liabilities .....	10,173,312,595	11,220,883,362
26. Total liabilities excluding Separate Accounts business (Lines 1 to 25) .....	215,395,249,111	211,975,619,833
27. From Separate Accounts Statement .....	58,302,999,656	76,012,370,602
28. Total liabilities (Lines 26 and 27) .....	273,698,248,767	287,987,990,435
29. Common capital stock .....		
30. Preferred capital stock .....		
31. Aggregate write-ins for other than special surplus funds .....		
32. Surplus notes .....	4,588,461,848	4,613,461,848
33. Gross paid in and contributed surplus .....		
34. Aggregate write-ins for special surplus funds .....	3,250,000	3,250,000
35. Unassigned funds (surplus) .....	23,135,155,650	22,362,544,143
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 \$ ..... 133,539,160 in Separate Accounts Statement) .....	27,726,867,499	26,979,255,992
38. Totals of Lines 29, 30 and 37 .....	27,726,867,499	26,979,255,992
39. Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3) .....	301,425,116,265	314,967,246,427
<b>DETAILS OF WRITE-INS</b>		
2501. Derivative collateral .....	4,590,841,696	6,157,803,850
2502. Repurchase agreements .....	3,265,245,902	2,802,264,186
2503. Derivative accrued interest .....	1,760,662,765	1,769,379,570
2598. Summary of remaining write-ins for Line 25 from overflow page .....	556,562,232	491,435,755
2599. Totals (Lines 2501 through 2503 plus 2598)(Line 25 above) .....	10,173,312,595	11,220,883,362
3101. ....		
3102. ....		
3103. ....		
3198. Summary of remaining write-ins for Line 31 from overflow page .....		
3199. Totals (Lines 3101 through 3103 plus 3198)(Line 31 above) .....		
3401. Designated surplus for group annuities .....	2,500,000	2,500,000
3402. Designated surplus for separate account business .....	750,000	750,000
3403. ....		
3498. Summary of remaining write-ins for Line 34 from overflow page .....		
3499. Totals (Lines 3401 through 3403 plus 3498)(Line 34 above) .....	3,250,000	3,250,000

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SUMMARY OF OPERATIONS**

	1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
1. Premiums and annuity considerations for life and accident and health contracts	10,640,267,307	9,508,197,455	19,867,980,547
2. Considerations for supplementary contracts with life contingencies	14,736,939	13,663,425	22,983,412
3. Net investment income	4,461,024,886	3,950,647,221	8,695,509,359
4. Amortization of Interest Maintenance Reserve (IMR)	41,456,967	68,318,154	149,913,026
5. Separate Accounts net gain from operations excluding unrealized gains or losses	(102,062)		(809,011)
6. Commissions and expense allowances on reinsurance ceded	236,814,264	197,141,647	430,087,792
7. Reserve adjustments on reinsurance ceded	(2,115,280)	(7,439,540)	(26,907,697)
8. Miscellaneous Income:			
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	129,677,415	148,461,375	257,209,606
8.2 Charges and fees for deposit-type contracts			
8.3 Aggregate write-ins for miscellaneous income	105,295,509	262,924,861	592,352,641
9. Totals (Lines 1 to 8.3)	15,627,055,945	14,141,914,597	29,988,319,675
10. Death benefits	1,150,125,440	1,208,682,290	2,413,896,750
11. Matured endowments (excluding guaranteed annual pure endowments)	6,502,097	5,695,126	13,068,360
12. Annuity benefits	1,213,743,210	1,107,564,433	2,237,998,137
13. Disability benefits and benefits under accident and health contracts	193,652,630	187,377,103	370,223,560
14. Coupons, guaranteed annual pure endowments and similar benefits			
15. Surrender benefits and withdrawals for life contracts	6,920,848,571	3,030,908,104	6,086,403,189
16. Group conversions			
17. Interest and adjustments on contract or deposit-type contract funds	197,971,701	172,771,702	362,157,341
18. Payments on supplementary contracts with life contingencies	11,959,795	11,970,050	23,739,019
19. Increase in aggregate reserves for life and accident and health contracts	5,333,746,586	5,796,113,516	13,093,329,810
20. Totals (Lines 10 to 19)	15,028,550,031	11,521,082,325	24,600,816,166
21. Commissions on premiums, annuity considerations, and deposit-type contract funds (direct business only)	604,372,415	538,954,834	1,164,362,836
22. Commissions and expense allowances on reinsurance assumed	22,670,842	30,111,098	59,451,679
23. General insurance expenses and fraternal expenses	1,033,490,301	1,032,758,460	2,270,386,225
24. Insurance taxes, licenses and fees, excluding federal income taxes	173,161,366	180,124,080	326,354,324
25. Increase in loading on deferred and uncollected premiums	(1,584,767)	35,858,180	5,593,436
26. Net transfers to or (from) Separate Accounts net of reinsurance	(2,699,680,820)	(696,157,635)	(1,441,565,233)
27. Aggregate write-ins for deductions	288,391,672	404,475,710	805,197,597
28. Totals (Lines 20 to 27)	14,449,371,041	13,047,207,050	27,790,597,031
29. Net gain from operations before dividends to policyholders and federal income taxes (Line 9 minus Line 28)	1,177,684,904	1,094,707,547	2,197,722,644
30. Dividends to policyholders and refunds to members	871,175,784	815,340,233	1,808,135,960
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	306,509,120	279,367,314	389,586,684
32. Federal and foreign income taxes incurred (excluding tax on capital gains)	17,955,209	116,379,052	71,632,677
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)	288,553,911	162,988,262	317,954,007
34. Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital gains tax of \$ 66,122,947 (excluding taxes of \$ 58,918,341) transferred to the IMR	54,030,087	(618,938,387)	(534,360,828)
35. Net income (Line 33 plus Line 34)	342,583,998	(455,950,125)	(216,406,821)
<b>CAPITAL AND SURPLUS ACCOUNT</b>			
36. Capital and surplus, December 31, prior year	26,979,255,991	24,327,413,335	24,327,413,335
37. Net income (Line 35)	342,583,998	(455,950,125)	(216,406,821)
38. Change in net unrealized capital gains (losses) less capital gains tax of \$ 425,980,706	1,063,323,435	2,049,254,663	3,365,774,080
39. Change in net unrealized foreign exchange capital gain (loss)	(1,447,193,056)	(190,699,053)	(673,352,955)
40. Change in net deferred income tax	274,336,756	450,585,323	543,739,109
41. Change in nonadmitted assets	17,310,332	(4,677,209)	19,624,116
42. Change in liability for reinsurance in unauthorized and certified companies	7,193	6,611	13,256
43. Change in reserve on account of change in valuation basis, (increase) or decrease			
44. Change in asset valuation reserve	689,941,166	(665,679,105)	(1,209,136,105)
45. Change in treasury stock			
46. Surplus (contributed to) withdrawn from Separate Accounts during period			(150,000,000)
47. Other changes in surplus in Separate Accounts Statement	(13,832,198)		148,282,431
48. Change in surplus notes	(25,000,000)	233,517,105	840,731,855
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			
53. Aggregate write-ins for gains and losses in surplus	(153,866,119)	(44,334,885)	(17,426,309)
54. Net change in capital and surplus for the year (Lines 37 through 53)	747,611,507	1,372,023,324	2,651,842,656
55. Capital and surplus, as of statement date (Lines 36 + 54)	27,726,867,499	25,699,436,659	26,979,255,991
<b>DETAILS OF WRITE-INS</b>			
08.301. Management and administrative fees	147,790,483	93,815,771	327,314,386
08.302. Experience refunds on reinsurance contracts	41,569,157	43,200,835	93,714,575
08.303. Revenue sharing	13,609,453	21,641,794	46,257,499
08.398. Summary of remaining write-ins for Line 8.3 from overflow page	(97,673,584)	104,266,462	125,066,181
08.399. Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above)	105,295,509	262,924,861	592,352,641
2701. Ceded income on funds withheld	420,763,579	316,727,634	754,915,197
2702. Miscellaneous charges to operations	20,803,003	53,889,269	55,995,047
2703. Change in reserves due to reinsurance agreement	2,260,761	23,310,945	(2,616,096)
2798. Summary of remaining write-ins for Line 27 from overflow page	(155,435,671)	10,547,863	(3,096,551)
2799. Totals (Lines 2701 through 2703 plus 2798)(Line 27 above)	288,391,672	404,475,710	805,197,597
5301. Deferred gain on reinsurance ceded	(78,725,939)	(44,074,325)	(70,479,015)
5302. Other changes in surplus	(75,140,181)	(260,560)	31,787,729
5303. Change in minimum pension liability			21,264,977
5398. Summary of remaining write-ins for Line 53 from overflow page			
5399. Totals (Lines 5301 through 5303 plus 5398)(Line 53 above)	(153,866,119)	(44,334,885)	(17,426,309)

## STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**CASH FLOW**

	1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
<b>Cash from Operations</b>			
1. Premiums collected net of reinsurance .....	10,809,329,757	9,376,610,708	19,016,605,795
2. Net investment income .....	4,368,040,029	4,501,612,912	9,237,875,323
3. Miscellaneous income .....	597,190,555	559,717,248	1,216,591,630
4. Total (Lines 1 to 3) .....	15,774,560,341	14,437,940,868	29,471,072,748
5. Benefit and loss related payments .....	9,741,541,701	5,741,847,678	11,348,598,276
6. Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts .....	(3,044,014,924)	(669,771,947)	(1,129,486,910)
7. Commissions, expenses paid and aggregate write-ins for deductions .....	2,609,999,430	2,477,645,643	4,554,289,205
8. Dividends paid to policyholders .....	825,788,846	774,052,298	1,687,898,014
9. Federal and foreign income taxes paid (recovered) net of \$ ..... (2,658,997) tax on capital gains (losses) .....	(11,837,883)	613,973,014	848,515,206
10. Total (Lines 5 through 9) .....	10,121,477,170	8,937,746,686	17,309,813,791
11. Net cash from operations (Line 4 minus Line 10) .....	5,653,083,171	5,500,194,182	12,161,258,957
<b>Cash from Investments</b>			
12. Proceeds from investments sold, matured or repaid:			
12.1 Bonds .....	15,491,193,700	19,684,144,737	37,911,439,932
12.2 Stocks .....	226,965,743	184,726,970	629,126,523
12.3 Mortgage loans .....	2,449,754,755	1,871,242,173	4,889,448,336
12.4 Real estate .....	196,301,472		75,387,206
12.5 Other invested assets .....	799,040,859	195,930,649	1,629,188,561
12.6 Net gains or (losses) on cash, cash equivalents and short-term investments .....	(37,830,143)	18,976,792	12,177,704
12.7 Miscellaneous proceeds .....	(978,413,837)	(788,999,676)	(305,410,969)
12.8 Total investment proceeds (Lines 12.1 to 12.7) .....	18,147,012,549	21,166,021,645	44,841,357,293
13. Cost of investments acquired (long-term only):			
13.1 Bonds .....	21,476,667,567	18,859,606,728	47,343,011,600
13.2 Stocks .....	491,068,772	3,887,527,755	4,481,057,055
13.3 Mortgage loans .....	1,139,550,061	2,793,019,908	5,170,406,661
13.4 Real estate .....	47,217,757	107,308,010	174,082,441
13.5 Other invested assets .....	1,590,345,767	999,336,665	4,032,799,863
13.6 Miscellaneous applications .....	(78,813,383)	(585,815,860)	(19,983,770)
13.7 Total investments acquired (Lines 13.1 to 13.6) .....	24,666,036,541	26,060,983,206	61,181,373,850
14. Net increase (or decrease) in contract loans and premium notes .....	88,020,905	30,110,201	522,273,694
15. Net cash from investments (Line 12.8 minus Line 13.7 and Line 14) .....	(6,607,044,897)	(4,925,071,762)	(16,862,290,251)
<b>Cash from Financing and Miscellaneous Sources</b>			
16. Cash provided (applied):			
16.1 Surplus notes, capital notes .....	(25,000,000)		607,214,750
16.2 Capital and paid in surplus, less treasury stock .....			
16.3 Borrowed funds .....	(292,868)	869,737,840	(1,465)
16.4 Net deposits on deposit-type contracts and other insurance liabilities .....	610,761,682	1,621,253,040	2,358,979,535
16.5 Dividends to stockholders .....			
16.6 Other cash provided (applied) .....	226,110,529	(962,182,749)	1,939,398,717
17. Net cash from financing and miscellaneous sources (Line 16.1 through Line 16.4 minus Line 16.5 plus Line 16.6) .....	811,579,343	1,528,808,131	4,905,591,537
<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) .....	(142,382,384)	2,103,930,551	204,560,243
19. Cash, cash equivalents and short-term investments:			
19.1 Beginning of year .....	5,942,799,274	5,738,239,031	5,738,239,031
19.2 End of period (Line 18 plus Line 19.1) .....	5,800,416,890	7,842,169,582	5,942,799,274

Note: Supplemental disclosures of cash flow information for non-cash transactions:

20.0001. Bond conversions and refinancing .....	289,443,969	387,560,563	728,694,414
20.0002. Change in market value of corporate owned life insurance .....	47,330,329	163,465,126	271,872,643
20.0003. Stock conversion .....	6,847,236	4,228,783	106,924,558
20.0004. Net investment income payment in-kind bonds .....	5,022,448	10,258,406	16,245,620
20.0005. Partnership conversion .....	4,659,155		
20.0006. Transfer of stocks to partnerships .....			3,803,184
20.0007. Premium income recognized for group annuity contracts .....		252,122,481	1,236,691,127
20.0008. Bonds received as consideration for group annuity contracts .....		249,147,716	1,231,331,225
20.0009. Premium ceded in exchange for invested assets .....			514,062,514
20.0010. Bonds transferred in exchange for premium ceded .....			511,092,839

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

Note: Supplemental disclosures of cash flow information for non-cash transactions:

20.0011. Surplus notes issued in exchange for bonds .....		233,056,607	233,056,607
20.0012. Bonds received as consideration for surplus notes .....		233,056,607	233,056,607
20.0013. Transfer of Bonds to Cash Equivalents .....			150,000,000
20.0014. Exchange of mortgage loans for other assets .....		18,380,541	18,380,541
20.0015. Transfer of mortgage loans to partnerships and LLCs .....		11,266,500	11,331,264
20.0016. Common stock received as consideration for group annuity contracts .....		2,974,765	5,359,902
20.0017. Stock transferred in exchange for premium ceded .....			2,969,675
20.0018. Dividend reinvestment .....		355,601	355,601

## EXHIBIT 1

### DIRECT PREMIUMS AND DEPOSIT-TYPE CONTRACTS

	1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
1. Industrial life .....			
2. Ordinary life insurance .....	5,410,855,143	5,641,936,170	11,365,857,097
3. Ordinary individual annuities .....	4,271,307,983	1,984,431,548	6,098,675,931
4. Credit life (group and individual) .....			
5. Group life insurance .....	73,427,559	71,436,482	131,009,303
6. Group annuities .....	7,071,378,660	5,316,989,304	12,514,735,897
7. A & H - group .....	347,413	217,387	604,222
8. A & H - credit (group and individual) .....			
9. A & H - other .....	378,610,234	383,149,543	773,966,424
10. Aggregate of all other lines of business .....			
11. Subtotal (Lines 1 through 10) .....	17,205,926,992	13,398,160,433	30,884,848,873
12. Fraternal (Fraternal Benefit Societies Only) .....			
13. Subtotal (Lines 11 through 12) .....	17,205,926,992	13,398,160,433	30,884,848,873
14. Deposit-type contracts .....	2,630,389,340	3,755,161,926	6,245,596,458
15. Total (Lines 13 and 14)	19,836,316,332	17,153,322,359	37,130,445,331
DETAILS OF WRITE-INS			
1001. ....			
1002. ....			
1003. ....			
1098. Summary of remaining write-ins for Line 10 from overflow page .....			
1099. Totals (Lines 1001 through 1003 plus 1098)(Line 10 above)			

## NOTES TO FINANCIAL STATEMENTS

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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 Massachusetts Mutual 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 Commonwealth of Massachusetts Division of Insurance (the Division).

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

	SSAP #	F/S Page	F/S Line #	2022	2021
<b>NET INCOME</b>					
(1) State basis (Page 4, Line 35, Columns 1 & 3)	XXX	XXX	XXX	\$ 342,583,998	\$ (216,406,821)
(2) State prescribed practices that increase/(decrease) NAIC	N/A	N/A	N/A	-	-
(3) State permitted practices that increase/(decrease) NAIC	N/A	N/A	N/A	-	-
(4) NAIC SAP (1-2-3=4)	XXX	XXX	XXX	\$ <u>342,583,998</u>	\$ <u>(216,406,821)</u>
<b>SURPLUS</b>					
(5) State basis (Page 3, Line 38, Columns 1 & 2)	XXX	XXX	XXX	\$ 27,726,867,499	\$ 26,979,255,992
(6) State prescribed practices that increase/(decrease) NAIC	N/A	N/A	N/A	-	-
(7) State permitted practices that increase/(decrease) NAIC	N/A	N/A	N/A	-	-
(8) NAIC SAP (5-6-7=8)	XXX	XXX	XXX	\$ <u>27,726,867,499</u>	\$ <u>26,979,255,992</u>

b. Use of estimates in the preparation of the financial statements - No change

c. Accounting policy:

(1) No change

(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.

(3-5) No change

(6) For loan-backed and structured securities, such as asset-backed securities, mortgage-backed securities, including RMBS and CMBS, and structured securities, including collateralized debt obligations, amortization or accretion is revalued quarterly based on the current estimated cash flows, using either the prospective or retrospective adjustment methodologies.

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.

(7-14) No change

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 six months ended June 30, 2022, corrections of prior years' errors were recorded in surplus, net of tax:

	Increase (Decrease) to:		
	Prior Years' Net Income	Current Year Surplus	Asset or Liability Balances
Policyholders' reserves	(73,512,509)	(73,512,509)	73,512,509
Total	\$ (73,512,509)	\$ (73,512,509)	

Of the \$73,512,509 decrease to surplus for prior years' errors, \$73,512,509 was recorded as prior period adjustments, net of taxes.

## NOTES TO FINANCIAL STATEMENTS

For the six months ended June 30, 2021, corrections of prior years' errors were recorded in surplus, net of tax:

	Increase (Decrease) to:		
	Prior Years' Net Income	Current Year Surplus	Asset or Liability Balances
Liabilities for deposit-type contracts	\$ 26,149,000	\$ 26,149,000	\$ (26,149,000)
Policyholders' reserves	(27,309,002)	(27,309,002)	(27,309,002)
Common stocks - subsidiaries and affiliates	-	(1,500,000)	(1,500,000)
Net deferred income taxes	-	49,330,000	49,330,000
Total	\$ (1,160,002)	\$ 46,669,998	

Of the \$46,669,998 increase to surplus for prior years' errors, \$(1,160,002) was recorded as prior period adjustments, net of taxes.

- b. Adoption of new accounting standards - No change

**Note 3 – Business Combinations and Goodwill** - No change

**Note 4 – Discontinued Operations** - No change

**Note 5 – Investments**

- a. Mortgage loans, including mezzanine real estate loans

(1-4) No change

- (5) Investment in impaired loans with or without allowance for credit losses and impaired loans subject to a participant or co-lender mortgage loan agreement for which the reporting entity is restricted from unilaterally foreclosing on the mortgage loan:

	Residential		Commercial		Mezzanine	Total
	Farm	Insured	All Other	Insured		
a. 2022						
1. With allowance for credit losses	\$ -	\$ -	\$ -	\$ -	\$ -	-
2. No allowance for credit losses	-	-	-	-	36,833,477	36,833,477
3. Total (1+2)	-	-	-	-	36,833,477	36,833,477
4. Subject to a participant or co-lender mortgage loan agreement for which the reporting entity is restricted from unilaterally foreclosing on the mortgage loan	-	-	-	-	-	-
b. 2021						
1. With allowance for credit losses	\$ -	\$ -	\$ -	\$ -	\$ -	-
2. No allowance for credit losses	-	-	-	-	48,435,114	48,435,114
3. Total (1+2)	-	-	-	-	48,435,114	48,435,114
4. Subject to a participant or co-lender mortgage loan agreement for which the reporting entity is restricted from unilaterally foreclosing on the mortgage loan	-	-	-	-	-	-

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**NOTES TO FINANCIAL STATEMENTS**


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- (6) Investment in impaired loans - average recorded investment, interest income recognized, recorded investment on nonaccrual status and amount of interest income recognized using a cash-basis method of accounting:

	Residential			Commercial		Mezzanine	Total
	Farm	Insured	All Other	Insured	All Other		
a. 2022							
1. Average recorded investment	\$ -	\$ -	\$ -	\$ -	35,666,738	\$ -	35,666,738
2. Interest income recognized	-	-	-	-	-	-	-
3. Recorded investment on nonaccrual status	-	-	-	-	36,833,477	-	36,833,477
4. Amount of interest income recognized using a cash-basis method of accounting	-	-	-	-	-	-	-
b. 2021							
1. Average recorded investment	\$ -	\$ -	\$ -	\$ -	51,102,422	\$ -	51,102,422
2. Interest income recognized	-	-	-	-	476,200	-	476,200
3. Recorded investment on nonaccrual status	-	-	-	-	48,435,114	-	48,435,114
4. Amount of interest income recognized using a cash-basis method of accounting	-	-	-	-	476,200	-	476,200

- (7) Allowance for credit losses - No change

- (8) As of June 30, 2022, the Company did not have any mortgage loans derecognized as a result of foreclosure.

b. Debt restructuring - No change

c. Reverse mortgages - No change

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>30,135,997</u>	<u>-</u>	<u>6,278,218</u>	<u>23,857,779</u>
c. Total first quarter	<u>\$ 30,135,997</u>	<u>\$ -</u>	<u>\$ 6,278,218</u>	<u>\$ 23,857,779</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>17,306,639</u>	<u>-</u>	<u>1,480,248</u>	<u>15,826,391</u>
f. Total second quarter	<u>\$ 17,306,639</u>	<u>\$ -</u>	<u>\$ 1,480,248</u>	<u>\$ 15,826,391</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>
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>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
l. Total fourth quarter	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
m. Annual aggregate total		<u>\$ -</u>	<u>\$ 7,758,466</u>	

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 following is a CUSIP detail list of impaired structured securities where the present value of cash flows expected to be collected is less than the amortized cost basis.



## NOTES TO FINANCIAL STATEMENTS

- (4) As of June 30, 2022, the gross unrealized losses and fair values for investments in structured and loan-backed securities for which an OTTI has not been recognized in earnings follow:
- |    |  |    |                |
|----|--|----|----------------|
| a. | The aggregate amount of unrealized losses:                             |    |                |
|    | 1. Less than 12 months   | \$ | (931,327,871)  |
|    | 2. 12 months or longer   | \$ | (319,606,870)  |
| b. | The aggregate related fair value of securities with unrealized losses: |    |                |
|    | 1. Less than 12 months   | \$ | 16,647,280,231 |
|    | 2. 12 months or longer   | \$ | 2,470,735,010  |

(5) No change

- 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 June 30, 2022.
- f. Repurchase agreements transactions accounted for as secured borrowing:

- (1) The Company has entered into repurchase agreements whereby the Company sells securities and simultaneously agrees to repurchase the same or substantially the same securities. These repurchase agreements are accounted for as collateralized borrowings with the proceeds from the sale of the securities recorded as a liability and the underlying securities continue to be recorded as an investment by the Company. Earnings on these investments are recorded as investment income and the difference between the proceeds and the amount at which the securities will be subsequently reacquired is amortized as interest expense. Repurchase agreements are used as a tool for overall portfolio management to help ensure the Company maintains adequate assets in order to provide yield, spread and duration to support liabilities and other corporate needs.

The Company provides collateral, as dictated by the repurchase agreements, to the counterparty in exchange for a loan. If the fair value of the securities sold becomes less than the loan, the counterparty may require additional collateral.

The carrying value, which is at cost, reported in the Company's liabilities as repurchase agreements approximates the fair value.

(2) Type of Repo Trades Used

	1 FIRST QUARTER	2 SECOND QUARTER	3 THIRD QUARTER	4 FOURTH QUARTER
a. Bilateral (YES/NO)	YES	YES	-	-
b. Tri-Party (YES/NO)	NO	NO	-	-

(3) Original (Flow) & Residual Maturity

	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
a. Maximum Amount				
1. Open – No Maturity	-	-	-	-
2. Overnight	-	-	-	-
3. 2 Days to 1 Week	-	-	-	-
4. > 1 Week to 1 Month	\$ 994,256,250	\$ 510,750,000	\$ -	\$ -
5. > 1 Month to 3 Months	\$ 2,091,585,319	\$ 2,968,437,775	\$ -	\$ -
6. > 3 Months to 1 Year	\$ 2,110,993,976	\$ 290,543,750	\$ -	\$ -
7. > 1 Year	-	-	-	-

	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
b. Ending Balance				
1. Open – No Maturity	-	-	-	-
2. Overnight	-	-	-	-
3. 2 Days to 1 Week	-	-	-	-
4. > 1 Week to 1 Month	\$ 262,950,000	\$ 228,437,500	\$ -	\$ -
5. > 1 Month to 3 Months	\$ 1,900,876,431	\$ 2,968,437,775	\$ -	\$ -
6. > 3 Months to 1 Year	\$ 491,720,221	\$ 290,543,750	\$ -	\$ -
7. > 1 Year	-	-	-	-

- (4) The company did not have any repurchase agreements where securities sold and/or acquired resulted in default as of June 30, 2022.

(5) Securities "Sold" Under Repo – Secured Borrowing

	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
a. Maximum Amount				
1. BACV	XXX	XXX	XXX	XXX
2. Nonadmitted - Subset of BACV	XXX	XXX	XXX	XXX
3. Fair Value	\$ 3,264,812,726	\$ 3,196,875,275	\$ -	\$ -

	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
b. Ending Balance				
1. BACV	\$ 2,655,546,652	\$ 3,196,875,275	\$ -	\$ -
2. Nonadmitted - Subset of BACV	-	-	-	-
3. Fair Value	\$ 2,655,546,652	\$ 3,196,875,275	\$ -	\$ -

## NOTES TO FINANCIAL STATEMENTS

## (6) Securities Sold Under Repo – Secured Borrowing by NAIC Designation

ENDING BALANCE		1	2	3	4
		NONE	NAIC 1	NAIC 2	NAIC 3
a.	Bonds - BACV	\$ -	\$ 2,655,546,652	\$ 3,196,875,275	\$ -
b.	Bonds - FV	\$ -	\$ 2,655,546,652	\$ 3,196,875,275	\$ -
c.	LB & SS - BACV	-	-	-	-
d.	LB & SS - FV	-	-	-	-
e.	Preferred Stock - BACV	-	-	-	-
f.	Preferred Stock - FV	-	-	-	-
g.	Common Stock	-	-	-	-
h.	Mortgage Loans - BACV	-	-	-	-
i.	Mortgage Loans - FV	-	-	-	-
j.	Real Estate - BACV	-	-	-	-
k.	Real Estate - FV	-	-	-	-
l.	Derivatives - BACV	-	-	-	-
m.	Derivatives - FV	-	-	-	-
n.	Other Invested Assets - BACV	-	-	-	-
o.	Other Invested Assets - FV	-	-	-	-
p.	Total Assets - BACV	\$ -	\$ 2,655,546,652	\$ 3,196,875,275	\$ -
q.	Total Assets - FV	\$ -	\$ 2,655,546,652	\$ 3,196,875,275	\$ -

ENDING BALANCE		5	6	7	8
		NAIC 4	NAIC 5	NAIC 6	NON-ADMITTED
a.	Bonds - BACV	-	-	-	-
b.	Bonds - FV	-	-	-	-
c.	LB & SS - BACV	-	-	-	-
d.	LB & SS - FV	-	-	-	-
e.	Preferred Stock - BACV	-	-	-	-
f.	Preferred Stock - FV	-	-	-	-
g.	Common Stock	-	-	-	-
h.	Mortgage Loans - BACV	-	-	-	-
i.	Mortgage Loans - FV	-	-	-	-
j.	Real Estate - BACV	-	-	-	-
k.	Real Estate - FV	-	-	-	-
l.	Derivatives - BACV	-	-	-	-
m.	Derivatives - FV	-	-	-	-
n.	Other Invested Assets - BACV	-	-	-	-
o.	Other Invested Assets - FV	-	-	-	-
p.	Total Assets - BACV	-	-	-	-
q.	Total Assets - FV	-	-	-	-

$$p=a+c+e+g+h+j+l+n$$

$$q=b+d+f+g+i+k+m+o$$

## (7) Collateral Received - Secured Borrowing

	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
a. Maximum Amount				
1. Cash	\$ 61,166,000	\$ 88,202,811	\$ -	\$ -
2. Securities (FV)	\$ 2,800,312,571	\$ 2,881,690,980	\$ -	\$ -
b. Ending Balance				
1. Cash	\$ 61,166,000	\$ 24,467,000	\$ -	\$ -
2. Securities (FV)	\$ 2,464,377,215	\$ 2,881,690,980	\$ -	\$ -

## (8) Cash &amp; Non-Cash Collateral Received – Secured Borrowing by NAIC Designation

ENDING BALANCE		1	2	3	4
		NONE	NAIC 1	NAIC 2	NAIC 3
a.	Cash	\$ 61,166,000	\$ -	\$ 24,467,000	\$ -
b.	Bonds - FV	-	2,464,377,215	2,881,690,980	-
c.	LB & SS - FV	-	-	-	-
d.	Preferred Stock - FV	-	-	-	-
e.	Common Stock	-	-	-	-
f.	Mortgage Loans - FV	-	-	-	-
g.	Real Estate - FV	-	-	-	-
h.	Derivatives - FV	-	-	-	-
i.	Other Invested Assets - FV	-	-	-	-
j.	Total Collateral Assets - FV (Sum of a through i)	\$ 61,166,000	\$ 2,464,377,215	\$ 2,906,157,980	\$ -

ENDING BALANCE		5	6	7	8
		NAIC 4	NAIC 5	NAIC 6	DOES NOT QUALIFY AS ADMITTED
a.	Cash	\$ -	\$ -	\$ -	\$ -
b.	Bonds - FV	-	-	-	-
c.	LB & SS - FV	-	-	-	-
d.	Preferred Stock - FV	-	-	-	-
e.	Common Stock	-	-	-	-
f.	Mortgage Loans - FV	-	-	-	-
g.	Real Estate - FV	-	-	-	-
h.	Derivatives - FV	-	-	-	-
i.	Other Invested Assets - FV	-	-	-	-
j.	Total Collateral Assets - FV (Sum of a through i)	\$ -	\$ -	\$ -	\$ -

**NOTES TO FINANCIAL STATEMENTS**

## (9) Allocation of Aggregate Collateral by Remaining Contractual Maturity

	FAIR VALUE
a. Overnight and Continuous	\$ -
b. 30 Days or Less	\$ 150,678,846
c. 31 to 90 Days	\$ 2,497,028,620
d. > 90 Days	\$ 44,699,038

(10) The company did not have any repurchase agreements where cash collateral received was reinvested as of June 30,

## (11) Liability to Return Collateral – Secured Borrowing (Total)

	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
a. Maximum Amount				
1. Cash (Collateral – All)	\$ 61,166,000	\$ 88,202,811	\$ -	\$ -
2. Securities Collateral (FV)	\$ 2,800,312,571	\$ 2,881,690,980	\$ -	\$ -
b. Ending Balance				
1. Cash (Collateral – All)	\$ 61,166,000	\$ 24,467,000	\$ -	\$ -
2. Securities Collateral (FV)	\$ 2,464,377,215	\$ 2,881,690,980	\$ -	\$ -

g. Reverse repurchase agreements transactions accounted for as secured borrowing: The Company did not have any reverse repurchase agreements transactions accounted for as secured borrowing as of June 30, 2022.

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 June 30, 2022.

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 June 30, 2022.

j. Real estate - No change

k. Low-income housing tax credit - No change

l. Restricted assets - No change

m. Working capital finance investments: The Company did not invest in working capital finance investments as of June 30, 2022.

n. Offsetting and netting of assets and liabilities: The Company reports derivative and repurchase agreement assets and liabilities as gross in the financial statements without offsetting as of June 30, 2022.

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	158	153	\$1,205,236,464	\$1,298,544,081	\$1,203,463,984	\$1,319,091,783
(2) LB&SS - AC		2		10,400,000		10,400,000
(3) Preferred Stock - AC	3	3	7,014,496	7,014,496	10,196,412	7,066,789
(4) Preferred Stock - FV		1		6,276,526		6,276,526
(5) Total (1+2+3+4)	161	159	\$1,212,250,960	\$1,322,235,103	\$1,213,660,396	\$1,342,835,098

AC - Amortized Cost FV - Fair Value

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

q. Prepayment penalty and acceleration fees:

	Six Months Ended June 30, 2022	
	General Account	Separate Account
1. Number of CUSIPS	30	10
2. Aggregate amount of investment income	\$ 19,944,386	\$ 1,171,491

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

Asset Type	Percent Share
(1) Cash	13 %
(2) Cash equivalents	52 %
(3) Short-term investments	35 %
(4) Total	100 %

**Note 6 – Joint Ventures, Partnerships and Limited Liability Companies** - No change

**Note 7 – Investment Income** – No change

**Note 8 – Derivative Instruments**

a. The Company did not have any deferred derivative premium payments under SSAP No. 86.

b. The Company did not account for any derivatives under SSAP No. 108.

## NOTES TO FINANCIAL STATEMENTS

### Note 9 – Income Taxes – No change

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

a-c. MassMutual Holding LLC (MMHLLC) paid \$604,000,000 in dividends to MassMutual for the six months ended June 30, 2022, which were declared in 2021, and paid \$1,000,000,000 in dividends to MassMutual for the six months ended June 30, 2021, which were declared in 2020.

MassMutual contributed capital of \$218,807,953 to MMHLLC for the six months ended June 30, 2022 and \$118,494,408 for the six months ended June 30, 2021.

d-f. No change

g. Subsidiaries of MMHLLC are involved in litigation and investigations arising in the ordinary course of their business, which seek compensatory damages, punitive damages and equitable remedies. Although the Company is not aware of any actions or allegations that reasonably could give rise to a material adverse impact to the Company's financial position or liquidity, the outcome of litigation cannot be foreseen with certainty. It is the opinion of management that the ultimate resolution of these matters will not materially impact the Company's financial position or liquidity. However, the outcome of a particular proceeding may be material to the Company's surplus for a particular period depending upon, among other factors, the size of the loss and the level of the Company's changes in surplus for the period.

The Company has no parent.

h-o. No change

### Note 11 – Debt

a. No change.

b. Federal Home Loan Bank agreements:

(1) The Company is a member of the Federal Home Loan Bank of Boston (FHLB Boston). Through its membership, the Company has conducted business activity (borrowings) with the FHLB Boston. The Company uses these funding agreements with the FHLB Boston in an investment spread strategy, consistent with its other investment spread operations. The Company has determined the actual maximum borrowing capacity as \$6,000,000,000. The Company's unused capacity was \$3,889,421,611 as of June 30, 2022.

(2) FHLB Boston capital stock

a. Aggregate totals:

		June 30, 2022		
		1 Total 2+3	2 General Account	3 Separate Account
1.	Current Year:			
	(a) Membership stock - Class A	\$ -	\$ -	-
	(b) Membership stock - Class B	5,000,000	5,000,000	-
	(c) Activity Stock	84,000,000	84,000,000	-
	(d) Excess Stock	2,670,000	2,670,000	-
	(e) Aggregate Total	\$ 91,670,000	\$ 91,670,000	\$ -
	(f) Actual or Estimated Borrowing Capacity as Determined by the Insurer	\$ 6,000,000,000	\$ 6,000,000,000	\$ -
2.	Prior Year-end:			
	(a) Membership stock - Class A	\$ -	\$ -	-
	(b) Membership stock - Class B	10,000,000	10,000,000	-
	(c) Activity Stock	60,000,000	60,000,000	-
	(d) Excess Stock	5,004,600	5,004,600	-
	(e) Aggregate Total	\$ 75,004,600	\$ 75,004,600	\$ -
	(f) Actual or Estimated Borrowing Capacity as determined by the Insurer	\$ 6,000,000,000	\$ 6,000,000,000	\$ -

b. Membership Stock (Class A and B) Eligible and Not Eligible for Redemption:

		Six Months Ended June 30, 2022					
Membership Stock	1 Current Year Total	2 Not Eligible for Redemption	Eligible for Redemption				
			3 Less Than 6 Months	4 6 Months to Less Than 1 Year	5 1 to Less Than 3 Years	6 3 to 5 Years	
1. Class A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2. Class B	5,000,000	5,000,000	-	-	-	-	

## NOTES TO FINANCIAL STATEMENTS

## (3) Collateral pledged to FHLB:

## a. Amount pledged as of June 30, 2022:

## 1. Current year total general and separate accounts:

	Fair Value	Carrying Value	Aggregate Total Borrowing
Total collateral pledged	\$ 3,807,189,409	\$ 2,758,157,964	\$ 2,110,578,389

## 2. Current year general account:

	Fair Value	Carrying Value	Aggregate Total Borrowing
Total collateral pledged	\$ 3,807,189,409	\$ 2,758,157,964	\$ 2,110,578,389

## 3. Current year separate accounts:

	Fair Value	Carrying Value	Aggregate Total Borrowing
Total collateral pledged	\$ -	\$ -	\$ -

## 4. Prior year-end total general and separate accounts:

	Fair Value	Carrying Value	Aggregate Total Borrowing
Total collateral pledged	\$ 3,511,452,028	\$ 2,602,977,114	\$ 1,505,228,472

## b. Maximum amount pledged for the six months ended June 30, 2022:

## 1. Current year total general and separate accounts:

	Fair Value	Carrying Value	Amount Borrowed at Time of Maximum Collateral
Maximum collateral pledged	\$ 5,276,924,459	\$ 4,086,519,227	\$ 2,111,768,908

## 2. Current year general account:

	Fair Value	Carrying Value	Amount Borrowed at Time of Maximum Collateral
Maximum collateral pledged	\$ 5,276,924,459	\$ 4,086,519,227	\$ 2,111,768,908

## 3. Current year separate accounts:

	Fair Value	Carrying Value	Amount Borrowed at Time of Maximum Collateral
Maximum collateral pledged	\$ -	\$ -	\$ -

## 4. Prior year-end total general and separate accounts:

	Fair Value	Carrying Value	Amount Borrowed at Time of Maximum Collateral
Maximum collateral pledged	\$ 3,823,885,348	\$ 2,797,549,592	\$ 2,111,618,628

**NOTES TO FINANCIAL STATEMENTS**

## (4) Borrowing from FHLB:

## a. Amount:

## 1. Current year:

	June 30, 2022			
	1 Total 2+3	2 General Account	3 Separate Account	4 Funding Agreements Reserves Established
(a) Debt	\$ -	\$ -	\$ -	\$ -
(b) Funding agreements	2,110,578,389	2,110,578,389	-	2,110,578,389
(c) Other	-	-	-	-
(d) Aggregate total	<u>\$ 2,110,578,389</u>	<u>\$ 2,110,578,389</u>	<u>\$ -</u>	<u>\$ 2,110,578,389</u>

## 2. Prior Year-end:

	December 31, 2021			
	1 Total 2+3	2 General Account	3 Separate Account	4 Funding Agreements Reserves Established
(a) Debt	\$ -	\$ -	\$ -	\$ -
(b) Funding agreements	1,505,228,472	1,505,228,472	-	1,505,228,472
(c) Other	-	-	-	-
(d) Aggregate total	<u>\$ 1,505,228,472</u>	<u>\$ 1,505,228,472</u>	<u>\$ -</u>	<u>\$ 1,505,228,472</u>

## b. Maximum Amount:

	Six Months Ended June 30, 2022		
	1 Total 2+3	2 General Account	3 Separate Account
1. Debt	\$ -	\$ -	\$ -
2. Funding	2,111,768,908	2,111,768,908	-
3. Other	-	-	-
4. Aggregate	<u>\$ 2,111,768,908</u>	<u>\$ 2,111,768,908</u>	<u>\$ -</u>

## c. FHLB - Prepayment Obligations:

Does the company have prepayment obligations under the following arrangements (YES/NO)?
---

- |                       |     |
|-----------------------|-----|
| 1. Debt               | N/A |
| 2. Funding agreements | NO  |
| 3. Other              | N/A |

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

## a. Defined Benefit Plan:

- (1) The Company sponsors multiple employee benefit plans, providing retirement, life, health and other benefits to employees, certain employees of unconsolidated subsidiaries, agents, general agents and retirees who meet plan eligibility requirements.

(2-3) No change

## (4) Components of net periodic benefit cost

	For the Six months Ended June 30,					
	2022		2021		2022	
	Pension Benefits		Postretirement Benefits		Special or Contractual Benefits per SSAP No 11	
a. Service cost	\$ 48,492,310	\$ 54,913,359	\$ 4,800,000	\$ 5,150,000	\$ -	\$ -
b. Interest cost	42,865,980	38,583,354	5,150,000	4,650,000	-	-
c. Expected return on plan assets	(96,809,709)	(91,439,212)	-	-	-	-
d. Transition asset or obligation	-	-	-	-	-	-
e. Gains and losses	4,663,578	19,310,708	(800,000)	500,000	-	-
f. Prior service cost or (credit)	-	-	(2,750,000)	(2,750,000)	-	-
h. Total net periodic benefit cost	<u>\$ (787,841)</u>	<u>\$ 21,368,209</u>	<u>\$ 6,400,000</u>	<u>\$ 7,550,000</u>	<u>\$ -</u>	<u>\$ -</u>

Effective May 6, 2022, the Company transitioned administrative and recordkeeping services from Empower Retirement to Fidelity Investments for the Defined Contribution Plans.

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

(a-c) No change

(d) The Company is a mutual company, and as such does not pay stockholders' dividends.

(e-m) No change

## NOTES TO FINANCIAL STATEMENTS

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

- a. Contingent commitments - No change
- b. Assessments - No change
- c. Gain contingencies - No change
- d. Claims related to extra contractual obligations - No change
- e. Joint and several liabilities - No change
- 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.

In connection with the May 24, 2019 sale of Oppenheimer Acquisition Corp. (OAC) to Invesco, Invesco has identified an accounting matter related to four Master Limited Partnership funds managed by a subsidiary of OAC prior to the sale that Invesco has stated may result in an indemnification claim against MassMutual under the terms of the acquisition agreement. Under the terms of the agreement, MassMutual may be liable to Invesco under the acquisition agreement for a portion of any actual losses incurred by Invesco in excess of \$173,000,000 and up to a cap of \$575,000,000. There are currently considerable uncertainties as to the nature, scope and amount of the potential losses for which Invesco may seek indemnity. In addition to the \$173,000,000 deductible, it is uncertain whether the indemnification obligations set forth in the acquisition agreement would apply to this situation and MassMutual believes it has a number of defenses available that may mitigate its exposure to any losses claimed by Invesco should such obligations apply. However, the outcome of any indemnification dispute (including any resulting litigation), should Invesco assert such a claim, and its potential impact on MassMutual's financial position cannot be foreseen with certainty at this time.

### **Note 15 – Leases** - No change

### **Note 16 – Information About Financial Instruments With Off-Balance Sheet Risk and Financial Instruments With Concentrations of Credit Risk** - No change

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

- a. Transfers of receivables reported as sales - No change
- b. Transfer and servicing of financial assets - No change
  - (1) The Company did not have any servicing assets or liabilities in 2022 or 2021
  - (2) The Company did not have interests that continue to be held by a transferor in securitized financial assets in 2022 or 2021
- c. Wash sales:
  - (1) In the course of the Company's investment management activities, securities may be sold and reacquired within 30 days 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, through the six months ended June 30, 2022 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** - No change

### **Note 19 – Direct Premium Written/Produced by Managing General Agents/Third Party Administrators** - No change

### **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.

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

## NOTES TO FINANCIAL STATEMENTS

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 group annuity contracts and other deposits is determined by multiplying the book value of the contract by an average market value adjustment factor. The market value adjustment factor is directly related to the difference between the book value of client liabilities and the present value of installment payments discounted at current market value yields. The market value yield is measured by the Bloomberg Barclays Global-Aggregate Total Return Index, subject to certain adjustments, and the installment period is equivalent to the duration of the Company's invested asset portfolio.

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 contracts with longer durations, guaranteed interest contracts and 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 receiving dividends are accumulated at the average minimum guaranteed rate and discounted at the risk-free rate. All others 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:

	June 30, 2022				
	Level 1	Level 2	Level 3	Net Asset Value (NAV)	Total
<b>Financial assets:</b>					
<b>Bonds:</b>					
Special revenue	\$ -	\$ 1,436,925	\$ -	\$ -	\$ 1,436,925
Industrial and miscellaneous	-	319,356,085	229,865,540	-	549,221,625
Preferred stocks	36,968,430	-	646,771	-	37,615,201
Common stock - subsidiaries and affiliates	113,939,508	-	389,276,871	-	503,216,379
Common stock - unaffiliated	465,676,360	3,111,353	791,397,482	-	1,260,185,195
<b>Derivatives:</b>					
Interest rate swaps	-	14,331,176,930	-	-	14,331,176,930
Options	23,701,850	529,641,255	-	-	553,343,105
Currency swaps	-	2,442,127,593	-	-	2,442,127,593
Forward contracts	-	196,633,052	-	-	196,633,052
Credit default swaps	-	562,244	-	-	562,244
Financial futures	9,416,454	-	-	-	9,416,454
Separate account assets	36,406,858,674	20,286,769,249	1,742,910,892	-	58,436,538,815
Total financial assets carried at fair value	\$ 37,056,561,276	\$ 38,110,814,686	\$ 3,154,097,556	\$ -	\$ 78,321,473,518
<b>Financial liabilities:</b>					
Interest rate swaps	\$ -	\$ 9,507,412,404	\$ -	\$ -	\$ 9,507,412,404
Options	3,672,000	-	-	-	3,672,000
Currency swaps	-	14,030,202	-	-	14,030,202
Forward contracts	-	15,378,809	-	-	15,378,809
Credit default swaps	-	277,784	-	-	277,784
Financial futures	48,965,962	-	-	-	48,965,962
Total financial liabilities carried at fair value	\$ 52,637,962	\$ 9,537,099,199	\$ -	\$ -	\$ 9,589,737,161

The Company reviews the fair value hierarchy classifications each reporting period. Changes in the observability of the valuation attributes and the level of market activity may result in a reclassification of certain financial assets or liabilities between fair value hierarchy classifications. Such reclassifications are reported as transfers between levels at the beginning fair value for the reporting period in which the changes occur. For the period ended June 30, 2022, there were derivative transfers between Level 2 and Level 1 for options and futures are priced using quoted marks. The Company does not have any financial instruments that were carried at NAV as a practical expedient.

## NOTES TO FINANCIAL STATEMENTS

December 31, 2021

	December 31, 2021				Total
	Level 1	Level 2	Level 3	Net Asset Value (NAV)	
Financial assets:					
Bonds:					
Special revenue	\$ -	\$ 1,697,075	\$ -	\$ -	\$ 1,697,075
Industrial and miscellaneous	45,481,250	248,420,006	186,869,898	-	480,771,154
Preferred stocks	43,255,937	-	18,015,654	-	61,271,591
Common stock - subsidiaries and affiliates	137,166,541	-	253,282,027	-	390,448,568
Common stock - unaffiliated	523,570,859	-	753,425,003	-	1,276,995,862
Derivatives:					
Interest rate swaps	-	15,003,547,754	-	-	15,003,547,754
Options	15,102,900	306,315,849	-	-	321,418,749
Currency swaps	-	947,968,166	-	-	947,968,166
Forward contracts	-	67,173,172	-	-	67,173,172
Financial futures	37,985,820	-	-	-	37,985,820
Separate account assets	52,405,090,449	21,860,812,770	1,893,940,794	-	76,159,844,013
Total financial assets carried at fair value	\$ 53,207,653,756	\$ 38,435,934,792	\$ 3,105,533,376	\$ -	\$ 94,749,121,924
Financial liabilities:					
Derivatives:					
Interest rate swaps	\$ -	\$ 10,597,858,406	\$ -	\$ -	\$ 10,597,858,406
Options	4,338,400	-	-	-	4,338,400
Currency swaps	-	200,488,496	-	-	200,488,496
Forward contracts	-	68,426,598	-	-	68,426,598
Financial futures	4,822,987	-	-	-	4,822,987
Total financial liabilities carried at fair value	\$ 9,161,387	\$ 10,866,773,500	\$ -	\$ -	\$ 10,875,934,887

(2) The following presents changes in the Company's Level 3 financial instruments that are carried at fair value:

	Balance as of 1/1/2022	Transfers		Gains (Losses) in Net Income	Gains (Losses) in Surplus	Purchases	Issuances	Sales	Settlements	Other	Balance as of 3/31/2021
		In	Out								
Financial assets:											
Bonds:											
Industrial and miscellaneous	\$ 186,869,899	\$ -	\$ -	\$ (1,425,372)	\$ (16,529,276)	\$ 16,007,506	\$ 8,549,233	\$ -	\$ (72,331)	\$ 36,000,000	\$ 229,399,659
Preferred stock	18,015,655	-	-	-	(17,173,109)	-	-	-	-	-	842,546
Common stock - subsidiaries and affiliates	253,282,028	-	-	306,804	(31,549,111)	68,273,210	100,726,789	-	(2,762,848)	-	388,276,872
Common stock - unaffiliated	753,425,003	416	(2,923,664)	(30,041,605)	6,983,311	239,481,165	-	(7,035,205)	(167,496,421)	-	792,393,000
Separate account assets	1,893,940,793	-	(13,463,610)	(150,128,725)	-	109,407,592	342	(96,703,312)	(142,189)	-	1,742,910,891
Total financial assets	\$ 3,105,533,378	\$ 416	\$ (16,387,274)	\$ (181,288,898)	\$ (58,268,185)	\$ 433,169,473	\$ 109,276,364	\$ (103,738,517)	\$ (170,473,789)	\$ 36,000,000	\$ 3,153,822,968

<sup>(1)</sup> Level 3 transfers include assets that are consistently carried at fair value but have had a level change, are no longer carried at fair value, or have just begun to be carried at fair value, such as assets with no level changes but a change in the lower of cost or market carrying basis. Industrial and miscellaneous bonds in other transfers are assets that are no longer carried at fair value.

	Balance as of 01/01/2021	Transfers <sup>(1)</sup>		Gains (Losses) in Net Income	Gains (Losses) in Surplus	Purchases	Issuances	Sales	Settlements	Balance as of 12/31/2021
		In	Out							
Financial assets:										
Bonds:										
Industrial and miscellaneous	\$ 112,271,674	\$ -	\$ (7,152,056)	\$ (20,912,301)	\$ 3,951,308	\$ -	\$ 99,412,193	\$ -	\$ (700,919)	\$ 186,869,899
Preferred Stock	18,459,995	-	-	-	(763,052)	318,712	-	-	-	18,015,655
Common stock - subsidiaries and affiliates	186,455,491	-	-	808,527	(372,365,446)	23,194,260	421,522,611	-	(6,333,415)	253,282,028
Common stock - unaffiliated	411,934,164	-	-	7,613,386	116,191,606	243,648,768	3,009,832	(26,269,351)	(2,703,402)	753,425,003
Separate account assets	1,833,906,063	1,636,245	(26,150,075)	15,228,129	-	363,419,530	-	(293,852,739)	(246,360)	1,893,940,793
Total financial assets	\$ 2,563,027,387	\$ 1,636,245	\$ (33,302,131)	\$ 2,737,741	\$ (252,985,584)	\$ 630,581,270	\$ 523,944,636	\$ (320,122,090)	\$ (9,984,096)	\$ 3,105,533,378

<sup>(1)</sup> Level 3 transfers include assets that are consistently carried at fair value but have had a level change, are no longer carried at fair value, or have just begun to be carried at fair value, such as assets with no level changes but a change in the lower of cost or market carrying basis. The common stock unaffiliated assets were transferred from Level 2 to Level 3 due to a change in the observability of pricing inputs.

(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.

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**NOTES TO FINANCIAL STATEMENTS**

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**(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, 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.

*Derivative assets and liabilities* - These financial instruments are primarily valued using the market approach. The estimated fair value of derivatives is based primarily on quotations obtained from counterparties and independent sources, such as quoted market values received from brokers. These quotations are compared to internally derived prices and a price challenge is lodged with the counterparties and an independent source when a significant difference cannot be explained by appropriate adjustments to the internal model. When quoted market values are not reliable or available, the value is based upon an internal valuation process using market observable inputs that other market participants would use. Significant inputs to the valuation of derivative financial instruments include overnight index swaps and LIBOR basis curves, interest rate volatility, swap yield curve, currency spot rates, cross currency basis curves and dividend yields. Due to the observability of the significant inputs to these fair value measurements, they are classified as Level 2.

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".

## NOTES TO FINANCIAL STATEMENTS

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

	June 30, 2022					Net Asset Value (NAV)	Not Practicabl (Carrying Value)
	Aggregate	Admitted	Level 1	Level 2	Level 3		
	Fair Value	Assets					
Financial assets:							
Bonds:							
U. S. government and agencies	\$ 5,001,315,277	\$ 4,967,191,601	-	\$ 5,001,223,572	-	-	\$ -
All other governments	1,472,339,176	1,707,208,045	-	1,415,151,907	57,187,269	-	-
States, territories and possessions	280,705,910	271,740,182	-	280,705,910	-	-	-
Political subdivisions	429,945,715	425,893,922	-	429,945,715	-	-	-
Special revenue	4,409,147,599	4,235,784,433	-	4,400,027,515	9,120,084	-	-
Industrial and miscellaneous	102,405,382,759	109,467,990,566	31,575,186	46,382,137,743	55,991,669,831	-	-
Parent, subsidiaries and affiliates	6,948,846,731	7,061,194,900	-	37,779,122	6,911,067,610	-	-
Preferred stocks	522,532,901	522,806,489	36,542,816	-	485,990,085	-	-
Common stocks - subsidiaries							
and affiliates <sup>(1)</sup>	503,216,379	503,216,379	113,939,508	-	389,276,871	-	-
Common stocks - unaffiliated	1,260,185,195	1,260,185,195	465,676,360	3,111,353	791,397,482	-	-
Mortgage loans - commercial	20,042,897,577	20,898,949,344	-	-	20,042,897,577	-	-
Mortgage loans - residential	3,666,851,997	3,878,513,670	-	-	3,666,851,997	-	-
Cash, cash equivalents and							
short-term investments	5,600,749,962	5,600,749,962	712,142,534	4,888,607,428	-	-	-
Derivatives:							
Interest rate swaps	14,345,594,213	14,331,176,930	-	14,345,594,213	-	-	-
Options	553,343,105	553,343,105	23,701,850	529,641,255	-	-	-
Currency swaps	2,442,127,593	2,442,127,593	-	2,442,127,593	-	-	-
Forward contracts	196,633,052	196,633,052	-	196,633,052	-	-	-
Credit default swaps	1,022,244	562,244	-	1,022,244	-	-	-
Financial futures	9,416,454	9,416,454	9,416,454	-	-	-	-
Separate account assets	58,436,538,815	58,436,538,815	36,406,858,674	20,286,769,249	1,742,910,892	-	-
Financial liabilities:							
Repurchase agreements	3,263,900,275	3,263,900,275	-	3,263,900,275	-	-	-
Commercial paper	249,947,917	249,947,917	-	249,947,917	-	-	-
Guaranteed interest contracts	13,756,812,965	14,402,472,663	-	-	13,756,812,965	-	-
Group annuity contracts and							
other deposits	1,808,974,656	2,034,985,323	-	-	1,808,974,656	-	-
Individual annuity contracts	14,272,548,749	13,518,109,340	-	-	14,272,548,749	-	-
Supplementary contracts	1,172,291,446	1,171,023,001	-	-	1,172,291,446	-	-
Derivatives:							
Interest rate swaps	13,280,412,404	9,507,412,404	-	13,280,412,404	-	-	-
Options	3,672,000	3,672,000	3,672,000	-	-	-	-
Currency swaps	14,030,202	14,030,202	-	14,030,202	-	-	-
Forward contracts	15,378,809	15,378,809	-	15,378,809	-	-	-
Credit default swaps	2,077,636	504,253	-	2,077,636	-	-	-
Financial futures	48,965,962	48,965,962	48,965,962	-	-	-	-

<sup>(1)</sup>Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had a statutory carrying value of \$23,810,971,780.00.

## NOTES TO FINANCIAL STATEMENTS

December 31, 2021

	Aggregate Fair Value	Admitted Assets	Level 1	Level 2	Level 3	Net Asset Value (NAV)	Not Practicable (Carrying Value)
Financial assets:							
Bonds:							
U. S. government and agencies	\$ 4,768,832,657	\$ 4,125,427,840	\$ -	\$ 4,768,717,290	\$ 115,367	\$ -	\$ -
All other governments	1,968,891,170	1,844,462,300	-	1,908,090,073	60,801,097	-	-
States, territories and possessions	349,891,506	296,938,746	-	349,891,506	-	-	-
Political subdivisions	504,438,250	441,543,869	-	504,438,250	-	-	-
Special revenue	5,581,982,954	4,741,359,479	-	5,572,541,201	9,441,753	-	-
Industrial and miscellaneous	112,389,625,930	106,288,536,791	35,682,159	55,849,961,073	56,503,982,698	-	-
Parent, subsidiaries and affiliates	6,586,219,174	6,548,332,993	-	43,599,195	6,542,619,979	-	-
Preferred stocks	669,486,917	554,665,007	42,830,323	-	626,656,593	-	-
Common stock - subsidiaries and affiliates <sup>(1)</sup>	390,448,568	390,448,568	137,166,541	-	253,282,027	-	-
Common stock - unaffiliated	1,276,995,862	1,276,995,862	523,570,859	-	753,425,003	-	-
Mortgage loans - commercial	22,258,766,852	21,536,338,368	-	-	22,258,766,852	-	-
Mortgage loans - residential	4,849,439,356	4,808,507,195	-	-	4,849,439,356	-	-
Cash, cash equivalents and short-term investments	5,943,120,350	5,943,120,350	1,350,249,524	4,592,870,826	-	-	-
Derivatives:							
Interest rate swaps	16,233,071,096	15,003,547,754	-	16,233,071,096	-	-	-
Options	321,418,748	321,418,748	15,102,900	306,315,848	-	-	-
Currency swaps	947,968,166	947,968,166	-	947,968,166	-	-	-
Forward contracts	67,173,173	67,173,173	-	67,173,173	-	-	-
Credit default swaps	467,924	467,924	-	467,924	-	-	-
Financial futures	37,985,820	37,985,820	37,985,819	-	-	-	-
Separate account assets	76,159,844,013	76,159,844,013	52,405,090,448	21,860,812,770	1,893,940,794	-	-
Financial liabilities:							
Repurchase agreements	2,802,099,858	2,802,099,858	-	2,802,099,858	-	-	-
Commercial paper	250,325,819	250,325,819	-	250,325,819	-	-	-
Guaranteed investment contracts	13,827,700,972	13,832,332,392	-	-	13,827,700,972	-	-
Group annuity contracts and other deposits	1,811,536,651	1,754,506,297	-	-	1,811,536,651	-	-
Individual annuity contracts	14,580,833,180	12,108,980,683	-	-	14,580,833,180	-	-
Supplementary contracts	1,167,913,861	1,166,661,055	-	-	1,167,913,861	-	-
Derivatives:							
Interest rate swaps	11,431,225,680	10,597,858,406	-	11,431,225,680	-	-	-
Options	4,338,400	4,338,400	4,338,400	-	-	-	-
Currency swaps	200,488,496	200,488,496	-	200,488,496	-	-	-
Forward contracts	68,426,598	68,426,598	-	68,426,598	-	-	-
Credit default swaps	1,880,360	818,605	-	1,880,360	-	-	-
Financial futures	4,822,987	4,822,987	4,822,987	-	-	-	-

<sup>(1)</sup>Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had statutory carrying values of \$24,249,586,680.

d. As of June 30, 2022 and December 31, 2021, the Company had no investments where it was not practicable to estimate fair value.

### **Note 21 – Other Items**

- a. Unusual or infrequent items - No change
- b. Troubled debt restructuring - No change
- c. Other disclosures and unusual items:

#### **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, currency exchange risk and credit risk. The combined impact of these risks could have a material, adverse effect on the Company's financial statements or result in operating losses in future periods. The Company employs the use of reinsurance, portfolio diversification, asset/liability management processes and other risk management techniques to mitigate the impact of these risks. This condensed risks and uncertainties disclosure should be read in conjunction with the disclosure in the Company's 2021 Annual Statement.

#### **Insurance and underwriting risks**

The Company prices its products based on estimated benefit payments reflecting assumptions with respect to mortality, morbidity, 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. For participating whole life products, the Company's dividends to policyholders primarily reflect the difference between actual investment, mortality, expense and persistency experience and the experience embedded in the whole life premiums and guaranteed elements. The Company also reinsures certain life insurance and other long-term care insurance policies to mitigate the impact of its underwriting risk.

## NOTES TO FINANCIAL STATEMENTS

### 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 Company uses derivatives, such as interest rate swaps and swaptions, as well as synthetic assets to reduce interest rate and duration imbalances determined in asset/liability analyses.

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.

### Currency exchange risk

The Company has currency risk due to its non-U.S. dollar denominated investments and medium-term notes along with its indirect international operations. The Company mitigates a portion of its currency risk through the use of cross-currency swaps and forward contracts. Cross-currency swaps are used to minimize currency risk for certain non-U.S. dollar assets and liabilities through a pre-specified exchange of interest and principal. Forward contracts are used to hedge movements in exchange rates.

### 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 global capital markets or in particular 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. Global market factors, including interest rates, credit spread, equity prices, real estate markets, foreign currency exchange rates, 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.

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.

Total realized loss from Russian exposure through June 30, 2022 was \$346,733,937. On March 25, 2022, all Russia securities and Ukraine sovereign investments were impaired to market value due to intent to sell. This resulted in a year-to-date impaired realized loss of \$241,575,062. Some Russia related securities were sold through the six months ended June 30, 2022 resulting in a realized loss of \$105,158,875. Total statutory surplus decreased by \$346,733,937. Ukraine corporate bonds were not impaired as the current plan is to not sell and hold to recovery.

### Other Disclosures

Effective February 1, 2022, approximately \$14,188,769,319 of in force statutory reserves of certain fixed and fixed indexed annuities had been reinsured from MassMutual Ascend Life Insurance Company, a downstream wholly owned subsidiary, on a coinsurance with funds withheld basis to Martello Re, a Bermuda reinsurer focusing on annuities and other investment returns driven products, in exchange for a \$320,000,000 ceding commission paid by Martello Re. MassMutual has a noncontrolling interest in Martello Re.

- d. Business interruption insurance recoveries - No change
- e. State transferrable tax credits - No change
- f. Subprime mortgage related risk exposure:
  - (1) No change
  - (2) No change

**NOTES TO FINANCIAL STATEMENTS**

(3) Direct exposure through other investments:

Alt-A:	Six Months Ended June 30, 2022			
	Actual Cost	Carrying Value	Fair Value	OTTI
a. Residential mortgage-backed securities	\$ 327,350,462	\$ 353,472,609	\$ 358,196,538	\$ 1,261,833
b. Commercial mortgage-backed securities	-	-	-	-
c. Collateralized debt obligations	-	-	-	-
d. Structured securities	-	-	-	-
e. Equity investments in SCAs *	\$ 13,715,674	\$ 15,459,243	\$ 15,231,106	\$ 81,767
f. Other assets	-	-	-	-
g. Total	<u>\$ 341,066,136</u>	<u>\$ 368,931,852</u>	<u>\$ 373,427,644</u>	<u>\$ 1,343,600</u>

\*The Company's SCA, C.M. Life, has investments in Alt-A and subprime mortgages, as does C.M. Life's SCA, MML Bay State. These investments comprise less than 1% of the Company's invested assets.

Alt-A:	Year Ended December 31, 2021			
	Actual Cost	Carrying Value	Fair Value	OTTI
a. Residential mortgage-backed securities	\$ 293,702,628	\$ 321,327,569	\$ 344,915,403	\$ 743,622
b. Commercial mortgage-backed securities	-	-	-	-
c. Collateralized debt obligations	-	-	-	-
d. Structured securities	-	-	-	-
e. Equity investments in SCAs *	15,505,558	17,407,520	18,277,511	109,881
f. Other assets	-	-	-	-
g. Total	<u>\$ 309,208,186</u>	<u>\$ 338,735,089</u>	<u>\$ 363,192,914</u>	<u>\$ 853,504</u>

\*The Company's Subsidiaries and Controlled Affiliates (SCA), C.M. Life Insurance Company (C.M. Life), has investments in Alt-A and subprime mortgages, as does C.M. Life's SCA, MML Bay State Insurance Company (MML Bay State). These investments comprise less than 1% of the Company's invested assets.

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

g. Retained asset accounts - No change

**Note 22 – Events Subsequent**

Management of the Company has evaluated subsequent events through August 12, 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** - No change**Note 24 – Retrospectively Rated Contracts and Contracts Subject to Redetermination**

a – d. No change

e. The Company does not write any accident and health insurance premium that is subject to the Affordable Care Act risk-sharing provisions.

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

There was no increase to reserves in 2022 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** - No change**Note 27 – Structured Settlements** - No change**Note 28 – Health Care Receivables** - No change**Note 29 – Participating Policies** - No change**Note 30 – Premium Deficiency Reserves** - No change**Note 31 – Reserves for Life Contracts and Annuity Contracts** - No change**Note 32 – Analysis of Annuity Actuarial Reserves and Deposit Type Liabilities by Withdrawal Characteristics** - No change**Note 33 – Analysis of Life Actuarial Reserves by Withdrawal Characteristics** - No change**Note 34 – Premium and Annuity Considerations Deferred and Uncollected** - No change**Note 35 – Separate Accounts** - No change**Note 36 – Loss/Claim Adjustment Expenses** - No change

**GENERAL INTERROGATORIES**

**PART 1 - COMMON INTERROGATORIES**

**GENERAL**

- 1.1 Did the reporting entity experience any material transactions requiring the filing of Disclosure of Material Transactions with the State of Domicile, as required by the Model Act? ..... Yes [ ] No [ X ]
- 1.2 If yes, has the report been filed with the domiciliary state? ..... Yes [ ] No [ ]
- 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 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 and 1A.
- 3.2 Have there been any substantial changes in the organizational chart since the prior quarter end? ..... Yes [ ] No [ X ]
- 3.3 If the response to 3.2 is yes, provide a brief description of those changes.
- 3.4 Is the reporting entity publicly traded or a member of a publicly traded group? ..... Yes [ ] No [ X ]
- 3.5 If the response to 3.4 is yes, provide the CIK (Central Index Key) code issued by the SEC for the entity/group. ....
- 4.1 Has the reporting entity been a party to a merger or consolidation during the period covered by this statement? ..... Yes [ ] No [ X ]
- 4.2 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

- 5. If the reporting entity is subject to a management agreement, including third-party administrator(s), managing general agent(s), attorney-in-fact, or similar agreement, have there been any significant changes regarding the terms of the agreement or principals involved? ..... Yes [ ] No [ X ] N/A [ ]  
If yes, attach an explanation.
- 6.1 State as of what date the latest financial examination of the reporting entity was made or is being made. .... 12/31/2019
- 6.2 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
- 6.3 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). .... 06/25/2021
- 6.4 By what department or departments?  
Commonwealth of Massachusetts Division of Insurance
- 6.5 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 ]
- 6.6 Have all of the recommendations within the latest financial examination report been complied with? ..... Yes [ X ] No [ ] N/A [ ]
- 7.1 Has this 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 ]
- 7.2 If yes, give full information:
- 8.1 Is the company a subsidiary of a bank holding company regulated by the Federal Reserve Board? ..... Yes [ ] No [ X ]
- 8.2 If response to 8.1 is yes, please identify the name of the bank holding company.
- 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	Windsor, CT		YES		
Flourish Financial, LLC	New York, NY				YES

## GENERAL INTERROGATORIES

- 9.1 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  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.
- 9.11 If the response to 9.1 is No, please explain:
- 9.2 Has the code of ethics for senior managers been amended? ..... Yes  No
- 9.21 If the response to 9.2 is Yes, provide information related to amendment(s).  
 Changed references from HR business partner to Employee Relations in response to an HR organizational change.
- 9.3 Have any provisions of the code of ethics been waived for any of the specified officers? ..... Yes  No
- 9.31 If the response to 9.3 is Yes, provide the nature of any waiver(s).

### FINANCIAL

- 10.1 Does the reporting entity report any amounts due from parent, subsidiaries or affiliates on Page 2 of this statement? ..... Yes  No
- 10.2 If yes, indicate any amounts receivable from parent included in the Page 2 amount: ..... \$ .....

### INVESTMENT

- 11.1 Were any of the stocks, bonds, or other assets of the reporting entity loaned, placed under option agreement, or otherwise made available for use by another person? (Exclude securities under securities lending agreements.) ..... Yes  No
- 11.2 If yes, give full and complete information relating thereto:
12. Amount of real estate and mortgages held in other invested assets in Schedule BA: ..... \$ ..... 2,861,479,804
13. Amount of real estate and mortgages held in short-term investments: ..... \$ .....
- 14.1 Does the reporting entity have any investments in parent, subsidiaries and affiliates? ..... Yes  No
- 14.2 If yes, please complete the following:
- |   | 1<br>Prior Year-End<br>Book/Adjusted<br>Carrying Value | 2<br>Current Quarter<br>Book/Adjusted<br>Carrying Value |
|---|--|---|
| 14.21 Bonds .....   | \$ 6,548,332,993                                       | \$ 7,061,194,900  |
| 14.22 Preferred Stock .....   | \$ .....   | \$ .....  |
| 14.23 Common Stock .....  | \$ 24,287,466,580                                      | \$ 24,173,994,487                                       |
| 14.24 Short-Term Investments .....  | \$ .....   | \$ .....  |
| 14.25 Mortgage Loans on Real Estate .....   | \$ .....   | \$ .....  |
| 14.26 All Other .....   | \$ 6,361,773,586                                       | \$ 6,147,234,314  |
| 14.27 Total Investment in Parent, Subsidiaries and Affiliates (Subtotal Lines 14.21 to 14.26) ..... | \$ 37,197,573,159                                      | \$ 37,382,423,701                                       |
| 14.28 Total Investment in Parent included in Lines 14.21 to 14.26 above .....                       | \$ .....   | \$ .....  |
- 15.1 Has the reporting entity entered into any hedging transactions reported on Schedule DB? ..... Yes  No
- 15.2 If yes, has a comprehensive description of the hedging program been made available to the domiciliary state? ..... Yes  No  N/A   
 If no, attach a description with this statement.
16. For the reporting entity's security lending program, state the amount of the following as of the current statement date:
- 16.1 Total fair value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2. .... \$ .....
- 16.2 Total book adjusted/carrying value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2. .... \$ .....
- 16.3 Total payable for securities lending reported on the liability page. .... \$ .....

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company  
**GENERAL INTERROGATORIES**

17. 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 [ ]
- 17.1 For all agreements that comply with the requirements of the NAIC Financial Condition Examiners Handbook, complete the following:

1 Name of Custodian(s)	2 Custodian Address
Citibank, N.A. ....	333 West 34th Street, New York, NY 10001 .....
State Street Global Services .....	801 Pennsylvania Avenue, Kansas City, MO 64105 .....
Citibank, N.A. ....	2 Park Street Sydney, NSW 2000 .....

- 17.2 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)

- 17.3 Have there been any changes, including name changes, in the custodian(s) identified in 17.1 during the current quarter? Yes [ ] No [ X ]
- 17.4 If yes, give full information relating thereto:

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

- 17.5 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
20 Gates Management, LLC .....	U .....
Angelo, Gordon & Co., L.P. ....	U .....
Apollo Capital Management, L.P. ....	U .....
Apollo Insurance Solutions Group LP .....	U .....
Ares Management LLC .....	U .....
Barings LLC .....	A .....
Carlyle Aviation Group Capital Markets LLC .....	U .....
Fractal Investments LLC .....	U .....
Franklin Advisers, Inc. ....	U .....
Great-West Capital Management LLC .....	U .....
IFM Investors Pty Ltd .....	U .....
Invesco Investment Management Company .....	A .....
Jefferies Finance LLC .....	A .....
Pacific Investment Management Company LLC .....	U .....
Western Asset Management Company .....	U .....

- 17.5097 For those firms/individuals listed in the table for Question 17.5, 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 ]

- 17.5098 For firms/individuals unaffiliated with the reporting entity (i.e. designated with a "U") listed in the table for Question 17.5, does the total assets under management aggregate to more than 50% of the reporting entity's invested assets? Yes [ ] No [ X ]

- 17.6 For those firms or individuals listed in the table for 17.5 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
155480 .....	20 Gates Management, LLC .....	R6ZXX5P01NP6HXS1S07 .....	SEC .....	NO .....
131940 .....	Angelo, Gordon & Co., L.P. ....	R6ZXX5P01NP6HXS1S07 .....	SEC .....	NO .....
143161 .....	Apollo Capital Management, L.P. ....	R6ZXX5P01NP6HXS1S07 .....	SEC .....	NO .....
143161 .....	Apollo Insurance Solutions Group LP .....	R6ZXX5P01NP6HXS1S07 .....	SEC .....	NO .....
130074 .....	Ares Management LLC .....	R6ZXX5P01NP6HXS1S07 .....	SEC .....	NO .....
106006 .....	Barings LLC .....	R6ZXX5P01NP6HXS1S07 .....	SEC .....	DS .....
168456 .....	Carlyle Aviation Group Capital Markets LLC .....	R6ZXX5P01NP6HXS1S07 .....	SEC .....	NO .....
311767 .....	Fractal Investments LLC .....	R6ZXX5P01NP6HXS1S07 .....	SEC .....	NO .....
104517 .....	Franklin Advisers, Inc. ....	R6ZXX5P01NP6HXS1S07 .....	SEC .....	NO .....
107272 .....	Great-West Capital Management LLC .....	R6ZXX5P01NP6HXS1S07 .....	SEC .....	NO .....
162754 .....	IFM Investors Pty Ltd .....	R6ZXX5P01NP6HXS1S07 .....	SEC .....	NO .....
110363 .....	Invesco Investment Management Company .....	R6ZXX5P01NP6HXS1S07 .....	SEC .....	NO .....
162264 .....	Jefferies Finance LLC .....	R6ZXX5P01NP6HXS1S07 .....	SEC .....	NO .....
104559 .....	Pacific Investment Management Company LLC .....	R6ZXX5P01NP6HXS1S07 .....	SEC .....	NO .....
801-8162 .....	Western Asset Management Company .....	R6ZXX5P01NP6HXS1S07 .....	SEC .....	NO .....

**STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company**

- 18.1 Have all the filing requirements of the Purposes and Procedures Manual of the NAIC Investment Analysis Office been followed? ..... Yes [ ] No [ X ]
- 18.2 If no, list exceptions:  
 At 6/30/2022, 130 issues for 114 issuers did not meet the filing requirements of the Purposes and Procedures Manual. The majority of these issues currently lack one or more of the following: Valid cusip/PPN, audited financials and/or executed legal documentation. Exceptions totaled \$1,903,225,413 or 1.24% of all assets.
19. By self-designating 5GI securities, the reporting entity is certifying the following elements for 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 [ X ] No [ ]
20. 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 ]
21. 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 ]

# GENERAL INTERROGATORIES

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

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

1. Report the statement value of mortgage loans at the end of this reporting period for the following categories: 1  
Amount
- 1.1 Long-Term Mortgages In Good Standing
- 1.11 Farm Mortgages ..... \$ .....  
    1.12 Residential Mortgages ..... \$ ..... 3,878,768,303  
    1.13 Commercial Mortgages ..... \$ ..... 20,862,115,868  
    1.14 Total Mortgages in Good Standing ..... \$ ..... 24,740,884,171
- 1.2 Long-Term Mortgages In Good Standing with Restructured Terms
- 1.21 Total Mortgages in Good Standing with Restructured Terms ..... \$ .....
- 1.3 Long-Term Mortgage Loans Upon which Interest is Overdue more than Three Months
- 1.31 Farm Mortgages ..... \$ .....  
    1.32 Residential Mortgages ..... \$ .....  
    1.33 Commercial Mortgages ..... \$ .....  
    1.34 Total Mortgages with Interest Overdue more than Three Months ..... \$ .....
- 1.4 Long-Term Mortgage Loans in Process of Foreclosure
- 1.41 Farm Mortgages ..... \$ .....  
    1.42 Residential Mortgages ..... \$ .....  
    1.43 Commercial Mortgages ..... \$ ..... 36,833,477  
    1.44 Total Mortgages in Process of Foreclosure ..... \$ ..... 36,833,477
- 1.5 Total Mortgage Loans (Lines 1.14 + 1.21 + 1.34 + 1.44) (Page 2, Column 3, Lines 3.1 + 3.2) ..... \$ ..... 24,777,717,648
- 1.6 Long-Term Mortgages Foreclosed, Properties Transferred to Real Estate in Current Quarter
- 1.61 Farm Mortgages ..... \$ .....  
    1.62 Residential Mortgages ..... \$ .....  
    1.63 Commercial Mortgages ..... \$ .....  
    1.64 Total Mortgages Foreclosed and Transferred to Real Estate ..... \$ .....
2. Operating Percentages:
- 2.1 A&H loss percent ..... %  
2.2 A&H cost containment percent ..... %  
2.3 A&H expense percent excluding cost containment expenses ..... %
- 3.1 Do you act as a custodian for health savings accounts? ..... Yes [ ] No [ X ]  
3.2 If yes, please provide the amount of custodial funds held as of the reporting date ..... \$ .....  
3.3 Do you act as an administrator for health savings accounts? ..... Yes [ ] No [ X ]  
3.4 If yes, please provide the balance of the funds administered as of the reporting date ..... \$ .....
4. Is the reporting entity licensed or chartered, registered, qualified, eligible or writing business in at least two states? ..... Yes [ X ] No [ ]  
4.1 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 [ ]

**Fraternal Benefit Societies Only:**

- 5.1 In all cases where the reporting entity has assumed accident and health risks from another company, provisions should be made in this statement on account of such reinsurances for reserve equal to that which the original company would have been required to establish had it retained the risks. Has this been done? ..... Yes [ ] No [ ] N/A [ ]
- 5.2 If no, explain:  
.....
- 6.1 Does the reporting entity have outstanding assessments in the form of liens against policy benefits that have increased surplus? ..... Yes [ ] No [ ]
- 6.2 If yes, what is the date(s) of the original lien and the total outstanding balance of liens that remain in surplus?

Date	Outstanding Lien Amount
.....	.....

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE S - CEDED REINSURANCE**

Showing All New Reinsurance Treaties - Current Year to Date

1	2	3	4	5	6	7	8	9	10
NAIC Company Code	ID Number	Effective Date	Name of Reinsurer	Domiciliary Jurisdiction	Type of Reinsurance Ceded	Type of Business Ceded	Type of Reinsurer	Certified Reinsurer Rating (1 through 6)	Effective Date of Certified Reinsurer Rating
86258	13-2572994	11/20/2021	GENERAL RE LIFE CORPORATION (GRUE)	CT	YRT/I	OL	Authorized		
86258	13-2572994	11/20/2021	GENERAL RE LIFE CORPORATION (GRUF)	CT	YRT/I	OL	Authorized		
86258	13-2572994	11/20/2021	GENERAL RE LIFE CORPORATION (GRUM)	CT	YRT/I	OL	Authorized		
86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRX1)	CT	YRT/I	OL	Authorized		
86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRX2)	CT	CO/I	OL	Authorized		
86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRX2)	CT	CO/I	XXXL	Authorized		
86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRX4)	CT	CO/I	OL	Authorized		
86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRX4)	CT	CO/I	XXXL	Authorized		
86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRX5)	CT	CO/I	OL	Authorized		
86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRX5)	CT	CO/I	XXXL	Authorized		
86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRX7)	CT	CO/I	OL	Authorized		
86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRX7)	CT	CO/I	XXXL	Authorized		
86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRX8)	CT	CO/I	XXXL	Authorized		
86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRX9)	CT	CO/I	OL	Authorized		
86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRX9)	CT	CO/I	XXXL	Authorized		
86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRXD)	CT	CO/I	OL	Authorized		
86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRXF)	CT	CO/I	OL	Authorized		
86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRXH)	CT	CO/I	XXXL	Authorized		
00000	AA-5420050	11/20/2021	KOREAN REINSURANCE COMPANY (KRUE)	KOR	YRT/I	OL	Unauthorized		
00000	AA-5420050	11/20/2021	KOREAN REINSURANCE COMPANY (KRUF)	KOR	YRT/I	OL	Unauthorized		
00000	AA-5420050	11/20/2021	KOREAN REINSURANCE COMPANY (KRUM)	KOR	YRT/I	OL	Unauthorized		
00000	98-1620702	03/11/2022	MARTELLO RE LIMITED (MR22)	BMJ	COF/W/I	IA	Unauthorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX0)	GA	YRT/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX1)	GA	YRT/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX2)	GA	CO/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX2)	GA	CO/I	XXXL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX4)	GA	CO/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX4)	GA	CO/I	XXXL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX5)	GA	CO/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX5)	GA	CO/I	XXXL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX7)	GA	CO/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX7)	GA	CO/I	XXXL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX8)	GA	CO/I	XXXL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX9)	GA	CO/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX9)	GA	CO/I	XXXL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUXD)	GA	CO/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUXF)	GA	CO/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUXH)	GA	CO/I	XXXL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX0)	AR	YRT/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX1)	AR	YRT/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX2)	AR	CO/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX2)	AR	CO/I	XXXL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX4)	AR	CO/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX4)	AR	CO/I	XXXL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX5)	AR	CO/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX5)	AR	CO/I	XXXL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX7)	AR	CO/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX7)	AR	CO/I	XXXL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX8)	AR	CO/I	XXXL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX9)	AR	CO/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX9)	AR	CO/I	XXXL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRXD)	AR	CO/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRXF)	AR	CO/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRXH)	AR	CO/I	XXXL	Authorized		

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE S - CEDED REINSURANCE**

Showing All New Reinsurance Treaties - Current Year to Date

1	2	3	4	5	6	7	8	9	10
NAIC Company Code	ID Number	Effective Date	Name of Reinsurer	Domiciliary Jurisdiction	Type of Reinsurance Ceded	Type of Business Ceded	Type of Reinsurer	Certified Reinsurer Rating (1 through 6)	Effective Date of Certified Reinsurer Rating
93572	43-1235868	11/20/2021	RGA REINSURANCE COMPANY (GAUE)	MO.	YRT/I	OL	Authorized.		
93572	43-1235868	11/20/2021	RGA REINSURANCE COMPANY (GAUF)	MO.	YRT/I	OL	Authorized.		
93572	43-1235868	11/20/2021	RGA REINSURANCE COMPANY (GAUH)	MO.	YRT/I	OL	Authorized.		
93572	43-1235868	11/20/2021	RGA REINSURANCE COMPANY (GAUK)	MO.	YRT/I	OL	Authorized.		
93572	43-1235868	11/20/2021	RGA REINSURANCE COMPANY (GAUM)	MO.	YRT/I	OL	Authorized.		
93572	43-1235868	06/25/2022	RGA REINSURANCE COMPANY (GAX1)	MO.	YRT/I	OL	Authorized.		
93572	43-1235868	06/25/2022	RGA REINSURANCE COMPANY (GAX2)	MO.	CO/I	OL	Authorized.		
93572	43-1235868	06/25/2022	RGA REINSURANCE COMPANY (GAX2)	MO.	CO/I	XXXL	Authorized.		
93572	43-1235868	06/25/2022	RGA REINSURANCE COMPANY (GAX4)	MO.	CO/I	OL	Authorized.		
93572	43-1235868	06/25/2022	RGA REINSURANCE COMPANY (GAX4)	MO.	CO/I	XXXL	Authorized.		
93572	43-1235868	06/25/2022	RGA REINSURANCE COMPANY (GAX5)	MO.	CO/I	OL	Authorized.		
93572	43-1235868	06/25/2022	RGA REINSURANCE COMPANY (GAX5)	MO.	CO/I	XXXL	Authorized.		
93572	43-1235868	06/25/2022	RGA REINSURANCE COMPANY (GAX7)	MO.	CO/I	OL	Authorized.		
93572	43-1235868	06/25/2022	RGA REINSURANCE COMPANY (GAX7)	MO.	CO/I	XXXL	Authorized.		
93572	43-1235868	06/25/2022	RGA REINSURANCE COMPANY (GAX8)	MO.	CO/I	XXXL	Authorized.		
93572	43-1235868	06/25/2022	RGA REINSURANCE COMPANY (GAX9)	MO.	CO/I	OL	Authorized.		
93572	43-1235868	06/25/2022	RGA REINSURANCE COMPANY (GAX9)	MO.	CO/I	XXXL	Authorized.		
93572	43-1235868	06/25/2022	RGA REINSURANCE COMPANY (GAXD)	MO.	CO/I	OL	Authorized.		
93572	43-1235868	06/25/2022	RGA REINSURANCE COMPANY (GAXF)	MO.	CO/I	OL	Authorized.		
93572	43-1235868	06/25/2022	RGA REINSURANCE COMPANY (GAXH)	MO.	CO/I	XXXL	Authorized.		
97071	13-3126819	11/20/2021	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUUE)	DE.	YRT/I	OL	Authorized.		
97071	13-3126819	11/20/2021	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUUF)	DE.	YRT/I	OL	Authorized.		
97071	13-3126819	11/20/2021	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUUM)	DE.	YRT/I	OL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX0)	DE.	YRT/I	OL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX1)	DE.	YRT/I	OL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX2)	DE.	CO/I	OL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX2)	DE.	CO/I	XXXL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX4)	DE.	CO/I	OL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX4)	DE.	CO/I	XXXL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX5)	DE.	CO/I	OL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX5)	DE.	CO/I	XXXL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX7)	DE.	CO/I	OL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX7)	DE.	CO/I	XXXL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX8)	DE.	CO/I	XXXL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX9)	DE.	CO/I	OL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX9)	DE.	CO/I	XXXL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUXD)	DE.	CO/I	OL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUXF)	DE.	CO/I	OL	Authorized.		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUXH)	DE.	CO/I	XXXL	Authorized.		
82627	06-0839705	11/20/2021	SWISS RE LIFE & HEALTH AMERICA INC. (SRUE)	MO.	YRT/I	OL	Authorized.		
82627	06-0839705	11/20/2021	SWISS RE LIFE & HEALTH AMERICA INC. (SRUF)	MO.	YRT/I	OL	Authorized.		
82627	06-0839705	11/20/2021	SWISS RE LIFE & HEALTH AMERICA INC. (SRUM)	MO.	YRT/I	OL	Authorized.		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX0)	MO.	YRT/I	OL	Authorized.		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX1)	MO.	YRT/I	OL	Authorized.		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX2)	MO.	CO/I	OL	Authorized.		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX2)	MO.	CO/I	XXXL	Authorized.		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX4)	MO.	CO/I	OL	Authorized.		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX4)	MO.	CO/I	XXXL	Authorized.		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX5)	MO.	CO/I	OL	Authorized.		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX5)	MO.	CO/I	XXXL	Authorized.		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX7)	MO.	CO/I	OL	Authorized.		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX7)	MO.	CO/I	XXXL	Authorized.		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX8)	MO.	CO/I	XXXL	Authorized.		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX9)	MO.	CO/I	OL	Authorized.		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX9)	MO.	CO/I	XXXL	Authorized.		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRXD)	MO.	CO/I	OL	Authorized.		

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE S - CEDED REINSURANCE**

Showing All New Reinsurance Treaties - Current Year to Date

1 NAIC Company Code	2 ID Number	3 Effective Date	4 Name of Reinsurer	5 Domiciliary Jurisdiction	6 Type of Reinsurance Ceded	7 Type of Business Ceded	8 Type of Reinsurer	9 Certified Reinsurer Rating (1 through 6)	10 Effective Date of Certified Reinsurer Rating
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRXF)	MO	CO/1	OL	Authorized		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRXH)	MO	CO/1	XXXL	Authorized		

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company  
**SCHEDULE T - PREMIUMS AND ANNUITY CONSIDERATIONS**

Current Year To Date - Allocated by States and Territories

States, Etc.	1	Life Contracts		Direct Business Only			7	
		2	3	4	5	6		
	Active Status (a)	Life Insurance Premiums	Annuity Considerations	Accident and Health Insurance Premiums, Including Policy, Membership and Other Fees	Other Considerations	Total Columns 2 Through 5	Deposit-Type Contracts	
1. Alabama	AL	L	44,203,583	34,512,487	3,764,383	37,454,582	119,935,035	19,708,395
2. Alaska	AK	L	1,906,737	5,940,346	214,978	521,234	8,583,295	1,310,569
3. Arizona	AZ	L	47,423,442	214,757,773	5,624,250	11,504,682	279,310,147	107,113,858
4. Arkansas	AR	L	14,713,010	18,583,167	1,399,729	935,553	35,631,459	5,399,774
5. California	CA	L	613,099,171	469,579,135	31,521,508	711,750,336	1,825,950,150	66,047,295
6. Colorado	CO	L	52,461,998	78,388,565	5,787,600	3,723,774	140,361,937	13,887,352
7. Connecticut	CT	L	110,159,179	83,223,599	9,277,150	90,041,954	292,701,882	10,282,783
8. Delaware	DE	L	19,460,424	13,727,287	1,230,592	7,326,778	41,745,081	654,091,339
9. District of Columbia	DC	L	10,909,591	4,732,431	1,957,169	992,854,897	1,010,454,088	2,261,940
10. Florida	FL	L	338,474,828	373,346,845	18,204,278	77,647,741	807,673,692	108,869,086
11. Georgia	GA	L	121,085,691	82,241,888	12,593,607	86,910,957	302,832,143	29,632,883
12. Hawaii	HI	L	60,964,995	9,627,657	1,506,367	3,973,959	76,072,978	4,026,896
13. Idaho	ID	L	15,593,683	29,800,790	951,036	13,743,887	60,089,396	7,868,586
14. Illinois	IL	L	271,719,447	132,099,835	11,975,954	329,731,321	745,526,557	32,652,754
15. Indiana	IN	L	64,386,148	46,602,538	4,939,379	32,761,090	148,689,155	21,602,965
16. Iowa	IA	L	31,347,343	21,610,685	1,851,578	134,648,814	189,458,420	7,363,348
17. Kansas	KS	L	25,903,355	19,325,754	2,673,293	23,041,984	70,944,386	2,655,534
18. Kentucky	KY	L	22,560,008	26,363,716	2,642,375	15,069,683	66,635,782	10,435,187
19. Louisiana	LA	L	39,996,483	80,172,268	3,404,751	18,879,171	142,452,673	15,194,669
20. Maine	ME	L	9,536,048	19,971,066	1,251,303	3,823,825	34,582,242	2,794,227
21. Maryland	MD	L	67,443,541	70,365,595	12,936,401	91,429,255	242,174,792	53,578,192
22. Massachusetts	MA	L	170,930,618	309,700,448	16,237,595	1,477,673,184	1,974,541,845	715,047,851
23. Michigan	MI	L	66,458,346	125,282,033	7,159,902	204,188,379	403,088,660	27,129,951
24. Minnesota	MN	L	38,115,886	90,757,921	4,163,786	195,970,748	329,008,341	124,030,935
25. Mississippi	MS	L	33,921,776	29,420,782	5,076,450	4,746,528	73,165,536	10,193,298
26. Missouri	MO	L	40,338,339	57,141,553	5,276,366	56,778,888	159,535,146	32,184,227
27. Montana	MT	L	7,555,939	11,306,068	777,715	1,285,272	20,925,449	2,701,216
28. Nebraska	NE	L	154,287,808	6,921,867	2,969,705	157,297,282	321,476,662	7,725,542
29. Nevada	NV	L	21,948,583	28,204,819	1,884,200	35,259,772	87,297,374	8,903,355
30. New Hampshire	NH	L	19,812,264	44,483,676	2,229,278	10,417,561	76,942,779	9,288,713
31. New Jersey	NJ	L	255,881,681	209,823,038	18,443,620	301,075,479	785,223,818	43,332,503
32. New Mexico	NM	L	8,940,552	12,057,023	1,373,225	1,211,438	23,582,238	3,086,319
33. New York	NY	L	729,261,784	416,355,011	42,295,767	345,234,852	1,533,147,414	81,383,708
34. North Carolina	NC	L	99,712,163	99,288,341	14,614,166	69,431,280	283,045,950	52,100,870
35. North Dakota	ND	L	32,306,326	17,850,535	390,561	8,497,955	59,045,377	12,968,343
36. Ohio	OH	L	84,746,328	133,628,599	8,658,960	135,955,358	362,989,245	37,238,203
37. Oklahoma	OK	L	42,716,034	27,767,644	3,900,657	43,490,145	117,874,480	10,679,199
38. Oregon	OR	L	17,674,872	49,574,452	2,731,495	24,572,142	94,552,961	10,626,374
39. Pennsylvania	PA	L	227,669,751	398,811,884	20,713,075	144,869,865	792,064,575	14,168,695
40. Rhode Island	RI	L	28,759,366	29,637,715	1,413,674	11,308,387	71,119,142	3,939,074
41. South Carolina	SC	L	49,215,252	62,538,230	7,816,976	14,563,175	134,133,633	23,253,068
42. South Dakota	SD	L	6,547,726	8,046,557	357,947	648,529	15,600,759	2,793,007
43. Tennessee	TN	L	75,297,622	79,704,850	10,036,804	110,595,133	275,634,409	17,057,809
44. Texas	TX	L	287,612,180	397,174,340	24,234,072	143,468,870	852,489,462	81,325,219
45. Utah	UT	L	67,653,663	51,102,680	2,079,494	3,016,441	123,852,278	11,431,670
46. Vermont	VT	L	10,147,120	73,765,817	746,219	8,353,086	93,012,242	1,299,550
47. Virginia	VA	L	101,632,535	112,135,683	15,379,843	91,717,873	320,865,934	59,872,990
48. Washington	WA	L	42,285,295	80,997,583	5,658,596	27,853,296	156,794,770	25,092,664
49. West Virginia	WV	L	13,783,149	9,004,740	768,506	27,240,713	50,797,108	12,314,686
50. Wisconsin	WI	L	35,268,259	48,710,894	3,195,125	24,361,274	111,535,552	9,319,462
51. Wyoming	WY	L	5,976,961	7,544,147	296,048	285,741	14,102,897	2,584,283
52. American Samoa	AS	N						
53. Guam	GU	N	635		8,308		8,943	30,533
54. Puerto Rico	PR	L	38,607,780	28,392,736	4,819,023	4,793,174	76,612,713	440,006
55. U.S. Virgin Islands	VI	N	19,179		9,661		28,840	14,652
56. Northern Mariana Islands	MP	N						
57. Canada	CAN	N	1,205,363	189,675	55,130		1,450,168	53,733
58. Aggregate Other Aliens	OT	XXX	8,562,307	600	271,795	76,032,000	84,866,702	
59. Subtotal	XXX		4,808,202,147	4,892,295,368	371,751,425	6,449,969,752	16,522,218,692	2,630,389,340
90. Reporting entity contributions for employee benefits plans	XXX							
91. Dividends or refunds applied to purchase paid-up additions and annuities	XXX		708,260,222	421,523			708,681,745	
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		13,697,329		5,443,594		19,140,923	
94. Aggregate or other amounts not allocable by State	XXX		96,006,791				96,006,791	
95. Totals (Direct Business)	XXX		5,626,166,489	4,892,716,891	377,195,019	6,449,969,752	17,346,048,151	2,630,389,340
96. Plus Reinsurance Assumed	XXX		22,191,063	101,951,511		416,193,229	540,335,803	474,388,595
97. Totals (All Business)	XXX		5,648,357,552	4,994,668,402	377,195,019	6,866,162,981	17,886,383,954	3,104,777,935
98. Less Reinsurance Ceded	XXX		613,270,497	2,223,886,426	52,605,554	4,187,301,392	7,077,063,869	
99. Totals (All Business) less Reinsurance Ceded	XXX		5,035,087,055	2,770,781,976	324,589,465	2,678,861,589	10,809,320,085	3,104,777,935
DETAILS OF WRITE-INS								
58001. HKG Hong Kong	XXX		115,752				115,752	
58002. ZZZ Other Alien	XXX		8,446,555	600	271,795	76,032,000	84,750,950	
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		8,562,307	600	271,795	76,032,000	84,866,702	
9401. Reinvested Net Nonforfeiture Option Proceeds	XXX		96,006,791				96,006,791	
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		96,006,791				96,006,791	

(a) Active Status Counts:

L - Licensed or Chartered - Licensed Insurance carrier or domiciled RRG..... 52  
E - Eligible - Reporting entities eligible or approved to write surplus lines in the state.....  
N - None of the above - Not allowed to write business in the state..... 5

R - Registered - Non-domiciled RRGs.....  
Q - Qualified - Qualified or accredited reinsurer.....

**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 I I 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
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
Jefferies Credit Management LLC	None		Delaware
JCP Direct Lending CLO 2022 LLC	None		Delaware
JFAM GP LLC	None		Delaware
JFAM GP LP	None		Delaware

\*This entity is owned by another or multiple entities in the group. Please refer to Sch Y Part 1A for the ownership and percentage information.

**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>
Jefferies Direct Lending Fund C LP	None		Delaware
Jefferies DLF C Holdings LLC	None		Delaware
Jefferies Direct Lending Fund C SPE LLC	None		Delaware
JDLF II GP LLC	None		Delaware
JDLF II GP LP	None		Delaware
Jefferies Direct Lending Fund II C LP	None		Delaware
Jefferies DLF II C Holdings LLC	None		Delaware
Jefferies Direct Lending Fund II C SPE LLC	None		Delaware
Jefferies Private Credit BDC Inc.	None		Maryland
Jefferies Senior Lending LLC	None		Delaware
JFIN Revolver Holdings LLC	None		Delaware
JFIN Revolver Holdings II LLC	None		Delaware
JFIN Revolver Holdings IV 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 CLO 2022-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2022-III 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
JFIN Revolver Funding 2022-I Ltd.	None		Bermuda
JFIN Revolver SPE1 2022 LLC	None		Delaware
Apex Credit Holdings LLC	None		Delaware
JFIN CLO 2012 Ltd.	None		Cayman Islands

\*This entity is owned by another or multiple entities in the group. Please refer to Sch Y Part 1A for the ownership and percentage information.

**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>
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
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 Holding Company LLC	None		Delaware

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**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>
Flourish Insurance Agency 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
Fem Street LLC	37-1732913		Delaware
Low Carbon Energy Holding	None		United Kingdom
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 Southeast Asia III LLC	None		Delaware
MMV Digital I LLC	None		Cayman Islands
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

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**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>
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
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 Real Estate Acquisitions LLC	None		Delaware
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 GmbH	None		Germany
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 (U.K.) Limited	98-0432153		United Kingdom
Baring Asset Management Limited	98-0241935		United Kingdom
Barings European Direct Lending 1 GP LLP	None		United Kingdom

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**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 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
PREIF Holdings Limited Partnership	None		United Kingdom
BMC Holdings DE LLC	None		Delaware
Barings Real Estate Advisers Inc.	04-3238351		Delaware
CRA Aircraft Holding LLC*	81-4258759		Delaware
Aland Royalty Holdings LP	None		Delaware
Chassis Acquisition Holding LLC	81-2244465		Delaware
EIP Holdings I, LLC	None		Delaware
GASL Holdings LLC	None		Delaware
Intermodal Holding II LLC	46-2344300		Delaware
Milestone Acquisition Holding LLC	47-3055009		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
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

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**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>
Barings Hotel Opportunity Venture I GP, LLC	None		Delaware
Barings Investment Series LLC	None		Delaware
Barings Emerging Generation Fund GP, LLC	None		Delaware
Barings Emerging Generation Fund GP II, 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
Barings North American Private Loan Fund Management III, LLC	None		Delaware
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
BIG Real Estate Incentive I LLC	None		Delaware
BIG Real Estate Incentive II LLC	None		Delaware
BRECS VII GP LLC	None		Delaware
BREDIF 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

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**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>
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
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
southBabson 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	ZJX0JI.99999.SL.136		Cayman Islands
Barings CLO 2021-II	EPXAC4.99999.SL.136 (GIIN)		Cayman Islands
Barings CLO 2021-III	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

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**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 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 Euro CLO 2021-III DAC	None		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 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 Global Technology Equity Fund	HU7DQ.00011.SF.372(GIIN)		Ireland
Barings Hotel Opportunity Venture	87-0977058		Connecticut
Barings Innovations & Growth Real Estate Fund*	86-3661023		Delaware
Barings MiddleMarket CLO 2017-I Ltd & LLC	None		Cayman Islands
Barings MiddleMarket CLO 2018-I	None		Cayman Islands
Barings MiddleMarket CLO 2019-I	None		Cayman Islands
Barings MiddleMarket 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 Target Yield Infrastructure Debt Fund*	98-1567942		Luxembourg
Barings CLO Investment Partners LP	81-0841854		Delaware
Barings Euro Value Add II (BREEVA II)*	K15Q2K.99999.SL.442		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
Comerstone 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	EIN 98-1607033		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

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**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>
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
Somerset Special Opportunities Fund L.P.*	20-8856877		Delaware
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	HU7DQI.00015.SF.826		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
Comerstone California Mortgage Fund I LLC	95-4207717		California
Comerstone California Mortgage Fund II LLC	95-4207717		California
Comerstone California Mortgage Fund III LLC	95-4207717		California
Comerstone Fort Pierce Development LLC*	56-2630592		Delaware
Comerstone Permanent Mortgage Fund	45-2632610		Massachusetts
Comerstone Permanent Mortgage Fund II	61-1750537		Massachusetts

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**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>
Comerstone Permanent Mortgage Fund III	35-2531693		Massachusetts
Comerstone Permanent Mortgage Fund IV	61-1793735		Massachusetts
CREA/PPC Venture LLC	20-0348173		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
MM National Self-Storage Program Member LLC	04-1590850		Delaware
MM 1400 E 4th Street Member LLC	04-1590850		Delaware
One Harbor Shore LLC*	80-0948028		Delaware
PACO France Logistics LLC	04-1590850		Delaware
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 Main Street Fund	51-0529328		Massachusetts
MassMutual Premier Strategic Emerging Markets Fund	26-3229251		Massachusetts
<b>MassMutual Select Funds:</b>			
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

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**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>
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
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

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual 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	RE	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0435	Massachusetts Mut Life Ins Co	93432	06-1041383				C.M. Life Insurance Company	CT	DS	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	DS	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
.0000			06-1041383				CML Mezzanine Investor III, LLC	DE	DS	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
.0000							CML Special Situations Investor LLC	DE	DS	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
.0000							CML Global Capabilities LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Global Capabilities I LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MassMutual Global Business Services India LLP	IND	DS	MM Global Capabilities I LLC	Ownership	100.000	MMLIC		
.0000							MM Global Capabilities (Netherlands) B.V.	NLD	DS	MM Global Capabilities I LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Global Business Services Romania S.R.L.	ROU	DS	MM Global Capabilities (Netherlands) B.V.	Ownership	100.000	MMLIC		
.0000							MM Global Capabilities II LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Global Capabilities III LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM/Barings Multifamily TEBS 2020 LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MML Special Situations Investor LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			47-5322979				Timberland Forest Holding LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			47-5322979				Timberland Forest Holding LLC	DE	DS	C.M. Life Insurance Company	Influence	0.000	MMLIC		
.0000			47-5322979				Timberland Forest Holding LLC	DE	DS	Wood Creek Capital Management LLC	Management		MMLIC		
.0000							Lyme Adirondack Forest Company, LLC	DE	DS	Timberland Forest Holding LLC	Ownership	100.000	MMLIC		
.0000							Lyme Adirondack Timberlands I, LLC	DE	DS	Lyme Adirondack Forest Company, LLC	Ownership	100.000	MMLIC		
.0000							Lyme Adirondack Timberlands II, LLC	DE	DS	Lyme Adirondack Forest Company, LLC	Ownership	100.000	MMLIC		
.0000							Lyme Adirondack Timber Sales, LLC	DE	DS	Lyme Adirondack Forest Company, LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Berkshire Way LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MSP-SC, LLC	DE	DS	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							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
.0000			86-2294635				Glidpath Holdings Inc.	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0435	Massachusetts Mut Life Ins Co	63312	13-1935920				Great American Life Insurance Company	OH	DS	Glidpath Holdings Inc.	Ownership	100.000	MMLIC		

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual 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			31-1422717				AAG Insurance Agency, LLC	KY	DS	Great American Life Insurance Company	Ownership	100.000	MMLIC		
.0435	Massachusetts Mut Life Ins Co	93661	31-1021738				Annuity Investors Life Insurance Company	OH	DS	Great American Life Insurance Company	Ownership	100.000	MMLIC		
.0000			31-1395344				Great American Advisors, LLC	OH	DS	Great American Life Insurance Company	Ownership	100.000	MMLIC		
.0000			26-3260520				Manhattan National Holding, LLC	OH	DS	Great American Life Insurance Company	Ownership	100.000	MMLIC		
.0435	Massachusetts Mut Life Ins Co	67083	45-0252531				Manhattan National Life Insurance Company	OH	DS	Manhattan National Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Mortgage Lending LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Jefferies Private Credit BDC Inc.	MD	NIA	Jefferies Finance LLC	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							Jefferies Credit Management LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JCP Direct Lending CLO 2022 LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	9.900	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	JFAM GP LP	Ownership	100.000	MMLIC		
.0000							Jefferies DLF C Holdings LLC	DE	NIA	Jefferies Direct Lending Fund C LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Direct Lending Fund C SPE LLC	DE	NIA	Jefferies DLF C Holdings LLC	Ownership	100.000	MMLIC		
.0000							JDLF II GP LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							JDLF II GP LP	DE	NIA	JDLF II GP LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Direct Lending Fund II C LP	DE	NIA	JDLF II GP LP	Ownership	100.000	MMLIC		
.0000							Jefferies DLF II C Holdings LLC	DE	NIA	Jefferies Direct Lending Fund II C LP	Ownership	100.000	MMLIC		
.0000							Jefferies Direct Lending Fund II C SPE LLC	DE	NIA	Jefferies DLF II C Holdings LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Senior Lending LLC	DE	NIA	Jefferies Finance 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 Revolver Holdings IV 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 CLO 2022-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2022-III 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							JFIN Revolver Funding 2022-I Ltd.	BMJ	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual 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							JFIN Revolver SPE1 2022 LLC	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		
.0000			04-1590850				MM Copper Hill Road LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Direct Private Investments Holding LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Direct Private Investments UK Limited	GBR	DS	MM Direct Private Investments Holding LLC	Ownership	100.000	MMLIC		
.0000							MM Investment Holding	CYM	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			26-0073611				MassMutual Asset Finance LLC	DE	DS	MM Investment Holding	Ownership	99.600	MMLIC		
.0000			26-0073611				MassMutual Asset Finance LLC	DE	DS	C.M. Life Insurance Company	Ownership	0.400	MMLIC		
.0000			90-1005837				MMAF Equipment Finance LLC 2013-A	DE	DS	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			36-4785301				MMAF Equipment Finance LLC 2014-A	DE	DS	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			38-3969560				MMAF Equipment Finance LLC 2015-A	DE	DS	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			32-0489588				MMAF Equipment Finance LLC 2016-A	DE	DS	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			35-2590691				MMAF Equipment Finance LLC 2017-A	DE	DS	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			32-0546197				MMAF Equipment Finance LLC 2017-B	DE	DS	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			82-5335801				MMAF Equipment Finance LLC 2018-A	DE	DS	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			83-3722640				MMAF Equipment Finance LLC 2019-A	DE	DS	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2019-B	DE	DS	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2021-A	DE	DS	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000							Rozier LLC	DE	DS	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			04-2443240				MML Management Corporation	MA	DS	MM Investment Holding	Ownership	100.000	MMLIC		
.0000			04-3548444				MassMutual International Holding MSC, Inc.	MA	DS	MML Management Corporation	Ownership	100.000	MMLIC		
.0000			04-3341767				MassMutual Holding MSC, Inc.	MA	DS	MML Management Corporation	Ownership	100.000	MMLIC		
.0000							MML CM LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Blueprint Income LLC	NY	DS	MML CM LLC	Ownership	100.000	MMLIC		
.0000							Flourish Digital Assets LLC	DE	DS	MML CM LLC	Ownership	100.000	MMLIC		
.0000							Flourish Financial LLC	DE	DS	MML CM LLC	Ownership	100.000	MMLIC		
.0000							Flourish Holding Company LLC	DE	DS	MML CM LLC	Ownership	100.000	MMLIC		
.0000							Flourish Insurance Agency LLC	DE	DS	MML CM LLC	Ownership	100.000	MMLIC		
.0000							Flourish Technologies LLC	DE	DS	MML CM LLC	Ownership	100.000	MMLIC		
.0000			04-3356880				MML Distributors LLC	MA	DS	Massachusetts Mutual Life Insurance Company	Ownership	99.000	MMLIC		
.0000			04-3356880				MML Distributors LLC	MA	DS	MassMutual Holding LLC	Ownership	1.000	MMLIC		
.0000							MML Investment Advisers, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			46-3238013				MML Strategic Distributors, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			06-1563535	2881445			The MassMutual Trust Company, FSB	CT	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Private Placement Investment Company I, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE Y**

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

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.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	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			45-2738137				Pioneers Gate LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-2854319	2392316			MassMutual Holding LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			06-1597528				MassMutual Assignment Company	NC	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			37-1732913				Fern Street LLC	DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							Low Carbon Energy Holding	GBR	DS	MassMutual Holding LLC	Ownership	49.000	MMLIC		
.0000							Sleeper Street LLC	DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			46-2252944				Haven Life Insurance Agency, LLC	DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Capital Partners LLC	DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Holding LLC	DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							Athens Fund Management LLC	DE	DS	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							Crane Venture Partners LLP	GBR	DS	MassMutual Ventures Holding LLC	Ownership	33.000	MMLIC		
.0000							MassMutual Ventures Management LLC	DE	DS	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures SEA Management Private Limited	DE	DS	MassMutual Ventures Management LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Southeast Asia I LLC	DE	DS	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Southeast Asia II LLC	DE	DS	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Southeast Asia III LLC	DE	DS	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MMV Digital I LLC	CYM	DS	MassMutual Ventures Southeast Asia III LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures UK LLC	DE	DS	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000			47-1296410				MassMutual Ventures US I LLC	DE	DS	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures US II LLC	DE	DS	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures US III LLC	DE	DS	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures US IV LLC	DE	DS	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							Open Alternatives LLC	DE	DS	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MM Rothesay Holdco US LLC	DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							Rothesay Limited	GBR	DS	MM Rothesay Holdco US LLC	Ownership	48.800	MMLIC		
.0000							Rothesay Life Plc	GBR	DS	Rothesay Limited	Ownership	100.000	MMLIC		
.0000							Rothesay MA No.1 Limited	GBR	DS	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							Rothesay MA No.2 Limited	GBR	DS	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							Rothesay MA No.3 Limited	GBR	DS	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							Rothesay MA No.4 Limited	GBR	DS	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							LT Mortgage Finance Limited	GBR	DS	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							Rothesay Property Partnership 1 LLP	GBR	DS	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							Rothesay Foundation	GBR	DS	Rothesay Limited	Ownership	100.000	MMLIC		
.0000							Rothesay Pensions Management Limited	GBR	DS	Rothesay Limited	Ownership	100.000	MMLIC		
.0000							Rothesay Asset Management UK Limited	GBR	DS	Rothesay Limited	Ownership	100.000	MMLIC		
.0000							Rothesay Asset Management Australia Pty Ltd	AUS	DS	Rothesay Asset Management UK Limited	Ownership	100.000	MMLIC		
.0000							Rothesay Asset Management US LLC	DE	DS	Rothesay Asset Management UK Limited	Ownership	100.000	MMLIC		
.0000							MM Catalyst Fund LLC	DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			47-1466022				LifeScore Labs, LLC	MA	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			45-4000072				MM Asset Management Holding LLC	MA	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			45-4000072				Barings LLC	MA	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Investors Services, LLC	MA	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Insurance Agency, LLC	MA	DS	MML Investors Services, LLC	Ownership	100.000	MMLIC		

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE Y**

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

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.0000			41-2011634				MMLISI Financial Alliances, LLC	DE	DS	MML Investors Services, LLC	Ownership	100.000	MMLIC		
.0000			51-0504477				Barings LLC	DE	DS	MassMutual Asset Management Holding LLC	Ownership	100.000	MMLIC		
.0000			98-0524271				Barings Asset Management (Asia) Holdings Limited	HKG	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0457465				Barings International Fund Managers (Bermuda) Limited	BMU	DS	Barings Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0457463				Barings Asset Management (Asia) Limited	HKG	DS	Barings Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Asset Management Korea Limited	KOR	DS	Barings Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
.0000							Barings Investment Management (Shanghai) Limited	HKG	DS	Barings Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
.0000							Barings Overseas Investment Fund Management (Shanghai) Limited	HKG	DS	Barings Investment Management (Shanghai) Limited	Ownership	100.000	MMLIC		
.0000			98-0457707				Barings SICE (Taiwan) Limited	TWN	DS	Barings Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Singapore Pte. Ltd.	SGP	DS	Barings Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0236449				Barings Japan Limited	JPN	DS	Barings Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Australia Holding Company Pty Ltd	AUS	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0457456				Barings Australia Pty Ltd	AUS	DS	Barings Australia Holding Company Pty Ltd	Ownership	100.000	MMLIC		
.0000			80-0875475				Barings Finance LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							BCF Europe Funding Limited	IRL	DS	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							BCF Senior Funding I LLC	DE	DS	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							BCF Senior Funding I Designated Activity Company	IRL	DS	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							Barings Real Estate Acquisitions LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-3238351				Barings Securities LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0437588				Barings Guernsey Limited	GGY	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Europe Limited	GBR	DS	Barings Guernsey Limited	Ownership	100.000	MMLIC		
.0000							Barings Asset Management Spain SL	ESP	DS	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings GmbH	DEU	DS	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Italy S.r.l.	ITA	DS	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Sweden AB	SWE	DS	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Netherlands B.V.	NLD	DS	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Real Estate UK Holdings Limited	DE	DS	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000			98-0432153				Barings (U.K.) Limited	GBR	DS	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000			98-0241935				Barings Asset Management Limited	GBR	DS	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings European Direct Lending 1 GP LLP	GBR	DS	Barings Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-1012393				Barings Global Advisors Limited	GBR	DS	Barings Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457328				Barings International Investment Limited	GBR	DS	Barings Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings International Investment Management Holdings	GBR	DS	Barings Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457587				Barings International Investment Management Holdings	GBR	DS	Barings International Investment Management Holdings	Ownership	100.000	MMLIC		
.0000			98-0457576				Barings Asset Management UK Holdings Limited	GBR	DS	Barings International Investment Management Holdings	Ownership	100.000	MMLIC		
.0000							Barings International Fund Managers (Ireland) Limited	IRL	DS	Barings Asset Management UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0524272				Barings Asset Management Switzerland Sarl	CHE	DS	Barings Asset Management UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0497550				Barings France SAS	FRA	DS	Barings Asset Management UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0457586				Barings Fund Managers Limited	GBR	DS	Barings Asset Management Limited	Ownership	100.000	MMLIC		
.0000							BCGSS 2 GP LLP	GBR	DS	Barings Fund Managers Limited	Ownership	100.000	MMLIC		
.0000			98-0457578				Barings Investment Services Limited	GBR	DS	Barings Asset Management Limited	Ownership	100.000	MMLIC		

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual 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							Barings Core Fund Feeder 1 GP S.à.r.l.	LUX	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings BME GP S.à.r.l.	GBR	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings GPC GP S.à.r.l.	LUX	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings European Core Property Fund GP Sàrl	GBR	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings Investment Fund (LUX) GP S.à.r.l.	LUX	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings Umbrella Fund (LUX) GP S.à.r.l.	LUX	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							GPLF4(S) GP S.à.r.l.	LUX	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							PREIF Holdings Limited Partnership	GBR	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							BMC Holdings DE LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-3238351	3456895			Barings Real Estate Advisers Inc.	CA	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			81-2244465				Chassis Acquisition Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	30.000	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		
.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			47-3055009				Milestone Acquisition Holding, LLC	DE	NIA	MassMutual Holding LLC	Ownership/Influence	19.800	MMLIC		
.0000							Novation Companies, Inc.	MD	NIA	Massachusetts Mutual Life Insurance Company	Ownership	17.100	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							EIP Holdings I, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	29.000	MMLIC		
.0000			46-0687392				Validus Holding Company LLC	DE	NIA	Barings LLC	Ownership	40.400	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	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Alaska Future Fund GP, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							BAI GP, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							BAI Funds SLP, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Baring Asset-Based Income Fund (US) GP, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings CMS Fund GP, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual 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							Barings Hotel Opportunity Venture I GP, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Barings Investment Series LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Emerging Generation Fund GP, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Emerging Generation Fund GP II, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings ERS PE Emerging Manager III GP, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Global Investment Funds (U.S.) Management LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Barings CLO Investment Partners GP, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Core Property Fund GP LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Direct Lending GP Ltd.	CYM	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000										Massachusetts Mutual Life Insurance Company	Ownership	38.900	MMLIC		
.0000			84-3784245				Barings Emerging Generation Fund LP	DE	DS	Barings LLC	Management		MMLIC		
.0000			84-3784245				Barings Global Energy Infrastructure Advisors, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings North American Private Loan Fund Management, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings North American Private Loan Fund Management II, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings North American Private Loan Fund Management III, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Global Real Assets Fund GP, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings GPSF	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000										Massachusetts Mutual Life Insurance Company	Ownership	51.400	MMLIC		
.0000			84-5063008				Barings Small Business Fund LLC	DE	DS	Barings LLC	Management		MMLIC		
.0000			84-5063008				Benton Street Advisors, Inc.	CYM	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0536233				BHOVI Incentive LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							BIG Real Estate Fund GP LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							BIG Real Estate Incentive I LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							BIG Real Estate Incentive II LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							BRECS VII GP LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							BREDIF GP LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							CREX X GP LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Great Lakes III GP, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Lake Jackson LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Loan Strategies Management LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			41-2280126				Mezzco III LLC	DE	DS	Barings LLC	Ownership	99.300	MMLIC		
.0000			80-0920285				Mezzco IV LLC	DE	DS	Barings LLC	Ownership	99.300	MMLIC		
.0000							Mezzco Australia II LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							RECSA-NY GP LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				SBNP SIA II LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							SBNP SIA III LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Somerset Special Opportunities Management LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850							Massachusetts Mutual Life Insurance Company	Ownership	24.500	MMLIC		
.0000							Amherst Long Term Holdings, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership		MMLIC		
.0000			04-3313782				MassMutual International LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MassMutual Solutions LLC	DE	DS	MassMutual International LLC	Ownership	100.000	MMLIC		
.0000							Haven Technologies Asia Limited	HKG	DS	MassMutual Solutions LLC	Ownership	100.000	MMLIC		
.0000							Yunfeng Financial Group Limited	HKG	DS	MassMutual International LLC	Ownership	24.900	MMLIC		
.0000							MassMutual Asia Limited (SPV)	HKG	DS	MassMutual International LLC	Ownership	100.000	MMLIC		

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual 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				MML Mezzanine Investor II, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Mezzanine Investor III, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	11.100	MMLIC		
.0000			27-3576835				MassMutual External Benefits Group LLC	DE	DS	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		
.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	48.900	MMLIC		
.0000							Barings Emerging Markets Corporate Bond Fund	IRL	NIA	Barings LLC	Ownership	15.800	MMLIC		
.0000							Barings European Real Estate Debt Income Fund	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	75.100	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	22.700	MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	DE	NIA	C.M. Life Insurance Company	Ownership	1.500	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	54.300	MMLIC		
.0000							Barings US High Yield Bond Fund	IRL	NIA	Barings LLC	Management		MMLIC		
.0000							Barson CLO Ltd. 2013-I	CYM	NIA	Barings LLC	Influence		MMLIC		2

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

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

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.0000							Babson CLO Ltd. 2015-I	.CYM	NIA	Barings LLC	Influence		MMLIC		3
.0000							Babson CLO Ltd. 2015-II	.CYM	NIA	Barings LLC	Influence		MMLIC		4
.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							Barings CLO 2021-III	.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							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		
.0000							Barings Euro CLO 2021-III DAC	.IRL	NIA	Barings LLC	Influence		MMLIC		
.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	30.000	MMLIC		
.0000							Barings Euro Value Add II (BREEVA II)	.LUX	NIA	C.M. Life Insurance Company	Ownership	2.600	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	44.500	MMLIC		
.0000							Barings Real Estate European Value Add I SCSp	.GBR	NIA	C.M. Life Insurance Company	Ownership	4.900	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	90.800	MMLIC		
.0000			85-3449260				Barings Real Estate Debt Income Fund LP	.DE	NIA	C.M. Life Insurance Company	Influence		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	Barings 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 Real Assets Fund LP	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	40.400	MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	.DE	NIA	C.M. Life Insurance Company	Ownership	7.100	MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	.DE	NIA	Barings LLC	Management		MMLIC		

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual 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							Barings Global Special Situations Credit Fund 3	IRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	17.600	MLLIC		
.0000							Barings Global Special Situations Credit 4 Delaware	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	68.200	MLLIC		
.0000							Barings Global Special Situations Credit 4 Delaware	DE	NIA	C.M. Life Insurance Company	Ownership	3.600	MLLIC		
.0000							Barings Global Special Situations Credit 4 Delaware	DE	NIA	Barings LLC	Management		MLLIC		
.0000							Barings Global Special Situations Credit 4 LUX	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	16.500	MLLIC		
.0000							Barings Global Special Situations Credit 4 LUX	LUX	NIA	C.M. Life Insurance Company	Ownership	0.900	MLLIC		
.0000							Barings Global Special Situations Credit 4 LUX	LUX	NIA	Barings LLC	Management		MLLIC		
.0000							Barings Global Special Situations Credit Fund 3	IRL	NIA	Barings LLC	Management		MLLIC		
.0000							Barings Global Technology Equity Fund	IRL	NIA	Barings LLC	Ownership/Influence	73.700	MLLIC		
.0000			87-0977058				Barings Hotel Opportunity Venture	CT	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	75.400	MLLIC		
.0000			87-0977058				Barings Hotel Opportunity Venture	CT	NIA	Barings LLC	Management		MLLIC		
.0000			86-3661023				Barings Innovations & Growth Real Estate Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	38.700	MLLIC		
.0000			86-3661023				Barings Innovations & Growth Real Estate Fund	DE	NIA	C.M. Life Insurance Company	Ownership	0.600	MLLIC		
.0000							Barings Middle Market CLO 2017-I Ltd & LLC	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings Middle Market CLO 2018-I	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings Middle Market CLO 2019-I	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000			98-1612604				Barings Middle Market CLO Ltd 2021-I	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000			38-4010344				Barings North American Private Loan Fund LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	36.600	MLLIC		
.0000			38-4010344				Barings North American Private Loan Fund LP	DE	NIA	Baring Asset Management Limited	Management		MLLIC		
.0000			98-1332384				Barings RE Credit Strategies VII LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	33.200	MLLIC		
.0000			98-1332384				Barings RE Credit Strategies VII LP	DE	NIA	Baring Asset Management Limited	Management		MLLIC		
.0000			98-1567942				Barings Target Yield Infrastructure Debt Fund	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	33.300	MLLIC		
.0000			98-1567942				Barings Target Yield Infrastructure Debt Fund	LUX	NIA	Baring Asset Management Limited	Management		MLLIC		
.0000			87-1262754				Barings Transportation Fund LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence	11.500	MLLIC		
.0000			87-1262754				Barings Transportation Fund LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	8.100	MLLIC		
.0000							Braemar Energy Ventures I, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	89.000	MLLIC		
.0000							Braemar Energy Ventures I, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	1.300	MLLIC		
.0000							Braemar Energy Ventures I, L.P.	DE	NIA	Barings LLC	Management		MLLIC		
.0000							Barings European Core Property Fund SCSp	LUX	NIA	MassMutual Holding LLC	Ownership/Influence	9.000	MLLIC		
.0000							Barings European Core Property Fund SCSp	LUX	NIA	C.M. Life Insurance Company	Ownership	0.600	MLLIC		
.0000							Barings European Core Property Fund SCSp	LUX	NIA	Barings Real Estate Advisers LLC	Management		MLLIC		
.0000			46-5001122				Barings European Private Loan Fund III A	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	68.600	MLLIC		
.0000			38-4059932				Benchmark 2018-B2 Mortgage Trust	NY	NIA	Barings LLC	Influence		MLLIC		
.0000							Benchmark 2018-B4	NY	NIA	Barings LLC	Influence		MLLIC		
.0000			38-4096530				Benchmark 2018-B8	NY	NIA	Barings LLC	Influence		MLLIC		
.0000			20-5578089				Barings Core Property Fund LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence	22.300	MLLIC		

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual 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	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			20-5578089				Barings Core Property Fund LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MLLIC		
.0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	27.400	MLLIC		
.0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NIA	C.M. Life Insurance Company	Ownership	3.000	MLLIC		
.0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MLLIC		
.0000			35-2531693				Cornerstone Permanent Mortgage Fund III LLC	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MLLIC		
.0000			61-1793735				Cornerstone Permanent Mortgage Fund IV LLC	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	32.100	MLLIC		
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	C.M. Life Insurance Company	Ownership	4.800	MLLIC		
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	Barings LLC	Management		MLLIC		
.0000			37-1708623				Great Lakes III, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	41.400	MLLIC		
.0000			37-1708623				Great Lakes III, L.P.	DE	NIA	Barings LLC	Management		MLLIC		
.0000							GIA EU Holdings - Emerson JV Sarl	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	49.800	MLLIC		
.0000							GIA EU Holdings - Emerson JV Sarl	LUX	NIA	Barings LLC	Management		MLLIC		
.0000			38-4041011				JPMCC Commercial Mortgage Securities Trust 2017-JP7	NY	NIA	Barings LLC	Influence		MLLIC		
.0000			38-4032059				JPMDB Commercial Mortgage Securities Trust 2017-C5	NY	NIA	Barings LLC	Influence		MLLIC		
.0000			82-1512591				KKR-MM Vector LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MLLIC		
.0000			46-4255307				Marco Hotel LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			04-1590850				Miami Douglas One GP LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		
.0000			04-1590850				Miami Douglas One GP LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.500	MLLIC		
.0000			04-1590850				Miami Douglas Two GP LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MLLIC		
.0000			04-1590850				Miami Douglas Two GP LLC	DE	NIA	C.M. Life Insurance Company	Influence	0.000	MLLIC		
.0000			04-1590850				Miami Douglas One LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MLLIC		
.0000			04-1590850				Miami Douglas One LP	DE	NIA	C.M. Life Insurance Company	Ownership	10.000	MLLIC		
.0000			04-1590850				Miami Douglas Two LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MLLIC		
.0000			04-1590850				Miami Douglas Two LP	DE	NIA	C.M. Life Insurance Company	Ownership	10.000	MLLIC		
.0000			04-1590850				Miami Douglas Three MM LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			87-4021641				MM BIG Peninsula Co-Invest Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	27.000	MLLIC		
.0000			87-4021641				MM BIG Peninsula Co-Invest Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.800	MLLIC		
.0000			85-3886824				NVDIG Digital Assets Fund II LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			45-3623262				HB Naples Golf Owner LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000							MM CM Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			81-3000420				MM Debt Participations LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MLLIC		
.0000			81-3000420				MM Debt Participations LLC	DE	NIA	Barings LLC	Management		MLLIC		

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual 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	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			82-4411267				RB Apartments 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			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	17.700	MMLIC		
.0000			41-2280129				Tower Square Capital Partners IIIA, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	96.800	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	CYM	NIA	Barings LLC	Management		MMLIC		
.0000							Barings China Aggregate Bond Private Securities Investment Fund	CHN	NIA	Barings LLC	Management		MMLIC		
.0000							Barings European Growth Trust Fund	GBR	NIA	Barings LLC	Ownership/Influence	15.900	MMLIC		
.0000			47-3790192				Barings Global High Yield Fund	MA	NIA	Barings LLC	Management		MMLIC		
.0000							CCIC Fund	CHN	NIA	Barings LLC	Ownership/Influence	66.200	MMLIC		
.0000			71-1018134				Great Lakes II LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	10.600	MMLIC		
.0000			71-1018134				Great Lakes II 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		

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual 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			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			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		
.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			04-1590850				MM National Self-Storage Program Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	98.000	MMLIC		
.0000			04-1590850				MM 1400 E 4th Street Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	96.000	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				Savgrass Village Shopping Center LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	84.200	MMLIC		
.0000			27-2977720				Savgrass 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		

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

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

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.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	OQ	MassMutual Premier Main Street Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.400	MMLIC		
.0000			26-3229251		0000927972	OQ	MassMutual Premier Strategic Emerging Markets Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	27.400	MMLIC		
.0000			04-3512593		0000916053	OQ	MassMutual Select Fundamental Growth Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	2.000	MMLIC		
.0000			42-1710935		0000916053	OQ	MassMutual Select Mid-Cap Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	24.700	MMLIC		
.0000			02-0769954		0000916053	OQ	MassMutual Select Small Capital Value Equity Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			04-3584140		0000916053	OQ	MassMutual Select Small Company Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	9.300	MMLIC		
.0000			82-3347422		0000916053	OQ	MassMutual Select T. Rowe Price Retirement 2005 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	5.700	MMLIC		
.0000			82-3355639		0000916053	OQ	MassMutual Select T. Rowe Price Retirement 2010 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			82-3382389		0000916053	OQ	MassMutual Select T. Rowe Price Retirement 2015 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			82-3396442		0000916053	OQ	MassMutual Select T. Rowe Price Retirement 2020 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			82-3417420		0000916053	OQ	MassMutual Select T. Rowe Price Retirement 2025 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			82-3430358		0000916053	OQ	MassMutual Select T. Rowe Price Retirement 2030 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			82-3439837		0000916053	OQ	MassMutual Select T. Rowe Price Retirement 2035 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			82-3451779		0000916053	OQ	MassMutual Select T. Rowe Price Retirement 2040 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			82-3472295		0000916053	OQ	MassMutual Select T. Rowe Price Retirement 2045 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			82-3481715		0000916053	OQ	MassMutual Select T. Rowe Price Retirement 2050 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			82-3502011		0000916053	OQ	MassMutual Select T. Rowe Price Retirement 2055 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			82-3525148		0000916053	OQ	MassMutual Select T. Rowe Price Retirement 2060 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			82-3533944		0000916053	OQ	MassMutual Select T. Rowe Price Retirement Balanced Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			46-4257056				MML Series International Equity Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	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	0.000	MMLIC		
.0000			47-3544629				MML Series II Equity Rotation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	95.700	MMLIC		
.0000			47-3559064				MML Series II Special Situations Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	97.400	MMLIC		
.0000			27-1933389		0000916053	OQ	MassMutual RetireSMART 2035 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	2.800	MMLIC		

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual 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			27-1932769		0000916053	QO	MassMutual RetireSMART 2045 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	6.200	MMLIC		
.0000			46-3289207		0000916053	QO	MassMutual RetireSMART 2055 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	23.600	MMLIC		
.0000			47-5326235		0000916053	QO	MassMutual RetireSMART 2060 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	49.700	MMLIC		
.0000			45-1618155		0000916053	QO	MassMutual 20/80 Allocation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			45-1618222		0000916053	QO	MassMutual 80/20 Allocation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	66.100	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	0.000	MMLIC		
.0000			45-1618046		0000916053	QO	MassMutual 60/40 Allocation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	86.500	MMLIC		

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

# SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

The following supplemental reports are required to be filed as part of your statement filing. 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.

	Response
1. Will the Trusteed Surplus Statement be filed with the state of domicile and the NAIC with this statement? .....	NO
2. Will the Medicare Part D Coverage Supplement be filed with the state of domicile and the NAIC with this statement? .....	NO
3. Will the Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV be filed with the state of domicile and electronically with the NAIC? .....	NO
4. 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? .....	NO
5. 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? .....	NO
6. 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? .....	NO
7. 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? .....	NO
8. Will the Life PBR Statement of Exemption be filed with the state of domicile by July 1st and electronically with the NAIC with the second quarterly filing per the Valuation Manual (by August 15)? (2nd Quarter Only) The response for 1st and 3rd quarters should be N/A. A NO response resulting with a bar code is only appropriate in the 2nd quarter. ....	NO

**AUGUST FILING**

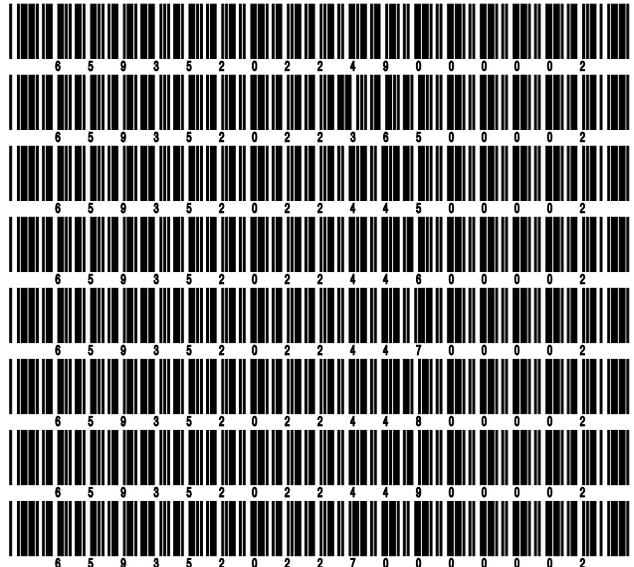
9. Will the regulator-only (non-public) Communication of Internal Control Related Matters Noted in Audit be filed with the state of domicile and electronically with the NAIC (as a regulator-only non-public document) by August 1? The response for 1st and 3rd quarters should be N/A. A NO response resulting with a bar code is only appropriate in the 2nd quarter. ....	YES
--	-----

Explanation:

1. Not required
2. This line of business is not written by the company
3. Not required
4. Not required
5. Not required
6. Not required
7. Not required
8. Not required

Bar Code:

1. Trusteed Surplus Statement [Document Identifier 490]
2. Medicare Part D Coverage Supplement [Document Identifier 365]
3. Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV [Document Identifier 445]
4. Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXV [Document Identifier 446]
5. Reasonableness of Assumptions Certification for Implied Guaranteed Rate Method required by Actuarial Guideline XXXVI [Document Identifier 447]
6. Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI [Document Identifier 448]
7. Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Market Value) [Document Identifier 449]
8. Life PBR Statement of Exemption (2nd Quarter Only) [Document Identifier 700]



STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**OVERFLOW PAGE FOR WRITE-INS**

Additional Write-ins for Assets Line 25

	Current Statement Date			4 December 31 Prior Year Net Admitted Assets
	1 Assets	2 Nonadmitted Assets	3 Net Admitted Assets (Cols. 1 - 2)	
2504. Investment in trust .....	21,008,776		21,008,776	26,075,375
2505. Pension plan asset .....	656,908,362	656,908,362		
2506. Cash advances to agents .....	265,709,460	265,709,460		
2507. Commissions and expenses on long-term lease .....	71,074,799	71,074,799		
2508. Intangible assets .....	47,859,234	47,859,234		
2597. Summary of remaining write-ins for Line 25 from overflow page	1,062,560,630	1,041,551,854	21,008,776	26,075,375

Additional Write-ins for Liabilities Line 25

	1 Current Statement Date	2 December 31 Prior Year
2504. Funds awaiting escheat and other miscellaneous .....	545,104,982	479,609,709
2505. Deferred income liability .....	11,457,250	11,826,045
2597. Summary of remaining write-ins for Line 25 from overflow page	556,562,232	491,435,755

Additional Write-ins for Summary of Operations Line 8.3

	1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
08.304. Miscellaneous income .....	(50,022,202)	(58,235,029)	(141,804,556)
08.305. Change in corporate owned life insurance .....	(47,651,382)	162,501,490	266,870,737
08.397. Summary of remaining write-ins for Line 8.3 from overflow page	(97,673,584)	104,266,462	125,066,181

Additional Write-ins for Summary of Operations Line 27

	1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
2704. Reinsurance ceded adjustment .....	(78,725,939)	(44,074,325)	(70,479,015)
2705. Change in Liability for employee/agent benefit plans .....	(76,230,804)	54,622,188	67,382,464
2706. Market value adjustment transfer .....	(478,928)		
2797. Summary of remaining write-ins for Line 27 from overflow page	(155,435,671)	10,547,863	(3,096,551)

## STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE A - VERIFICATION**

## Real Estate

	1 Year to Date	2 Prior Year Ended December 31
1. Book/adjusted carrying value, December 31 of prior year .....	394,897,743	362,371,153
2. Cost of acquired:		
2.1 Actual cost at time of acquisition .....		
2.2 Additional investment made after acquisition .....	20,117,757	173,218,441
3. Current year change in encumbrances .....		864,000
4. Total gain (loss) on disposals .....	127,365,815	29,787,026
5. Deduct amounts received on disposals .....	196,301,472	75,387,206
6. Total foreign exchange change in book/adjusted carrying value .....		
7. Deduct current year's other than temporary impairment recognized .....		5,416,511
8. Deduct current year's depreciation .....	43,521,202	90,539,160
9. Book/adjusted carrying value at the end of current period (Lines 1+2+3+4-5+6-7-8) .....	302,558,641	394,897,743
10. Deduct total nonadmitted amounts .....		
11. Statement value at end of current period (Line 9 minus Line 10) .....	302,558,641	394,897,743

**SCHEDULE B - VERIFICATION**

## Mortgage Loans

	1 Year to Date	2 Prior Year Ended December 31
1. Book value/recorded investment excluding accrued interest, December 31 of prior year .....	26,344,845,562	26,078,333,015
2. Cost of acquired:		
2.1 Actual cost at time of acquisition .....	929,068,599	4,758,341,329
2.2 Additional investment made after acquisition .....	210,481,462	412,065,332
3. Capitalized deferred interest and other .....	13,998,978	47,984,765
4. Accrual of discount .....	10,173,155	46,337,557
5. Unrealized valuation increase (decrease) .....		
6. Total gain (loss) on disposals .....	(17,418,125)	9,889,840
7. Deduct amounts received on disposals .....	2,449,754,755	4,919,160,141
8. Deduct amortization of premium and mortgage interest points and commitment fees .....	(8,171,320)	(7,437,157)
9. Total foreign exchange change in book value/recorded investment excluding accrued interest .....	(270,299,603)	(79,546,248)
10. Deduct current year's other than temporary impairment recognized .....	1,803,579	16,837,043
11. Book value/recorded investment excluding accrued interest at end of current period (Lines 1+2+3+4+5+6-7-8+9-10) .....	24,777,463,014	26,344,845,562
12. Total valuation allowance .....		
13. Subtotal (Line 11 plus Line 12) .....	24,777,463,014	26,344,845,562
14. Deduct total nonadmitted amounts .....		
15. Statement value at end of current period (Line 13 minus Line 14) .....	24,777,463,014	26,344,845,562

**SCHEDULE BA - VERIFICATION**

## Other Long-Term Invested Assets

	1 Year to Date	2 Prior Year Ended December 31
1. Book/adjusted carrying value, December 31 of prior year .....	12,601,759,357	9,586,349,814
2. Cost of acquired:		
2.1 Actual cost at time of acquisition .....	404,614,019	1,890,897,016
2.2 Additional investment made after acquisition .....	1,190,390,903	2,153,234,112
3. Capitalized deferred interest and other .....		
4. Accrual of discount .....		
5. Unrealized valuation increase (decrease) .....	288,665,877	1,725,570,864
6. Total gain (loss) on disposals .....	3,100,778	70,537,450
7. Deduct amounts received on disposals .....	1,463,286,007	2,773,584,895
8. Deduct amortization of premium and depreciation .....	574,387	1,137,105
9. Total foreign exchange change in book/adjusted carrying value .....	(23,351,696)	(47,550,286)
10. Deduct current year's other than temporary impairment recognized .....	158,289	2,557,612
11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10) .....	13,001,160,555	12,601,759,357
12. Deduct total nonadmitted amounts .....	52,486,729	56,271,383
13. Statement value at end of current period (Line 11 minus Line 12) .....	12,948,673,826	12,545,487,974

**SCHEDULE D - VERIFICATION**

## Bonds and Stocks

	1 Year to Date	2 Prior Year Ended December 31
1. Book/adjusted carrying value of bonds and stocks, December 31 of prior year .....	150,758,481,945	136,241,389,634
2. Cost of bonds and stocks acquired .....	22,304,556,110	53,871,504,467
3. Accrual of discount .....	127,479,733	331,197,415
4. Unrealized valuation increase (decrease) .....	(612,867,282)	860,127,014
5. Total gain (loss) on disposals .....	(248,226,602)	457,112,821
6. Deduct consideration for bonds and stocks disposed of .....	16,088,364,290	40,062,121,850
7. Deduct amortization of premium .....	68,483,431	184,805,816
8. Total foreign exchange change in book/adjusted carrying value .....	(1,603,592,234)	(732,683,760)
9. Deduct current year's other than temporary impairment recognized .....	363,727,765	92,277,254
10. Total investment income recognized as a result of prepayment penalties and/or acceleration fees .....	28,467,840	69,039,274
11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9+10) .....	154,233,724,023	150,758,481,945
12. Deduct total nonadmitted amounts .....	183,808	183,808
13. Statement value at end of current period (Line 11 minus Line 12) .....	154,233,540,215	150,758,298,137

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE D - PART 1B**

Showing the Acquisitions, Dispositions and Non-Trading Activity  
During the Current Quarter for all Bonds and Preferred Stock by NAIC Designation

NAIC Designation	1 Book/Adjusted Carrying Value Beginning of Current Quarter	2 Acquisitions During Current Quarter	3 Dispositions During Current Quarter	4 Non-Trading Activity During Current Quarter	5 Book/Adjusted Carrying Value End of First Quarter	6 Book/Adjusted Carrying Value End of Second Quarter	7 Book/Adjusted Carrying Value End of Third Quarter	8 Book/Adjusted Carrying Value December 31 Prior Year
<b>BONDS</b>								
1. NAIC 1 (a) .....	64,548,754,915	11,191,661,312	8,283,476,564	653,682,300	64,548,754,915	68,110,621,963		64,725,098,639
2. NAIC 2 (a) .....	53,181,897,395	35,506,985,253	33,996,291,011	(1,966,905,069)	53,181,897,395	52,725,686,568		51,428,180,081
3. NAIC 3 (a) .....	5,583,818,927	241,206,663	1,176,864,718	677,157,159	5,583,818,927	5,325,318,031		5,434,694,827
4. NAIC 4 (a) .....	3,352,170,613	1,154,261,387	240,960,391	(1,126,080,340)	3,352,170,613	3,139,391,268		3,411,697,369
5. NAIC 5 (a) .....	2,510,266,058	45,220,010	129,386,594	72,161,338	2,510,266,058	2,498,260,812		2,513,182,187
6. NAIC 6 (a) .....	776,712,895	44,957,136	97,732,714	25,652,305	776,712,895	749,589,622		817,844,599
7. Total Bonds	129,953,620,803	48,184,291,761	43,924,711,992	(1,664,332,307)	129,953,620,803	132,548,868,265		128,330,697,702
<b>PREFERRED STOCK</b>								
8. NAIC 1 .....	284,795,397		2,403,243		284,795,397	282,392,154		284,795,397
9. NAIC 2 .....	79,563,016			(11,640,271)	79,563,016	67,922,745		76,152,686
10. NAIC 3 .....	150,590,767			(1,194,410)	150,590,767	149,396,357		152,693,064
11. NAIC 4 .....	4,366,000	826,519			4,366,000	5,192,519		4,366,000
12. NAIC 5 .....	12,192,685			253,011	12,192,685	12,445,696		21,337,275
13. NAIC 6 .....	13,842,181	39,244	4,999,986	(3,424,422)	13,842,181	5,457,017		15,320,585
14. Total Preferred Stock	545,350,046	865,763	7,403,229	(16,006,092)	545,350,046	522,806,488		554,665,007
15. Total Bonds and Preferred Stock	130,498,970,849	48,185,157,524	43,932,115,221	(1,680,338,399)	130,498,970,849	133,071,674,753		128,885,362,709

(a) Book/Adjusted Carrying Value column for the end of the current reporting period includes the following amount of short-term and cash equivalent bonds by NAIC designation:

NAIC 1 \$ 2,008,710,566 ; NAIC 2 \$ 2,398,129,302 ; NAIC 3 \$ 2,003,053 ; NAIC 4 \$ 113,235 ; NAIC 5 \$ ; NAIC 6 \$ 2,908,460

**SCHEDULE DA - PART 1**

## Short-Term Investments

	1	2	3	4	5
	Book/Adjusted Carrying Value	Par Value	Actual Cost	Interest Collected Year-to-Date	Paid for Accrued Interest Year-to-Date
7709999999 Totals	2,019,347,457	xxx	2,018,757,971	538,326	345,055

**SCHEDULE DA - VERIFICATION**

## Short-Term Investments

	1	2
	Year To Date	Prior Year Ended December 31
1. Book/adjusted carrying value, December 31 of prior year .....	2,715,450,459	2,213,051,262
2. Cost of short-term investments acquired .....	796,210,069	6,293,088,230
3. Accrual of discount .....	1,436,803	6,137,295
4. Unrealized valuation increase (decrease) .....		
5. Total gain (loss) on disposals .....	(533,102)	275,735
6. Deduct consideration received on disposals .....	1,493,170,135	5,793,438,744
7. Deduct amortization of premium .....		
8. Total foreign exchange change in book/adjusted carrying value .....	(46,637)	
9. Deduct current year's other than temporary impairment recognized .....		3,663,319
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9) .....	2,019,347,457	2,715,450,459
11. Deduct total nonadmitted amounts .....		
12. Statement value at end of current period (Line 10 minus Line 11)	2,019,347,457	2,715,450,459

**SCHEDULE DB - PART A - VERIFICATION**

Options, Caps, Floors, Collars, Swaps and Forwards

1. Book/Adjusted Carrying Value, December 31, prior year (Line 10, prior year)	5,468,645,260
2. Cost Paid/(Consideration Received) on additions	64,045,055
3. Unrealized Valuation increase/(decrease)	2,522,272,795
4. SSAP No. 108 adjustments	
5. Total gain (loss) on termination recognized	188,333,315
6. Considerations received/(paid) on terminations	260,607,393
7. Amortization	156,318
8. Adjustment to the Book/Adjusted Carrying Value of hedged item	
9. Total foreign exchange change in Book/Adjusted Carrying Value	
10. Book/Adjusted Carrying Value at End of Current Period (Lines 1+2+3+4+5-6+7+8+9)	7,982,845,350
11. Deduct nonadmitted assets	
12. Statement value at end of current period (Line 10 minus Line 11)	7,982,845,350

**SCHEDULE DB - PART B - VERIFICATION**

Futures Contracts

1. Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year)	33,162,834
2. Cumulative cash change (Section 1, Broker Name/Net Cash Deposits Footnote - Cumulative Cash Change column)	
3.1 Add:	
Change in variation margin on open contracts - Highly Effective Hedges	
3.11 Section 1, Column 15, current year to date minus	
3.12 Section 1, Column 15, prior year	
Change in variation margin on open contracts - All Other	
3.13 Section 1, Column 18, current year to date minus	(39,549,508)
3.14 Section 1, Column 18, prior year	33,162,834 (72,712,342) (72,712,342)
3.2 Add:	
Change in adjustment to basis of hedged item	
3.21 Section 1, Column 17, current year to date minus	
3.22 Section 1, Column 17, prior year	
Change in amount recognized	
3.23 Section 1, Column 19, current year to date minus	(39,549,508)
3.24 Section 1, Column 19, prior year plus	33,162,834
3.25 SSAP No. 108 adjustments	(72,712,342) (72,712,342)
3.3 Subtotal (Line 3.1 minus Line 3.2)	
4.1 Cumulative variation margin on terminated contracts during the year	(532,678,939)
4.2 Less:	
4.21 Amount used to adjust basis of hedged item	
4.22 Amount recognized	(565,841,773)
4.23 SSAP No. 108 adjustments	(565,841,773)
4.3 Subtotal (Line 4.1 minus Line 4.2)	33,162,834
5. Dispositions gains (losses) on contracts terminated in prior year:	
5.1 Total gain (loss) recognized for terminations in prior year	
5.2 Total gain (loss) adjusted into the hedged item(s) for terminations in prior year	39,549,508
6. Book/Adjusted carrying value at end of current period (Lines 1+2+3.3-4.3-5.1-5.2)	(39,549,508)
7. Deduct total nonadmitted amounts	
8. Statement value at end of current period (Line 6 minus Line 7)	(39,549,508)

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held				
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value
57629*FX4	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	1	50,000,000	27,000,000	17,882,857	06/03/2021	06/03/2051	Interest Rate Swap	(8,533,430)		42086P-AC-7	Kingsland Ltd-SERIES 18-8A CLASS A	1	27,000,000	26,416,287
57629*FX4	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	1	12,052,740	11,960,000	11,960,000	06/03/2021	06/03/2051	Interest Rate Swap			320808-AD-0	FIRST MARYLAND CAP I-LIMITED GUARANTEE NOTE	2	12,052,740	11,960,000
57629*FX4	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	1	10,000,000	10,000,000	9,515,710	06/03/2021	06/03/2051	Interest Rate Swap			09629L-AE-5	BLUEMOUNTAIN CLO XXIII L-BLUEM 2018-23A B	1	10,000,000	9,515,710
57629*FX4	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	1	19,055,594	17,884,147	17,884,147	06/03/2021	06/03/2051	Interest Rate Swap			03328Y-AG-9	Anchorage Capital CLO Lt-ANCHC 2018-18A C	1	19,055,594	17,884,147
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	264,000,000	89,000,000	67,368,230	11/29/2012	11/29/2042	Interest Rate Swap	(21,631,770)		12499F-MM-8	CCOF Onshore Co-Borrower Revolving Loan	1	89,000,000	89,000,000
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	3,792,631	3,788,768	3,788,768	11/29/2012	11/29/2042	Interest Rate Swap			83149F-AD-6	SLM Student Loan Trust 2006-6	1	3,792,631	3,788,768
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	22,840,917	22,667,696	22,667,696	11/29/2012	11/29/2042	Interest Rate Swap			375415-AA-4	GILBERT PARK CLO LTD-SERIES 17-1A CLASS A	1	22,840,917	22,667,696
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	13,100,000	12,629,134	12,629,134	11/29/2012	11/29/2042	Interest Rate Swap			67097Q-AC-9	CCP CLO 2017-14 Ltd-SERIES 17-14A CLASS A1B	1	13,100,000	12,629,134
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	8,000,000	7,689,312	7,689,312	11/29/2012	11/29/2042	Interest Rate Swap			38137H-BW-7	Goldentree Loan Opportun-SERIES 2015-11A CLASS BR2	1	8,000,000	7,689,312
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	10,156,519	9,307,740	9,307,740	11/29/2012	11/29/2042	Interest Rate Swap			56845N-AE-0	Signal Peak CLO 8 Ltd-SPEAK 2020-8A C	1	10,156,519	9,307,740
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	10,000,000	9,327,070	9,327,070	11/29/2012	11/29/2042	Interest Rate Swap			33833V-AE-5	522 Funding CLO 2019-5 L-MORGN 2021-7A B	1	10,000,000	9,327,070
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	11,050,000	10,586,055	10,586,055	11/29/2012	11/29/2042	Interest Rate Swap			03331J-AJ-1	Anchorage Capital CLO Lt-ANCHC 2018-10A B	1	11,050,000	10,586,055
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	15,000,000	14,508,840	14,508,840	11/29/2012	11/29/2042	Interest Rate Swap			38137M-AK-3	Goldentree Loan Opportun-GLD12 2016-12A AJR	1	15,000,000	14,508,840
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	4,500,000	4,210,178	4,210,178	11/29/2012	11/29/2042	Interest Rate Swap			03767M-AJ-7	Apidos CLO-APID 2018-29A B	1	4,500,000	4,210,178
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	19,600,000	19,190,772	19,190,772	11/29/2012	11/29/2042	Interest Rate Swap			17181T-AA-9	CIFC Funding 2018-IV Ltd-SERIES 18-4A CLASS A1	1	19,600,000	19,190,772
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	12,000,000	11,503,344	11,503,344	11/29/2012	11/29/2042	Interest Rate Swap			04017J-AE-1	ARES CLO Ltd-ARES 2018-49A B	1	12,000,000	11,503,344
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	60,000,000	57,972,180	57,972,180	11/29/2012	11/29/2042	Interest Rate Swap			29002H-AL-3	Elmwood CLO III Ltd-ELMW3 2019-3A AR	1	60,000,000	57,972,180
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	1,425,000	1,372,684	1,372,684	11/29/2012	11/29/2042	Interest Rate Swap			06760E-AG-1	Babson CLO Ltd 2013-I-SERIES 2013-1A CLASS DR	2	1,425,000	1,372,684
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	1,220,000	1,033,164	1,033,164	11/29/2012	11/29/2042	Interest Rate Swap			056162-AU-4	Babson CLO Ltd 2015-I-SERIES 2015-1A CLASS DR	2	1,220,000	1,033,164
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	196,970	186,332	186,332	11/29/2012	11/29/2042	Interest Rate Swap			06759F-AE-6	BABSON CLO LTD 2015-II-SERIES 15-2A CLASS C1R	1	196,970	186,332
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	10,800,000	10,741,793	10,741,793	11/29/2012	11/29/2042	Interest Rate Swap			26146D-AA-9	Dragonfly Energy Corp-FIRST LIEN CQP CLO Ltd-SEREIS 18-15A CLASS A3	1	10,800,000	10,741,793
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	12,000,000	6,038,718	12/27/2012	12/27/2042	Interest Rate Swap	(5,423,106)		67112K-AC-3	Babson CLO Ltd 2015-I-BABSN 2015-1A AR	1	12,000,000	11,461,824
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	12,575,000	12,323,110	12,323,110	12/27/2012	12/27/2042	Interest Rate Swap			056162-AN-0	Anchorage Capital CLO 3-ANCHC 2014-3RA B	1	12,575,000	12,323,110
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	3,200,000	3,095,821	3,095,821	12/27/2012	12/27/2042	Interest Rate Swap			03330A-AC-6	TIAA CLO I Ltd-TIA 2016-1A AR	1	3,200,000	3,095,821
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	65,000,000	63,408,865	63,408,865	12/27/2012	12/27/2042	Interest Rate Swap			87271L-AJ-1	TIAA CLO I Ltd-TIA 2016-1A AR	1	65,000,000	63,408,865
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	5,900,000	5,627,237	5,627,237	12/27/2012	12/27/2042	Interest Rate Swap			87250R-AB-0	TICP CLO XV Ltd-TICP 2020-15A B HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS B1	1	5,900,000	5,627,237
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	1,928,459	1,688,296	1,688,296	12/27/2012	12/27/2042	Interest Rate Swap			429827-AR-9	JPMorgan Chase & Co-SENIOR UNSECURED	1	1,928,459	1,688,296
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	8,608,951	8,239,605	8,239,605	12/27/2012	12/27/2042	Interest Rate Swap			46647P-AR-7	WACHOVIA STUDENT LOAN TR-WSLT 2005-1 B	1	8,608,951	8,239,605
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	7,350,643	1,538,098	12/27/2012	12/27/2042	Interest Rate Swap	(5,423,106)		92977H-AG-3	Wellfleet CLO 2017-1 Ltd-WELF 2017-1A A2R	1	7,350,643	6,961,204
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	20,034,450	19,499,640	19,499,640	12/27/2012	12/27/2042	Interest Rate Swap			94950G-AN-7	610 Funding CLO-SIX10 2021-2RA A1R2	1	20,034,450	19,499,640
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	30,000,000	29,305,320	29,305,320	12/27/2012	12/27/2042	Interest Rate Swap			83004L-AC-9		1	30,000,000	29,305,320

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,000,000	22,490,550	12/27/2012	12/27/2042	Interest Rate Swap			06760P-AE-1	Babson CLO Ltd/Cayman Is-BABSN 2018-3A A2	1	23,000,000	22,490,550
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,500,000	9,123,012	12/27/2012	12/27/2042	Interest Rate Swap			55821A-AE-8	Madison Park Funding Ltd-SERIES 18-28A CLASS B	1	9,500,000	9,123,012
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,700,000	6,514,819	12/27/2012	12/27/2042	Interest Rate Swap			06760B-AC-6	BABSON CLO LTD-SERIES 17-1A CLASS A2	1	6,700,000	6,514,819
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,250,000	2,994,778	12/27/2012	12/27/2042	Interest Rate Swap			087598-AE-8	BETHPAGE PARK CLO LTD-BETHP 2021-1A	1	3,250,000	2,994,778
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,877,864	1,797,488	12/27/2012	12/27/2042	Interest Rate Swap			784424-AE-3	SLC STUDENT LOAN TRUST 2-SERIES 07-1 CLASS B	1	1,877,864	1,797,488
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,811,993	6,911,247	12/27/2012	12/27/2042	Interest Rate Swap			62983P-AB-1	Nakilat Inc-SECURED 144A	1	6,811,993	6,911,247
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	6,000,000	558,124	12/28/2012	12/28/2042	Interest Rate Swap	(5,212,016)		38138B-AG-5	Goldentree Loan Managem-GLM 2018-3A B1	1	6,000,000	5,770,140
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,314,488	19,006,460	12/28/2012	12/28/2042	Interest Rate Swap			56845N-AC-4	Signal Peak CLO 8 Ltd-SPEAK 2020-8A	1	20,314,488	19,006,460
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,750,000	12,996,266	12/28/2012	12/28/2042	Interest Rate Swap			55954K-AN-5	Magnetite XIX Ltd-SERIES 2017-19A CLASS B1R	1	13,750,000	12,996,266
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		34,745,000	33,579,861	12/28/2012	12/28/2042	Interest Rate Swap			13876N-AL-7	Canyon CLO 2020-2 LTD-CANYC 2020-2A	1	34,745,000	33,579,861
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,795,964	13,396,572	12/28/2012	12/28/2042	Interest Rate Swap			92917N-AJ-7	AR Voya CLO 2019-1 Ltd-VOYA 2019-1A AR	1	12,795,964	13,396,572
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,039,711	2,131,058	12/28/2012	12/28/2042	Interest Rate Swap			64033T-AB-9	NELNET STUDENT LOAN TRUS-SERIES 2015-3A CLASS B	1	2,039,711	2,131,058
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,000,000	2,904,339	12/28/2012	12/28/2042	Interest Rate Swap			87248K-AS-3	TICP CLO VI 2016-5 LTD-TICP 2016-5A	1	3,000,000	2,904,339
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	978,210	12/28/2012	12/28/2042	Interest Rate Swap			94950J-AA-9	A2R Wellfleet CLO Ltd-SERIES 18-1A CLASS A	1	1,000,000	978,210
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,000,000	3,851,348	12/28/2012	12/28/2042	Interest Rate Swap			40437L-AE-2	HPS LOAN MANAGEMENT 13-2-HLM 13A-18 A2	1	4,000,000	3,851,348
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,060,000	4,698,554	12/28/2012	12/28/2042	Interest Rate Swap			92917A-AE-6	Voya CLO Ltd-SERIES 18-1A CLASS B	1	5,060,000	4,698,554
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,150,000	2,963,772	12/28/2012	12/28/2042	Interest Rate Swap			87168G-AG-4	Symphony CLO XXIX Ltd-SYMP 2021-29A	1	3,150,000	2,963,772
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	2,948,854	12/28/2012	12/28/2042	Interest Rate Swap			33836J-AG-4	ASSURANT CLO I LTD-MORGN 2017-1A CR	1	3,200,000	2,948,854
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	59,000,000	52,502,374	12/28/2012	12/28/2042	Interest Rate Swap	(5,212,016)		94950J-AA-9	Wellfleet CLO Ltd-SERIES 18-1A CLASS A	1	59,000,000	57,714,390
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,200,000	13,981,320	12/28/2012	12/28/2042	Interest Rate Swap			06759F-AB-2	BABSON CLO LTD 2015-1I-SERIES 15-2A CLASS AR	1	14,200,000	13,981,320
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	19,097,240	12/28/2012	12/28/2042	Interest Rate Swap			04017T-AE-9	Ares XXXIR CLO Ltd-SERIES 14-31RA CLASS B	1	20,000,000	19,097,240
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,600,000	1,471,890	12/28/2012	12/28/2042	Interest Rate Swap			87246M-AW-2	TICP CLO VI 2016-2 Ltd-TICP 2016-6A CR2	1	1,600,000	1,471,890
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,200,000	3,921,931	12/28/2012	12/28/2042	Interest Rate Swap			12551R-AE-8	CIFC Funding 2018-1 Ltd-SERIES 18-1A CLASS C	1	4,200,000	3,921,931
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,100,000	1,051,819	12/28/2012	12/28/2042	Interest Rate Swap			08179M-AC-3	Benefit Street Partners -BSP 2018-15A A2A	1	1,100,000	1,051,819
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,575,000	8,339,522	12/28/2012	12/28/2042	Interest Rate Swap			151895-D8-5	CenterPoint Properties T Senior Note Ser	1	8,575,000	8,339,522
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	20,000,000	13,990,724	12/28/2012	12/28/2042	Interest Rate Swap	(5,212,016)		09628N-AQ-5	BlueMountain CLO 2015-4 -SERIES 15-4A CLASS A2R	1	20,000,000	19,202,740
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,050,000	12,006,645	12/28/2012	12/28/2042	Interest Rate Swap			64031D-AB-6	Nelnet Student Loan Trus-SERIES 19-3A CLASS B	1	12,050,000	12,006,645
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,723,840	3,527,140	12/28/2012	12/28/2042	Interest Rate Swap			63939F-AC-4	Navient Student Loan Tru-SERIES 15-1 CLASS B	1	3,723,840	3,527,140
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,741,565	12/28/2012	12/28/2042	Interest Rate Swap			12550G-AE-3	CIFC Funding Ltd-CIFC 2018-5A B	1	5,000,000	4,741,565
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,750,000	6,443,010	12/28/2012	12/28/2042	Interest Rate Swap			77341D-AE-7	Rockford Tower CLO 2017--SERIES 17-3A CLASS B	1	6,750,000	6,443,010
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,600,000	3,385,544	12/28/2012	12/28/2042	Interest Rate Swap			87249C-AE-1	TICP CLO X LTD-SERIES 18-10A CLASS C	1	3,600,000	3,385,544

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	3,076,378	12/28/2012	12/28/2042	Interest Rate Swap			48250R-BN-5	KKR CLO 12 Ltd-KKR 12 BR2	1	3,200,000	3,076,378
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,250,000	4,012,956	12/28/2012	12/28/2042	Interest Rate Swap			75888M-AG-5	Regatta XIV Funding Ltd-SERIES 18-3A CLASS B	1	4,250,000	4,012,956
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,200,000	4,987,039	12/28/2012	12/28/2042	Interest Rate Swap			41154X-AG-0	Harbor Park CLO, Ltd-HAR-HARB 2018-1A B1	1	5,200,000	4,987,039
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		38,600,000	37,256,720	12/28/2012	12/28/2042	Interest Rate Swap			06762L-AM-0	Barings CLO Ltd 2020-I-BABSN 2020-1A AR	1	38,600,000	37,256,720
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,812,918	6,717,322	12/28/2012	12/28/2042	Interest Rate Swap			032095-AH-4	Amphenol Corp-SENIOR UNSECURED	1	6,812,918	6,717,322
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	9,550,000	6,566,710	12/28/2012	12/28/2042	Interest Rate Swap		(2,606,008)	04965F-AG-6	Atrium XV-SERIES 15A CLASS B	1	9,550,000	9,172,718
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,533,415	15,602,516	12/28/2012	12/28/2042	Interest Rate Swap			66704J-CB-2	NORTHSTAR EDUCATION FINA-SERIES 07-1 CLASS B	1	18,533,415	15,602,516
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,600,000	5,631,160	12/28/2012	12/28/2042	Interest Rate Swap			64034N-AB-1	NSLT 2019-2A B	1	5,600,000	5,631,160
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,600,000	6,477,396	12/28/2012	12/28/2042	Interest Rate Swap			63940A-AD-0	NAVIENT STUDENT LOAN TRU-SERIES 17-4A CLASS B	1	6,600,000	6,477,396
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,000,000	5,681,712	12/28/2012	12/28/2042	Interest Rate Swap			06762L-AN-8	Barings CLO Ltd 2020-I-BABSN 2020-1A BR	1	6,000,000	5,681,712
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,100,000	1,051,819	12/28/2012	12/28/2042	Interest Rate Swap			08179M-AC-3	Benefit Street Partners -BSP 2018-15A A2A	1	1,100,000	1,051,819
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,500,000	2,408,910	12/28/2012	12/28/2042	Interest Rate Swap			13876J-AE-2	Canyon Capital CLO Ltd-CANYC 2012-18A B	1	2,500,000	2,408,910
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,400,000	6,116,186	12/28/2012	12/28/2042	Interest Rate Swap			77342K-AC-4	Rockford Tower CLO 2018-2 Ltd	1	6,400,000	6,116,186
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,050,000	7,484,407	12/28/2012	12/28/2042	Interest Rate Swap			06760G-AC-5	Barings CLO Ltd 2018-I-SERIES 18-1A CLASS B	1	8,050,000	7,484,407
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	10,000,000	6,985,382	12/28/2012	12/28/2042	Interest Rate Swap		(2,606,008)	24380L-AE-3	DEER CREEK CLO LTD 2017-SERIES 17-1A CLASS B	1	10,000,000	9,591,390
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,500,000	23,681,308	12/28/2012	12/28/2042	Interest Rate Swap			05688E-AN-2	Bain Capital Credit CLO -BCC 2020-2A AR	1	24,500,000	23,681,308
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,570,000	13,146,996	12/28/2012	12/28/2042	Interest Rate Swap			48249V-AQ-4	KKR FINANCIAL CLO LTD-SERIES 13-1A CLASS A2R	1	13,570,000	13,146,996
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,000,000	3,775,128	12/28/2012	12/28/2042	Interest Rate Swap			05874X-AC-3	Ballyrock CDO Ltd-BALLY 2020-14A A2	1	4,000,000	3,775,128
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,400,000	3,137,972	12/28/2012	12/28/2042	Interest Rate Swap			75009P-AE-7	Rad CLO 12 Ltd-RAD 2021-12A C	1	3,400,000	3,137,972
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	4,966,321	2,330,043	12/28/2012	12/28/2042	Interest Rate Swap		(2,606,008)	50188Q-AJ-0	LCM XVIII LP-LCM 19A AR	1	4,966,321	4,936,051
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,900,000	3,639,999	12/28/2012	12/28/2042	Interest Rate Swap			69703P-AE-9	Palmer Square CLO 2018-1-PLMRS 2018-1A B	1	3,900,000	3,639,999
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,468,317	2,288,660	12/28/2012	12/28/2042	Interest Rate Swap			78417Q-ZZ-8	SFR FTTH SAS Term Loan	2	2,468,317	2,288,660
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,500,000	22,602,279	12/28/2012	12/28/2042	Interest Rate Swap			06760W-AG-1	Barings Middle Market CL-BMM 2021-1A B	1	24,500,000	22,602,279
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,750,000	9,149,000	12/28/2012	12/28/2042	Interest Rate Swap			92918Q-AE-0	Voya CLO Ltd-VOYA 2021-1A B	1	9,750,000	9,149,000
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,100,000	1,051,819	12/28/2012	12/28/2042	Interest Rate Swap			08179M-AC-3	Benefit Street Partners -BSP 2018-15A A2A	1	1,100,000	1,051,819
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,600,000	4,292,315	12/28/2012	12/28/2042	Interest Rate Swap			05875H-AE-3	Ballyrock CLO 2018-1 Ltd-SERIES 2018-1A CLASS B	1	4,600,000	4,292,315
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,375,000	6,309,040	12/28/2012	12/28/2042	Interest Rate Swap			680033-AC-1	Old National Bancorp/IN-SENIOR UNSECURED NOTE	1	6,375,000	6,309,040
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	5,400,000	2,621,678	12/28/2012	12/28/2042	Interest Rate Swap		(2,606,008)	12548J-AE-2	CIFC FUNDING LTD-SERIES 17-3A CLASS A2	1	5,400,000	5,227,686
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,900,000	11,429,569	12/28/2012	12/28/2042	Interest Rate Swap			74988L-AC-8	ALM XIV Ltd-SERIES 14-14A CLASS A2R2	1	11,900,000	11,429,569
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,864,562	5,891,022	12/28/2012	12/28/2042	Interest Rate Swap			66704J-AJ-7	Northstar Education Fina-REVENUE BONDS	1	5,864,562	5,891,022
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,689,400	12/28/2012	12/28/2042	Interest Rate Swap			38809P-AN-6	Greywolf CLO V Ltd-GWOLF 2015-1A A2R	1	8,000,000	7,689,400

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,200,000	10,693,760	12/28/2012	12/28/2042	Interest Rate Swap			08181B-AS-8	Benefit Street Partners -SERIES 16-9A CLASS BR	1	11,200,000	10,693,760
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,717,744	12/28/2012	12/28/2042	Interest Rate Swap			94951D-AC-7	Wellfleet CLO 2018-3 Ltd-SERIES 18-3A CLASS A1B	1	8,000,000	7,717,744
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,187,042	9,491,837	12/28/2012	12/28/2042	Interest Rate Swap			05389L-AB-9	Avolon Aerospace Leasing Secured Note B7	1	10,187,042	9,491,837
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	350,000,000	40,000,000	(27,735,123)	06/10/2021	06/10/2051	Interest Rate Swap		(66,961,563)	36248M-AJ-6	GT Loan Financing I Ltd -SERIES 2013-1A CLASS AR	1	40,000,000	39,226,440
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		287,974,553	287,974,553	06/10/2021	06/10/2051	Interest Rate Swap			49232F-MM-2	KREOCS LENDING I LLC - Senior Secured Term Facility	1	287,974,553	287,974,553
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		34,829,125	34,127,905	06/10/2021	06/10/2051	Interest Rate Swap			04941Y-AC-3	Atlas Senior Loan Fund X-SERIES 18-11A CLASS A1L	1	34,829,125	34,127,905
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,000,000	21,686,240	06/10/2021	06/10/2051	Interest Rate Swap			67332F-AG-8	RRPF Engine Leasing Ltd Senior Secured	2	23,000,000	21,686,240
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,443,674	6,130,988	06/10/2021	06/10/2051	Interest Rate Swap			78443G-AJ-4	SJM STUDENT LOAN TRUST 2-SERIES 06-7 CLASS B	1	6,443,674	6,130,988
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,523,211	14,592,705	06/10/2021	06/10/2051	Interest Rate Swap			25763F-AF-7	Donaldson Co Inc Senior Unsecured Notes	1	15,523,211	14,592,705
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,808,000	14,030,136	06/10/2021	06/10/2051	Interest Rate Swap			392709-AA-8	Green Brick Partners, In Senior Unsecured Notes	1	14,808,000	14,030,136
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	225,000,000	250,000,000	205,951,495	06/10/2021	06/10/2051	Interest Rate Swap		(44,048,505)	88165Z-MM-7	Tetragon Financial Group (Delaware) LLC - Revolver	1	250,000,000	250,000,000
57629*GF2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		69,400,000	69,400,000	06/10/2021	06/10/2051	Interest Rate Swap			32008Z-MM-6	FIRST EAGLE DIRECT LENDING V-B, LLC - Secured Revolving Loan Facility	1	69,400,000	69,400,000
57629*GF2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		89,020,000	89,020,000	06/10/2021	06/10/2051	Interest Rate Swap			91831Z-MM-3	VPC ASSET BACKED OPPORTUNISTIC CREDIT Holdings Fund, L.P - Secured Revolving Loan Facility	1	89,020,000	89,020,000
57629*GF2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,000,000	24,095,825	06/10/2021	06/10/2051	Interest Rate Swap			67104L-AF-4	CHA Loan Funding 2013-2 -OHALF 2013-2A BR	1	25,000,000	24,095,825
57629*GF2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,850,000	13,366,635	06/10/2021	06/10/2051	Interest Rate Swap			38137P-AU-4	Goldentree Loan Opportun-SERIES 2015-10A CLASS BR	1	13,850,000	13,366,635
57629*GF2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	986,071	06/10/2021	06/10/2051	Interest Rate Swap			94184B-D8-9	Waters Corporation Gtd Senior Note Series H	2	1,000,000	986,071
57629*GF2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,800,000	3,565,335	06/10/2021	06/10/2051	Interest Rate Swap			74988L-AJ-3	ALM XIV Ltd-SERIES 14-14A CLASS BR2	1	3,800,000	3,565,335
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	300,000,000	15,000,000	(42,332,280)	06/10/2021	06/10/2051	Interest Rate Swap		(56,683,245)	48250W-AJ-4	KKR CLO 14 Ltd-KKR 14 BR	1	15,000,000	14,350,965
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,840,565	06/10/2021	06/10/2051	Interest Rate Swap			87248K-AS-3	TICOP CLO VI 2016-5 LTD-TICOP 2016-5A A2R	1	5,000,000	4,840,565
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,034,400	979,761	06/10/2021	06/10/2051	Interest Rate Swap			63939F-AC-4	Navient Student Loan Tru-SERIES 15-1 CLASS B	1	1,034,400	979,761
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,062,594	9,065,686	06/10/2021	06/10/2051	Interest Rate Swap			78448Q-AD-0	SMB PRIVATE EDUCATION LO-SMB 2015-B A3	1	9,062,594	9,065,686
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,350,000	7,720,168	06/10/2021	06/10/2051	Interest Rate Swap			97315T-AG-7	THL Credit Wind River 20-WINDR 2017-1A CR	1	8,350,000	7,720,168
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		252,000,000	247,595,040	06/10/2021	06/10/2051	Interest Rate Swap			06762W-AA-2	Barings Clo Ltd 2020-III-BABSN 2020-3A A	1	252,000,000	247,595,040
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,475,000	16,099,749	06/10/2021	06/10/2051	Interest Rate Swap			06760G-AA-9	Barings CLO Ltd 2018-I-SERIES 18-1A CLASS A1	1	16,475,000	16,099,749
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,149,529	15,919,118	06/10/2021	06/10/2051	Interest Rate Swap			13877P-AA-5	Canyon CLO 2021-4 Ltd-CANYC 2021-4A A	1	16,149,529	15,919,118
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,200,000	15,656,814	06/10/2021	06/10/2051	Interest Rate Swap			06760J-AE-5	Barings CLO Ltd 2018-II-SERIES 2018-2A CLASS A1B	1	16,200,000	15,656,814
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,000,000	15,481,904	06/10/2021	06/10/2051	Interest Rate Swap			06760X-AC-8	BARINGS CLO LTD 2018-IV-SERIES 18-4A CLASS A2	1	16,000,000	15,481,904
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,441,950	06/10/2021	06/10/2051	Interest Rate Swap			13876L-AL-1	Canyon CLO 2020-1 Ltd-CANYC 2020-1A BR	1	10,000,000	9,441,950
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	8,800,000	(40,453,382)	06/11/2021	06/11/2051	Interest Rate Swap		(48,989,092)	38137P-AS-9	Goldentree Loan Opportun-SERIES 2015-10A CLASS AJR	1	8,800,000	8,535,710
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		85,962,445	85,962,445	06/11/2021	06/11/2051	Interest Rate Swap			96269F-MM-9	X WH REDF2-TSE SELLER, LLC - Term Loan Facility	1	85,962,445	85,962,445
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,014,210	06/11/2021	06/11/2051	Interest Rate Swap			55819T-AU-5	Madison Park Funding XX -SERIES 2016-20A CLASS CR	1	7,500,000	7,014,210

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,900,000	13,313,823	06/11/2021	06/11/2051	Interest Rate Swap			03328Y-AE-4	Anchorage Capital CLO Lt-ANCHC 2018-1RA B	1	13,900,000	13,313,823
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,497,166	7,342,792	06/11/2021	06/11/2051	Interest Rate Swap			64034C-AB-5	Nelnet Student Loan Trus-NSLT 2019-1A B	1	7,497,166	7,342,792
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		50,000,000	48,456,500	06/11/2021	06/11/2051	Interest Rate Swap			278300-AJ-7	Eaton Vance CLO 2020-1 L-EATON 2020-1A AR	1	50,000,000	48,456,500
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,350,000	5,023,099	06/11/2021	06/11/2051	Interest Rate Swap			36320T-AX-1	Galaxy XXII CLO Ltd-GALXY 2016-22A BR	1	5,350,000	5,023,099
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		60,020,000	58,015,452	06/11/2021	06/11/2051	Interest Rate Swap			03768M-AJ-6	Apidos CLO XXXIII-APID 2020-33A AR	1	60,020,000	58,015,452
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		35,112,209	34,556,466	06/11/2021	06/11/2051	Interest Rate Swap			282523-AH-2	1828 CLO Ltd-GUG64 2016-1A A1S1	1	35,112,209	34,556,466
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,460,500	11,643,703	06/11/2021	06/11/2051	Interest Rate Swap			06760Q-AU-3	Barings Middle Market CL-BMM 2017-1A CR	2	12,460,500	11,643,703
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,800,000	11,640,256	06/11/2021	06/11/2051	Interest Rate Swap			06762T-AG-6	Babson CLO Ltd/Cayman Islands YCP RRL ABS II Ltd-VRRL 2022-1A B	2	12,800,000	11,640,256
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,315,054	2,315,054	06/11/2021	06/11/2051	Interest Rate Swap			91824X-AE-0	Bain Capital Credit CLO -BCC 2020-2A DR	2	2,315,054	2,315,054
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,400,000	2,185,788	06/11/2021	06/11/2051	Interest Rate Swap			05683E-AU-6	Elmwood CLO III Ltd-ELMW3 2019-3A DR	2	2,400,000	2,185,788
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,250,000	2,115,155	06/11/2021	06/11/2051	Interest Rate Swap			29002H-AS-8	Eaton Vance CLO 2020-1 L-EATON 2020-1A DR	2	2,250,000	2,115,155
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,250,000	2,092,678	06/11/2021	06/11/2051	Interest Rate Swap			278300-AQ-1	Bain Capital Credit CLO-BCC 2020-1A B FLOATING	2	2,250,000	2,092,678
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	325,000,000	8,300,000	(57,025,584)	06/11/2021	06/11/2051	Interest Rate Swap		(64,921,905)	05684D-AG-8	Sound Point CLO II Ltd-SNDPT 2013-1A A2R	1	8,300,000	7,896,321
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,633,648	06/11/2021	06/11/2051	Interest Rate Swap			83608G-AQ-9	Bain Capital Credit CLO -SERIES 18-2A CLASS A2	1	8,000,000	7,633,648
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,409,210	06/11/2021	06/11/2051	Interest Rate Swap			05682V-AC-9	LOM XIX LTD PARTNERSHIP DEF MEZZ NT CL C	1	15,000,000	14,409,210
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,910,000	6,769,153	06/11/2021	06/11/2051	Interest Rate Swap			50188Q-AE-1	Twinbrook Capital Funding VII DSPV, LLC - Term Loan	1	6,910,000	6,769,153
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		130,329,489	130,329,489	06/11/2021	06/11/2051	Interest Rate Swap			901399-MQ-5	PORED LENDING III LLC, PORED LENDING III SPE I LLC and PORED LENDING III OFFSHORE LTD.-Term Loan	1	130,329,489	130,329,489
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		117,414,624	117,414,624	06/11/2021	06/11/2051	Interest Rate Swap			69324#-MN-7	Benefit Street Partners -BSP 2018-15A A2A	1	117,414,624	117,414,624
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,100,000	1,051,819	06/11/2021	06/11/2051	Interest Rate Swap			08179M-AC-3	Allegro CLO VI Ltd-ALLEG 2017-2A C	1	1,100,000	1,051,819
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,800,000	5,413,650	06/11/2021	06/11/2051	Interest Rate Swap			01749B-AC-3	Babson CLO Ltd/Cayman Is-BABSN 2021-2A C	1	5,800,000	5,413,650
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	2,937,632	06/11/2021	06/11/2051	Interest Rate Swap			06762J-AE-3	Florida Power & Light Co-SECURED Barings Middle Market CL-BMM 2018-1A B	1	3,200,000	2,937,632
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		32,922,994	29,923,392	06/11/2021	06/11/2051	Interest Rate Swap			341081-FR-3	Canyon Capital CLO 2019-CANVC 2019-2A CR	1	32,922,994	29,923,392
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,800,817	22,048,802	06/11/2021	06/11/2051	Interest Rate Swap			06761M-AC-1	Hayfin Kingsland XI Ltd-HAYFN 2019-2A BR	1	21,800,817	22,048,802
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,600,000	5,153,870	06/11/2021	06/11/2051	Interest Rate Swap			13887W-AN-0	Bain Capital Credit CLO -BCC 2020-3A A1R	1	5,600,000	5,153,870
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,330,000	5,094,366	06/11/2021	06/11/2051	Interest Rate Swap			42086N-AJ-7	QHA Credit Funding 4 Ltd-OAKC 2019-4A CR	1	5,330,000	5,094,366
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,807,099	4,772,424	06/11/2021	06/11/2051	Interest Rate Swap			05684C-AL-9	Signal Peak CLO 9 Ltd-SPEAK 2021-9A C	1	4,807,099	4,772,424
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,100,000	4,711,742	06/11/2021	06/11/2051	Interest Rate Swap			67098D-AW-3	Elmwood CLO VII Ltd-ELMW7 2020-4A A	1	5,100,000	4,711,742
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,685,855	06/11/2021	06/11/2051	Interest Rate Swap			82670Q-AG-4	Oak Hill Credit Partners	1	5,000,000	4,685,855
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,680,220	4,670,742	06/11/2021	06/11/2051	Interest Rate Swap			29002Q-AA-7		1	4,680,220	4,670,742
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,300,000	3,983,675	06/11/2021	06/11/2051	Interest Rate Swap			67707L-AJ-7		1	4,300,000	3,983,675

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,200,000	3,927,000	06/11/2021	06/11/2051	Interest Rate Swap				97314D-AG-3	KVK CLO 2016-1 Ltd-KVK 2016-1A CR2	1	4,200,000	3,927,000
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,300,000	3,923,428	06/11/2021	06/11/2051	Interest Rate Swap				05682E-AG-8	Bain Capital Credit CLO -BCC 2021-5A C	1	4,300,000	3,923,428
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,525,000	3,343,286	06/11/2021	06/11/2051	Interest Rate Swap				64130T-BC-8	Neuberger Berman CLO XX -NEUB 2015-20A BRR	1	3,525,000	3,343,286
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	325,000,000	5,800,000	(60,821,092)	06/11/2021	06/11/2051	Interest Rate Swap		(66,185,645)		67570Q-AP-6	QCP CLO 2019-16 Ltd-SERIES 19-16A CLASS CR	1	5,800,000	5,364,553
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,000,000	11,373,396	06/11/2021	06/11/2051	Interest Rate Swap				92917J-AE-7	Yoya CLO 2018-2 Ltd-VOYA 2018-2A B1	1	12,000,000	11,373,396
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		98,390,934	98,390,934	06/11/2021	06/11/2051	Interest Rate Swap				69324#-MM-9	PORED LENDING III LLC, PORED LENDING III SPE I LLC and PORED LENDING III OFFSHORE LTD.,-Term Loan Series 2019-1	1	98,390,934	98,390,934
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		60,000,000	57,741,000	06/11/2021	06/11/2051	Interest Rate Swap				83614X-AQ-4	Sound Point CLO XXVI Ltd-SNDPT 2020-1A AR	1	60,000,000	57,741,000
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		57,799,237	56,364,179	06/11/2021	06/11/2051	Interest Rate Swap				67115L-AA-2	Oak Hill Credit Partners-OAKC 2021-16A A	1	57,799,237	56,364,179
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		54,100,000	53,098,393	06/11/2021	06/11/2051	Interest Rate Swap				67104L-AE-7	OHA Loan Funding 2013-2 -OHALF 2013-2A AR	1	54,100,000	53,098,393
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		50,000,000	48,733,200	06/11/2021	06/11/2051	Interest Rate Swap				17275G-AA-4	CIRUS-2018-1A A	1	50,000,000	48,733,200
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		50,000,000	48,237,050	06/11/2021	06/11/2051	Interest Rate Swap				25255A-AA-4	DCF 2019-1A A	1	50,000,000	48,237,050
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,100,000	12,409,276	06/11/2021	06/11/2051	Interest Rate Swap				67098D-AU-7	OHA Credit Funding 4 Ltd-OAKC 2019-4A BR	1	13,100,000	12,409,276
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	55,000,000	23,500,000	19,351,456	04/09/2013	04/09/2043	Interest Rate Swap		(2,890,354)		92558V-AC-8	Vibrant CLO Ltd-SERIES 18-9A CLASS A2	1	23,500,000	22,241,810
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,768,800	6,469,121	04/09/2013	04/09/2043	Interest Rate Swap				78442G-PL-4	SLM STUDENT LOAN TRUST-SERIES 2005-4 CLASS B	1	6,768,800	6,469,121
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,400,000	6,107,347	04/09/2013	04/09/2043	Interest Rate Swap				01749B-AB-5	Allegro CLO VI Ltd-ALLEG 2017-2A B	1	6,400,000	6,107,347
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,238,485	3,425,125	04/09/2013	04/09/2043	Interest Rate Swap				12481X-AS-9	CBAM 2018-6 Ltd-CBAM 2018-6A B1R	1	3,238,485	3,425,125
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,184,955	04/09/2013	04/09/2043	Interest Rate Swap				77342J-AC-7	Rockford Tower CLO 2018--SERIES 18-1A CLASS B	1	7,500,000	7,184,955
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,900,000	6,679,007	04/09/2013	04/09/2043	Interest Rate Swap				65023T-AK-8	Newark BSL CLO 1 Ltd-NBCLO 2016-1A A2R	1	6,900,000	6,679,007
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		496,718	477,499	04/09/2013	04/09/2043	Interest Rate Swap				06759F-AD-8	BABSON CLO LTD 2015-II-SERIES 15-2A CLASS B2R	1	496,718	477,499
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,628,136	6,492,923	04/09/2013	04/09/2043	Interest Rate Swap				64952W-CX-9	New York Life Global Fun-SECURED	1	6,628,136	6,492,923
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	60,000,000	27,393,068	22,246,147	04/09/2013	04/09/2043	Interest Rate Swap		(3,153,113)		78417Q-ZZ-8	SFR FTTH SAS Term Loan	2	27,393,068	25,399,260
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,500,000	17,744,738	04/09/2013	04/09/2043	Interest Rate Swap				50188G-AX-1	LCM XVIII LP-LCM 18A A2R	1	18,500,000	17,744,738
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,224,330	04/09/2013	04/09/2043	Interest Rate Swap				33882G-AG-3	Flatiron Clo 17 Ltd-FLAT 2017-1A BR	1	7,500,000	7,224,330
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,700,000	4,334,096	04/09/2013	04/09/2043	Interest Rate Swap				67707C-AU-2	Oak Hill Credit Partners-OAKC 2014-10RA CR	1	4,700,000	4,334,096
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,000,000	1,925,678	04/09/2013	04/09/2043	Interest Rate Swap				62848F-AC-6	MYERS PARK CLO LTD-MYERS 2018-1A A2	1	2,000,000	1,925,678
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,291,254	6,630,617	04/09/2013	04/09/2043	Interest Rate Swap				25654#-AA-0	Dodger Tickets LLC Senior Secured	1	6,291,254	6,630,617
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	55,000,000	26,000,000	22,751,902	04/09/2013	04/09/2043	Interest Rate Swap		(2,694,298)		83609Y-AC-0	Sounds Point CLO IV-R LT-SERIES 13-3RA CLASS A	1	26,000,000	25,446,200
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,115,303	2,000,370	04/09/2013	04/09/2043	Interest Rate Swap				78442G-QA-7	SLM STUDENT LOAN TRUST-SERIES 2005-6 CLASS B	1	2,115,303	2,000,370
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,326,061	20,007,418	04/09/2013	04/09/2043	Interest Rate Swap				29002G-AB-7	Elmwood CLO IV Ltd-ELMW4 2020-1A A	1	20,326,061	20,007,418
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,275,185	04/09/2013	04/09/2043	Interest Rate Swap				29001L-AN-1	Elmwood CLO II Ltd-ELMW2 2019-2A BR	1	15,000,000	14,275,185

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,900,000	5,666,991	04/09/2013	04/09/2043	Interest Rate Swap				40436X-AG-2	HIGHBRIDGE LOAN MANAGEMIE-SERIES 2014 CLASS BR	1	5,900,000	5,666,991
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	55,000,000	25,900,000	22,185,941	04/09/2013	04/09/2043	Interest Rate Swap		(2,694,298)		04016V-AC-9	ARES XLVII CLO Ltd-SERIES 18-47A CLASS A2	1	25,900,000	24,880,239
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,664,210	04/09/2013	04/09/2043	Interest Rate Swap				033292-AS-2	ANCHORAGE CAPITAL CLO 20-SERIES 13-1A CLASS A2R	1	10,000,000	9,664,210
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,900,000	10,200,133	04/09/2013	04/09/2043	Interest Rate Swap				38138D-AS-5	Goldentree Loan Managemie-GLM 2019-5A CR	1	10,900,000	10,200,133
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,613,685	04/09/2013	04/09/2043	Interest Rate Swap				29001L-AQ-4	Elmwood CLO II Ltd-ELMW2 2019-2A CR	1	5,000,000	4,613,685
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,575,000	2,430,192	04/09/2013	04/09/2043	Interest Rate Swap				08179H-AC-4	Benefit Street Partners -BSP 2017-12A B	1	2,575,000	2,430,192
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	963,564	04/09/2013	04/09/2043	Interest Rate Swap				13876J-AE-2	Canyon Capital CLO Ltd-CANVC 2012-1RA B	1	1,000,000	963,564
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,497,930	6,388,451	04/09/2013	04/09/2043	Interest Rate Swap				512807-AU-2	Lam Research Corp--SENIOR UNSECURED	1	6,497,930	6,388,451
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	55,000,000	10,530,000	7,826,808	04/09/2013	04/09/2043	Interest Rate Swap		(2,703,192)		50079B-MM-8	KREF Lending VII 2018-1 Term Loan	1	10,530,000	10,530,000
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		26,367,046	26,835,432	04/09/2013	04/09/2043	Interest Rate Swap				65023T-AJ-1	Newark BSL CLO 1 Ltd-NBCLO 2016-1A1R	1	26,367,046	26,835,432
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,703,357	13,262,602	04/09/2013	04/09/2043	Interest Rate Swap				05875H-AC-7	BALLYROCK CLO 2018-1 LTD-SERIES 2018-1A CLASS A2	1	13,703,357	13,262,602
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	962,839	04/09/2013	04/09/2043	Interest Rate Swap				62848F-AC-6	MYERS PARK CLO LTD-MYERS 2018-1A A2	1	1,000,000	962,839
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,500,000	5,370,877	04/09/2013	04/09/2043	Interest Rate Swap				48661N-AE-8	KAYNE CLO-SERIES 19-6A CLASS B1	1	5,500,000	5,370,877
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,925,922	7,513,226	04/09/2013	04/09/2043	Interest Rate Swap				25654F-AB-8	Dodger Tickets LLC Senior Secured Marble Point CLO XI Ltd-MP11 2017-2A A	1	6,925,922	7,513,226
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	60,000,000	21,900,000	18,525,306	04/09/2013	04/09/2043	Interest Rate Swap		(2,948,936)		56607F-AA-3	NORTHSTAR EDUCATION FINA-SERIES 04-2 CLASS B	1	21,900,000	21,474,242
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,792,717	10,926,171	04/09/2013	04/09/2043	Interest Rate Swap				66704J-BD-9	NORTHSTAR EDUCATION FINA-SERIES 05-1 CLASS B	1	12,792,717	10,926,171
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,187,671	10,027,602	04/09/2013	04/09/2043	Interest Rate Swap				66704J-BK-3	Wellfleet CLO Ltd-SERIES 18-1A CLASS B	1	11,187,671	10,027,602
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,500,000	3,339,613	04/09/2013	04/09/2043	Interest Rate Swap				94950J-AC-5	2018-1A CLASS C	1	3,500,000	3,339,613
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	2,971,258	04/09/2013	04/09/2043	Interest Rate Swap				22615E-AE-0	MYERS PARK CLO LTD-MYERS 2018-1A A2	1	3,200,000	2,971,258
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,000,000	1,925,678	04/09/2013	04/09/2043	Interest Rate Swap				62848F-AC-6	Highbridge Loan Managemie-SERIES 4A-2014 CLASS A2R	1	2,000,000	1,925,678
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,900,000	11,367,356	04/09/2013	04/09/2043	Interest Rate Swap				44330G-AE-3	H.H.I. HULL NO. S856 L.L Guaranteed Notes	1	11,900,000	11,367,356
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,712,500	8,720,681	04/09/2013	04/09/2043	Interest Rate Swap				40425Q-AA-3	Allegro CLO VII Ltd-ALLEG 2018-1A A	1	8,712,500	8,720,681
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	225,000,000	34,500,000	(11,368,221)	06/11/2021	06/11/2051	Interest Rate Swap		(45,144,066)		01750C-AA-1	KKR CLO 14 Ltd-KKR 14 AR	1	34,500,000	33,775,845
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	977,563	06/11/2021	06/11/2051	Interest Rate Swap				48250W-AG-0	Waters Corporation Gtd Senior Note Series H	2	1,000,000	977,563
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,100,000	7,001,104	06/11/2021	06/11/2051	Interest Rate Swap				941848-D8-9	Carlyle Global Market St-GMS 2014-2RA A2	1	7,100,000	7,001,104
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,793,250	06/11/2021	06/11/2051	Interest Rate Swap				14314L-AE-5	Nelnet Student Loan Trus-NSLT 2020-5A B	1	5,000,000	4,793,250
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,500,000	2,499,958	06/11/2021	06/11/2051	Interest Rate Swap				64032V-AB-5	VPC SPECIALTY LENDING INVESTMENTS INTERMEDIATE, L.P. - Secured Revolving Loan Facility	1	2,500,000	2,499,958
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		105,730,000	105,730,000	06/11/2021	06/11/2051	Interest Rate Swap				91831Z-MM-5	PIONEERS GATE LLC 2021-1 CFCC	1	105,730,000	105,730,000
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		63,870,968	63,858,194	06/11/2021	06/11/2051	Interest Rate Swap				72403Z-NS-9	Benefit Street Partners -SERIES 18-14A CLASS A2	1	63,870,968	63,858,194
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,400,000	12,795,928	06/11/2021	06/11/2051	Interest Rate Swap				08179L-AC-5	CHA Credit Funding 1 LTD-SERIES 18-1A CLASS B	1	13,400,000	12,795,928
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,668,720	06/11/2021	06/11/2051	Interest Rate Swap				67115W-AG-5		1	8,000,000	7,668,720

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,100,000	6,699,226	06/11/2021	06/11/2051	Interest Rate Swap				25255D-AE-0	Diameter Capital CLO 1 L-DCL0 2021-1A A2	1	7,100,000	6,699,226
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,870,592	26,278,551	06/11/2021	06/11/2051	Interest Rate Swap				58048B-AA-6	Mesa Air Group, Inc. Class A Notes	1	27,870,592	26,278,551
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	14,000,000	(36,143,416)	06/11/2021	06/11/2051	Interest Rate Swap		(49,725,222)		55820C-AE-5	MADISON PARK FUNDING XXI-HDPK 2018-29A A2	1	14,000,000	13,581,806
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,850,000	22,346,912	06/11/2021	06/11/2051	Interest Rate Swap				26251L-AC-8	DRYDEN 64 CLO LTD-DRSLF 2018-64A A	1	22,850,000	22,346,912
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,100,000	12,490,012	06/11/2021	06/11/2051	Interest Rate Swap				75884B-AC-2	Regatta X Funding Ltd-SERIES 2017-3A CLASS B	1	13,100,000	12,490,012
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,700,000	4,435,028	06/11/2021	06/11/2051	Interest Rate Swap				04942J-AE-1	Atlas Senior Loan Fund X-ATCLO 2018-10A B	1	4,700,000	4,435,028
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,471,094	06/11/2021	06/11/2051	Interest Rate Swap				94950C-AG-1	Wellfleet CLO Ltd-WELF 2021-1A C	1	7,000,000	6,471,094
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		180,526,143	180,526,143	06/11/2021	06/11/2051	Interest Rate Swap				46143F-MM-6	Invesco CMI Investments MM, LLC - Senior Secured Notes - Term Loan Series 2020-1	1	180,526,143	180,526,143
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		31,600,000	29,355,357	06/11/2021	06/11/2051	Interest Rate Swap				06760W-AE-6	Barings Middle Market CL-BMM 2021-1A A2	1	31,600,000	29,355,357
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		33,033,537	32,359,748	06/11/2021	06/11/2051	Interest Rate Swap				62983P-AA-3	Nakilat Inc-SECURED BOND	1	33,033,537	32,359,748
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	15,000,000	17,640,584	03/05/2014	03/05/2034	Interest Rate Swap		3,244,664		55818R-BA-3	Madison Park Funding XIV-HDPK 2014-14A BRR	1	15,000,000	14,395,920
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,920,000	4,723,431	03/05/2014	03/05/2034	Interest Rate Swap				48249V-AS-0	KKR FINANCIAL CLO LTD-SERIES 13-1A CLASS BR	1	4,920,000	4,723,431
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,015,000	20,772,613	03/05/2014	03/05/2034	Interest Rate Swap				48249V-AN-1	KKR FINANCIAL CLO LTD-SERIES 13-1A CLASS A1R	1	21,015,000	20,772,613
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,700,000	12,950,281	03/05/2014	03/05/2034	Interest Rate Swap				05682L-AL-1	Bain Capital Credit CLO -BCC 2019-2A BR	1	13,700,000	12,950,281
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,050,000	7,618,955	03/05/2014	03/05/2034	Interest Rate Swap				48252R-AQ-7	KKR CLO 24 Ltd-KKR 24 BR	1	8,050,000	7,618,955
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,842,941	03/05/2014	03/05/2034	Interest Rate Swap				48250W-AG-0	KKR CLO 14 Ltd-KKR 14 AR	1	7,000,000	6,842,941
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,800,000	20,189,862	03/05/2014	03/05/2034	Interest Rate Swap				Q3958B-AC-0	GAIF Bond Issuer Pty Ltd Gtd Senior Note	1	19,800,000	20,189,862
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,400,000	6,149,408	03/05/2014	03/05/2034	Interest Rate Swap				05684K-AN-7	Bain Capital Credit CLO -BCC 2020-4A B	1	6,400,000	6,149,408
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,000,000	2,800,679	03/05/2014	03/05/2034	Interest Rate Swap				09630Q-AN-1	BlueMountain CLO XXX Ltd-BLUEM 2020-30A BR	1	3,000,000	2,800,679
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,650,000	1,431,578	03/05/2014	03/05/2034	Interest Rate Swap				06760G-AD-3	Barings CLO Ltd 2018-I-SERIES 18-1A CLASS C	2	1,650,000	1,431,578
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	19,988,683	21,901,884	03/05/2014	03/05/2034	Interest Rate Swap		3,264,472		346845-AC-4	Fort Benning Family Comm-UNSECURED	1	19,988,683	18,637,412
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,601,800	22,467,307	03/05/2014	03/05/2034	Interest Rate Swap				55921Q-AA-0	Magna Imperio Systems Co-SECURED Sixth Street CLO-SIXST 2021-20A A1	1	21,601,800	22,467,307
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,300,000	17,726,679	03/05/2014	03/05/2034	Interest Rate Swap				83012Q-AA-2		1	18,300,000	17,726,679
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,400,000	9,060,575	03/05/2014	03/05/2034	Interest Rate Swap				88434H-AE-3	THL Credit Wind River 20-SERIES 18-2A CLASS A2	1	9,400,000	9,060,575
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,700,000	3,454,171	03/05/2014	03/05/2034	Interest Rate Swap				09630Q-AN-1	BlueMountain CLO XXX Ltd-BLUEM 2020-30A BR	1	3,700,000	3,454,171
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,625,000	13,071,553	03/05/2014	03/05/2034	Interest Rate Swap				04017E-AE-2	ARES XXXI IR CLO LTD-SERIES 14-32RA CLASS A1B	1	13,625,000	13,071,553
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,960,087	1,963,647	03/05/2014	03/05/2034	Interest Rate Swap				00435T-AB-7	ACCESS GROUP INC-SERIES 2015-1 CLASS B	1	1,960,087	1,963,647
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,600,000	5,341,532	03/05/2014	03/05/2034	Interest Rate Swap				12563E-AC-7	CIFC Funding 2021-I Ltd-CIFC 2021-1A B	1	5,600,000	5,341,532
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,500,000	5,139,970	03/05/2014	03/05/2034	Interest Rate Swap				48661A-AN-6	KAYNE CLO I Ltd-KAYNE 2018-1A CR	1	5,500,000	5,139,970
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,173,273	3,099,275	03/05/2014	03/05/2034	Interest Rate Swap				91159H-HR-4	US Bancorp-SENIOR UNSECURED	1	3,173,273	3,099,275
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	56,038,456	56,078,087	05/19/2014	05/19/2034	Interest Rate Swap		1,098,301		77342J-AA-1	Rockford Tower CLO 2018-SERIES 18-1A CLASS A	1	56,038,456	54,979,786

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,720,791	05/19/2014	05/19/2034	Interest Rate Swap				64130P-AE-3	Neuberger Berman CLO Ltd-NEUB 2018-28A B	1	7,000,000	6,720,791
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,012,460	05/19/2014	05/19/2034	Interest Rate Swap				13877E-AE-2	Canyon Capital CLO Ltd-CANYC 2021-1A B	1	15,000,000	14,012,460
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,900,000	19,580,307	05/19/2014	05/19/2034	Interest Rate Swap				39808P-AL-0	Greywolf CLO V Ltd-GWOLF 2015-1A A1R	1	19,900,000	19,580,307
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,000,000	15,310,944	05/19/2014	05/19/2034	Interest Rate Swap				04017Q-AE-5	ARES CLO 4 Ltd-SERIES 18-28RA CLASS B	1	16,000,000	15,310,944
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,750,000	6,401,869	05/19/2014	05/19/2034	Interest Rate Swap				087598-AC-2	BETHPAGE PARK CLO LTD-BETHP 2021-1A B	1	6,750,000	6,401,869
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,800,000	2,725,926	05/19/2014	05/19/2034	Interest Rate Swap				48661Y-AA-2	Kayne CLO 4 Ltd-SERIES 19-4A CLASS B1	1	2,800,000	2,725,926
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,241,726	5,235,437	05/19/2014	05/19/2034	Interest Rate Swap				55922Z-AR-5	Magna International Inc-SR UNSECURED	1	5,241,726	5,235,437
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	85,000,000	23,487,000	24,660,928	05/09/2014	05/09/2034	Interest Rate Swap		1,668,940		12551R-AA-6	CIFC Funding 2018-I Ltd-CIFC 2018-1A A	1	23,487,000	22,991,988
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,476,350	05/09/2014	05/09/2034	Interest Rate Swap				03765W-BC-1	Apollo Credit Funding IV-SERIES 4A CLASS A1BR	1	15,000,000	14,476,350
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,650,000	5,444,182	05/09/2014	05/09/2034	Interest Rate Swap				50184N-AN-2	LCM LTD PARTNERSHIP-SERIES 15A CLASS BR	1	5,650,000	5,444,182
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,700,000	3,570,126	05/09/2014	05/09/2034	Interest Rate Swap				04009G-AE-7	ARES L CLO Ltd-SERIES 19-53A CLASS B	1	3,700,000	3,570,126
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,400,000	6,072,128	05/09/2014	05/09/2034	Interest Rate Swap				97314D-AE-8	KVK CLO 2016-1 Ltd-KVK 2016-1A BR2	1	6,400,000	6,072,128
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	19,582,860	05/09/2014	05/09/2034	Interest Rate Swap				77342K-AA-8	ROCKFORD TOWER CLO 2018-ROCKT 2018-2A A	1	20,000,000	19,582,860
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,900,000	3,599,033	05/09/2014	05/09/2034	Interest Rate Swap				05683L-AG-1	Bain Capital Credit CLO -SERIES 1A CLASS C	1	3,900,000	3,599,033
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,211,549	8,541,085	05/09/2014	05/09/2034	Interest Rate Swap				78417Q-ZZ-8	SFR FTTH SAS Term Loan	2	9,211,549	8,541,085
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	55,000,000	10,000,000	9,199,986	10/06/2014	10/06/2034	Interest Rate Swap		(446,354)		55819B-AN-0	Madison Park Funding XVI-MDPK 2015-18A BR	1	10,000,000	9,646,340
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,100,000	19,122,959	10/06/2014	10/06/2034	Interest Rate Swap				06760G-AB-7	Barings CLO Ltd 2018-I-SERIES 18-1A CLASS A2	1	20,100,000	19,122,959
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,004,931	23,747,170	10/06/2014	10/06/2034	Interest Rate Swap				77341D-AA-5	Rockford Tower CLO 2017-ROCKT 2017-3A A	1	24,004,931	23,747,170
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,100,000	2,929,302	10/06/2014	10/06/2034	Interest Rate Swap				04943A-AG-4	ATLAS SENIOR LOAN FUND L-SERIES 17-8A CLASS C	1	3,100,000	2,929,302
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,521,150	7,229,378	10/06/2014	10/06/2034	Interest Rate Swap				172967-LW-9	Citigroup Inc-SENIOR UNSECURED ORANGE GROVE ENERGY, L.P DELAYED	1	7,521,150	7,229,378
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	12,755,613	(8,925,549)	06/16/2021	06/16/2051	Interest Rate Swap		(21,038,710)		66776M-ZZ-9	DRAW TE	2	12,755,613	12,113,161
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		798,426	791,637	06/16/2021	06/16/2051	Interest Rate Swap				247358-BB-9	EAIV Delta MSN 15153	1	798,426	791,637
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,130,598	1,117,846	06/16/2021	06/16/2051	Interest Rate Swap				247358-DD-3	EAIV Delta MSN 15161	1	1,130,598	1,117,846
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		707,096	701,751	06/16/2021	06/16/2051	Interest Rate Swap				247358-PP-3	Delta Air Lines Inc. - MSN 15147	1	707,096	701,751
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		802,321	769,005	06/16/2021	06/16/2051	Interest Rate Swap				247358-RR-7	EAIV 2017 Delta MSN 15146	1	802,321	769,005
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,130,598	1,117,846	06/16/2021	06/16/2051	Interest Rate Swap				247358-RW-6	EAIV Delta MSN 15162	1	1,130,598	1,117,846
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,225,480	4,845,143	06/16/2021	06/16/2051	Interest Rate Swap				78417Q-ZZ-8	SFR FTTH SAS Term Loan	2	5,225,480	4,845,143
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,070,722	3,858,818	06/16/2021	06/16/2051	Interest Rate Swap				429827-AS-7	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS B2	1	4,070,722	3,858,818
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,200,000	9,565,152	06/16/2021	06/16/2051	Interest Rate Swap				00889B-AB-7	Aimco CDO-AIMCO 2021-15A B	1	10,200,000	9,565,152
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,332,405	20,241,210	06/16/2021	06/16/2051	Interest Rate Swap				55818Y-BN-0	Madison Park Funding XVI-MDPK 2015-17A AR2	1	20,332,405	20,241,210
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,500,000	19,855,706	06/16/2021	06/16/2051	Interest Rate Swap				44927Z-AA-1	ICG US CLO Ltd-ICG 2021-4A A1	1	20,500,000	19,855,706

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,411,134	19,208,340	06/16/2021	06/16/2051	Interest Rate Swap				75009R-AA-1	Rad CLO 14 Ltd-RAD 2021-14A A	1	19,411,134	19,208,340
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	18,934,000	06/16/2021	06/16/2051	Interest Rate Swap				67707C-AS-7	Oak Hill Credit Partners-OAKC 2014-10RA BR	1	20,000,000	18,934,000
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,700,000	8,159,843	06/16/2021	06/16/2051	Interest Rate Swap				33836J-AE-9	ASSURANT CLO I LTD-MORGN 2017-1A BR	1	8,700,000	8,159,843
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	17,539,586	(34,305,698)	06/16/2021	06/16/2051	Interest Rate Swap		(50,963,788)		29002H-AN-9	Elmwood CLO III Ltd-ELMW3 2019-3A BR	1	17,539,586	16,658,090
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		49,923,858	49,066,600	06/16/2021	06/16/2051	Interest Rate Swap				05682V-AA-3	BAIN CAPITAL CREDIT CLO -SERIES 18-2A CLASS A1	1	49,923,858	49,066,600
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		76,308,750	76,308,750	06/16/2021	06/16/2051	Interest Rate Swap				50079E-MR-7	KREF Lending VII - Term Loan Series 2019-6	1	76,308,750	76,308,750
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,400,000	11,893,981	06/16/2021	06/16/2051	Interest Rate Swap				12416E-AE-9	Buttermilk Park CLO Ltd-BMILK 2018-1A B1	1	12,400,000	11,893,981
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,600,000	7,212,385	06/16/2021	06/16/2051	Interest Rate Swap				75888K-AC-8	REGATTA VIII FUNDING LTD-SERIES 2017-1A CLASS B	1	7,600,000	7,212,385
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,650,000	5,375,591	06/16/2021	06/16/2051	Interest Rate Swap				78108Y-AQ-5	RR 1 LLC-RRAM 2017-1A A2B	1	5,650,000	5,375,591
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,500,000	10,062,098	06/16/2021	06/16/2051	Interest Rate Swap				14315L-AC-8	Carlyle Global Market St-SERIES 14-3RA CLASS A1B	1	10,500,000	10,062,098
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,500,000	10,001,208	06/16/2021	06/16/2051	Interest Rate Swap				12564D-AC-8	CIFC Funding Ltd-CIFC 2021-3A B	1	10,500,000	10,001,208
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,482,170	06/16/2021	06/16/2051	Interest Rate Swap				69701X-AC-8	Palmer Square CLO Ltd-SERIES 2021-2A CLASS B	1	10,000,000	9,482,170
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		31,012,800	29,171,551	06/16/2021	06/16/2051	Interest Rate Swap				06760Q-AQ-2	Barings Middle Market CL-BMM 2017-1A A2B	1	31,012,800	29,171,551
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,188,861	23,088,504	06/16/2021	06/16/2051	Interest Rate Swap				01750W-AC-3	Allegro CLO XIII Ltd-ALLEG 2021-1A A	1	23,188,861	23,088,504
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,998,000	22,814,623	06/16/2021	06/16/2051	Interest Rate Swap				06760Q-AS-8	Barings Middle Market CL-BMM 2017-1A BR	1	23,998,000	22,814,623
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,600,000	22,791,535	06/16/2021	06/16/2051	Interest Rate Swap				30259A-AA-0	FDI I Ltd-SERIES 17-3A CLASS A1	1	23,600,000	22,791,535
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,200,000	7,687,836	06/16/2021	06/16/2051	Interest Rate Swap				08186P-AN-3	Benefit Street Partners -BSP 2019-18A BR	1	8,200,000	7,687,836
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	170,100,000	119,160,955	06/16/2021	06/16/2051	Interest Rate Swap		(50,939,045)		46143H-MQ-2	Invesco CMI Investments MM, LLC - TERM LN SER 2021-3	1	170,100,000	170,100,000
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,490,000	9,999,781	06/16/2021	06/16/2051	Interest Rate Swap				40437L-AG-7	HPS Loan Management 13-2-HLM 13A-18 B	1	10,490,000	9,999,781
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,630,460	06/16/2021	06/16/2051	Interest Rate Swap				40436Q-AL-6	HPS Loan Management 9-20-HLM 9A-2016 A1BR	1	10,000,000	9,630,460
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,130,835	06/16/2021	06/16/2051	Interest Rate Swap				64132D-AL-2	Neuberger Berman Loan Advisers CLO 32 Ltd	1	7,500,000	7,130,835
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,800,000	4,505,602	06/16/2021	06/16/2051	Interest Rate Swap				64131J-AQ-9	Neuberger Berman Loan Advisers CLO 25 Ltd	1	4,800,000	4,505,602
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		26,883,704	26,883,704	06/16/2021	06/16/2051	Interest Rate Swap				50079E-MQ-9	KREF Lending VII LLC	1	26,883,704	26,883,704
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,599,083	17,205,760	06/16/2021	06/16/2051	Interest Rate Swap				55955A-AA-4	Magnetite XX Ltd	1	17,599,083	17,205,760
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,000,000	15,614,320	06/16/2021	06/16/2051	Interest Rate Swap				85816L-AA-6	Steele Creek Clo 2018-2 Ltd	1	16,000,000	15,614,320
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,039,344	12,017,673	06/16/2021	06/16/2051	Interest Rate Swap				87289B-AA-2	TCP DLF VIII 2018 CLO, LLC	1	12,039,344	12,017,673
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		29,925,000	30,104,580	06/16/2021	06/16/2051	Interest Rate Swap				Q3958E-AJ-5	GAIF Bond Issuer Pty Ltd Gtd Senior Note	1	29,925,000	30,104,580
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	16,600,000	(33,488,617)	06/17/2021	06/17/2051	Interest Rate Swap		(49,430,626)		92915P-AK-1	Voya CLO 2014-1 Ltd-INGIM 2014-1A ABR2	1	16,600,000	15,942,009
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,903,829	4,892,795	06/17/2021	06/17/2051	Interest Rate Swap				05363U-AW-3	EVERY POINT IV CLO LTD-SERIES 14-1A CLASS CR	1	4,903,829	4,892,795
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,999,916	06/17/2021	06/17/2051	Interest Rate Swap				64032V-AB-5	Nelnet Student Loan Trus-NSLT 2020-5A B	1	5,000,000	4,999,916
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,000,000	11,754,223	06/17/2021	06/17/2051	Interest Rate Swap				G7332F-AH-6	RRPF Engine Leasing Ltd Senior Secured	2	13,000,000	11,754,223

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,416,490	06/17/2021	06/17/2051	Interest Rate Swap				04941Y-AJ-8	Atlas Senior Loan Fund X-ATCLO 2018-11A B	1	10,000,000	9,416,490
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		26,815,000	26,002,211	06/17/2021	06/17/2051	Interest Rate Swap				55954Y-AJ-4	Magnetite XXVI Ltd-MAGNE 2020-26A A1R	1	26,815,000	26,002,211
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,900,000	11,285,948	06/17/2021	06/17/2051	Interest Rate Swap				40256G-AC-5	Gulf Stream Meridian-GSM 2021-6A A2	1	11,900,000	11,285,948
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		68,313,143	68,313,143	06/17/2021	06/17/2051	Interest Rate Swap				500798-MP-1	KREF Lending VII 2018-4 Term Loan Middle Market Credit Fund II SPV, LLC-Class A-1 Senior Secured Notes (Carlyle BDC Direct Lending)	1	68,313,143	68,313,143
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		46,825,397	46,825,397	06/17/2021	06/17/2051	Interest Rate Swap				58576#-MM-5	Wellfleet CLO 2018-3 Ltd-SERIES 18-3A CLASS A2	1	46,825,397	46,825,397
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,162,943	06/17/2021	06/17/2051	Interest Rate Swap				94951D-AJ-2	Parliament Funding I LLC-Variable Funding Notes	1	7,500,000	7,162,943
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		39,750,000	39,750,000	06/17/2021	06/17/2051	Interest Rate Swap				70163#-AA-0	Anchorage Capital CLO Lt-ANCHC	2	39,750,000	39,750,000
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	19,631,760	06/17/2021	06/17/2051	Interest Rate Swap				03331J-AA-0	2018-10A A1A Shepherds Flat Funding T Trust A-1-G Cer	1	20,000,000	19,631,760
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		33,202,874	34,282,626	06/17/2021	06/17/2051	Interest Rate Swap				82340*-AB-3		1	33,202,874	34,282,626
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	25,000,000	24,382,595	05/04/2017	11/04/2044	Interest Rate Swap		295,970		48253H-AN-5	KKR CLO 26 Ltd-KKR 26 AR	1	25,000,000	24,086,625
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		50,000,000	48,354,700	05/04/2017	11/04/2044	Interest Rate Swap				05683H-AN-5	Bain Capital Credit CLO -BCC 2017-2A AR2	1	50,000,000	48,354,700
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,980,000	11,645,099	05/04/2017	11/04/2044	Interest Rate Swap				149420-AE-1	CATSKILL PARK CLO LTD.-SERIES 17-1A CLASS A2	1	11,980,000	11,645,099
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,819,455	05/04/2017	11/04/2044	Interest Rate Swap				88434H-AE-3	THL Credit Wind River 20-SERIES 18-2A CLASS A2	1	5,000,000	4,819,455
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,069,941	22,543,439	05/04/2017	11/04/2044	Interest Rate Swap				24824T-AQ-3	Denali Capital Clo XII L-DEN12 2016-1A A1R	1	23,069,941	22,543,439
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,250,000	9,853,335	05/04/2017	11/04/2044	Interest Rate Swap				44330Q-AB-7	Highbridge Loan Manage-SERIES 12A-18 CLASS A1B	1	10,250,000	9,853,335
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,200,000	9,292,000	05/04/2017	11/04/2044	Interest Rate Swap				06422T-AC-5	Bank of NT Butterfield &-SUBORDINATED	1	9,200,000	9,292,000
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	36,000,000	(13,527,375)	06/17/2021	06/17/2051	Interest Rate Swap		(49,455,375)		39808C-AA-3	Gridiron Fdg LLC Sr Secd Nt	2	36,000,000	35,928,000
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,900,000	24,930,175	06/17/2021	06/17/2051	Interest Rate Swap				14307P-AE-5	Carlyle Global Market St-SERIES C17A CLASS A1BR	1	25,900,000	24,930,175
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,600,000	11,061,168	06/17/2021	06/17/2051	Interest Rate Swap				88434H-AG-8	THL Credit Wind River 20-WINDR 2018-2A B	1	11,600,000	11,061,168
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,400,000	10,895,174	06/17/2021	06/17/2051	Interest Rate Swap				67097Q-AE-5	OCF CLO 2017-14 Ltd-SERIES 17-14A CLASS A2	1	11,400,000	10,895,174
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,500,000	10,597,845	06/17/2021	06/17/2051	Interest Rate Swap				64034H-AD-7	Navient Student Loan Tru-NSLT 2019-7A B	1	10,500,000	10,597,845
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,276,250	06/17/2021	06/17/2051	Interest Rate Swap				05875M-AQ-5	Ballyrook CLO 2019-2 Ltd-SERIES 19-2A CLASS A2R	1	15,000,000	14,276,250
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		59,558,148	59,558,148	06/17/2021	06/17/2051	Interest Rate Swap				500798-MQ-9	KREF Lending VII 2018-5 Term Loan	1	59,558,148	59,558,148
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,998,988	23,436,048	06/17/2021	06/17/2051	Interest Rate Swap				92917A-AA-4	VOYA 2018-1A A1	1	23,998,988	23,436,048
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	5,022,139	06/17/2021	06/17/2051	Interest Rate Swap				64034B-AB-7	Nelnet Student Loan Trus-NSLT 2018-5A B	1	5,000,000	5,022,139
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		45,000,000	44,023,230	06/17/2021	06/17/2051	Interest Rate Swap				94949J-AA-3	Wellfleet CLO 2018-2 Ltd-WELF 2018-2A A1	1	45,000,000	44,023,230
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,125,000	5,732,400	06/17/2021	06/17/2051	Interest Rate Swap				94950C-AE-6	Wellfleet CLO Ltd-WELF 2021-1A B	1	6,125,000	5,732,400
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,790,000	8,460,454	06/17/2021	06/17/2051	Interest Rate Swap				55951P-BC-0	Magnetite VII Ltd-MAGNE 2012-7A A2R2	1	8,790,000	8,460,454
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,100,000	10,544,068	06/17/2021	06/17/2051	Interest Rate Swap				12481Q-AE-5	Obam 2018-5 Ltd-SERIES 18-5A CLASS B1	1	11,100,000	10,544,068
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,700,000	2,503,664	06/17/2021	06/17/2051	Interest Rate Swap				14316W-AE-9	Carlyle Global Market St-CGMS 2021-7A B	1	2,700,000	2,503,664
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,340,465	18,614,286	06/17/2021	06/17/2051	Interest Rate Swap				03534#-AB-5	Australian Gas Networks Senior Note Ser	1	18,340,465	18,614,286

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,020,748	14,625,512	06/17/2021	06/17/2051	Interest Rate Swap				61744Y-AP-3	Morgan Stanley-SENIOR UNSECURED MM Investment Holding Revolver	1	15,020,748	14,625,512
57629*G09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	250,000,000	298,683,400	248,276,576	06/18/2021	06/18/2051	Interest Rate Swap		(50,406,824)		57542Z-A7-2	Floating Line Morgan Stanley Eaton Van-MSEV 2021-1A C	2	298,683,400	298,683,400
57629*G10	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		3,600,000	3,302,856	06/18/2021	06/18/2051	Interest Rate Swap				61773K-AE-2	CHA Credit Solutions Master Fund I SPV, L.P. - Fund I Revolver	1	3,600,000	3,302,856
57629*G11	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	350,000,000	298,000,000	227,291,852	06/18/2021	06/18/2051	Interest Rate Swap		(70,708,148)		67098#-MM-7	Wellfleet CLO Ltd-SERIES 18-1A CLASS B	2	298,000,000	298,000,000
57629*G12	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,770,875	06/18/2021	06/18/2051	Interest Rate Swap				94950J-AC-5	1	5,000,000	4,770,875	
57629*G13	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,150,000	9,567,644	06/18/2021	06/18/2051	Interest Rate Swap				48662N-AC-1	KAYNE CLO-KAYNE 2021-11A B	1	10,150,000	9,567,644
57629*G14	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,400,000	10,080,044	06/18/2021	06/18/2051	Interest Rate Swap				67115W-AE-0	CHA Credit Funding 1 LTD-SERIES 18-1A CLASS A2	1	10,400,000	10,080,044
57629*G15	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,000,000	21,516,924	06/18/2021	06/18/2051	Interest Rate Swap				26245R-AA-8	Bryden 58 CLO Ltd-DRSLF 2018-58A A1	1	22,000,000	21,516,924
57629*G16	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		72,000,000	70,764,192	06/18/2021	06/18/2051	Interest Rate Swap				48661W-AA-6	KAYNE CLO-SERIES 19-3A CLASS A Madison Park Funding XXX-MDPK 2018-32A CR	1	72,000,000	70,764,192
57629*G17	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,382,230	06/18/2021	06/18/2051	Interest Rate Swap				55817A-AU-8	Ares XXXVIII CLO Ltd-SERIES 2015-38A CLASS CR	1	10,000,000	9,382,230
57629*G18	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,750,000	2,560,228	06/18/2021	06/18/2051	Interest Rate Swap				04015U-AK-4	Invesco CMI Investments MM, LLC - Senior Secured Notes - Term Loan Series 2020-2	1	2,750,000	2,560,228
57629*G19	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	400,000,000	172,968,366	92,238,251	06/18/2021	06/18/2051	Interest Rate Swap		(80,730,115)		46143#-MN-4	Twinbrook Capital Funding VIII DSPV, LLC - Term Loan	1	172,968,366	172,968,366
57629*G20	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		87,725,349	87,725,349	06/18/2021	06/18/2051	Interest Rate Swap				901399-MR-3	Rockford Tower CLO 2020-ROCKT 2020-1A B	1	87,725,349	87,725,349
57629*G21	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,338,005	06/18/2021	06/18/2051	Interest Rate Swap				77341E-AC-9	BABSON CLO LTD-SERIES 17-1A CLASS B1	1	15,000,000	14,338,005
57629*G22	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,500,000	13,125,686	06/18/2021	06/18/2051	Interest Rate Swap				06760B-AE-2	1	13,500,000	13,125,686	
57629*G23	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,600,000	9,609,581	06/18/2021	06/18/2051	Interest Rate Swap				63941R-AC-4	NAVSL 2019-2A B	1	9,600,000	9,609,581
57629*G24	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,700,000	12,262,358	06/18/2021	06/18/2051	Interest Rate Swap				40436X-AE-7	HIGHBRIDGE LOAN MANAGEMEN-SERIES 2014 CLAS A2R	1	12,700,000	12,262,358
57629*G25	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,900,000	13,229,269	06/18/2021	06/18/2051	Interest Rate Swap				09626J-AN-1	BlueMountain CLO 2015-3 -BLUEM 2015-3A A2R	1	13,900,000	13,229,269
57629*G26	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,755,561	9,972,716	06/18/2021	06/18/2051	Interest Rate Swap				784170-ZZ-8	SFR FTTH SAS Term Loan Madison Park Funding Ltd-SERIES 18-30A CLASS B	2	10,755,561	9,972,716
57629*G27	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,400,000	7,123,839	06/18/2021	06/18/2051	Interest Rate Swap				55821T-AC-1	CHA Credit Partners XIV -OAK 2017-14A B FLOATING COUP	1	7,400,000	7,123,839
57629*G28	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,743,727	12,237,629	06/18/2021	06/18/2051	Interest Rate Swap				67706X-AG-8	Ares XXXIX CLO Ltd-SERIES 14-31RA CLASS A2	1	12,743,727	12,237,629
57629*G29	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		28,400,000	27,349,115	06/18/2021	06/18/2051	Interest Rate Swap				04017T-AC-3	1	28,400,000	27,349,115	
57629*G30	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,000,000	25,000,000	06/18/2021	06/18/2051	Interest Rate Swap				50079#-MM-8	KREF Lending VII 2018-1 Term Loan	1	25,000,000	25,000,000
57629*G31	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,465,970	06/18/2021	06/18/2051	Interest Rate Swap				86271P-AE-5	Strata CLO II Ltd-STRTA 2021-1A B Babson CLO Ltd/Cayman Is-BABSN LP-2A B	1	10,000,000	9,465,970
57629*G32	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,400,000	16,568,959	06/18/2021	06/18/2051	Interest Rate Swap				06763B-AC-3	1	17,400,000	16,568,959	
57629*G33	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,400,000	16,407,069	06/18/2021	06/18/2051	Interest Rate Swap				06762T-AC-5	Babson CLO Ltd/Cayman Islands VCP RRL ABS II Ltd-VCRRL 2022-1A A	1	17,400,000	16,407,069
57629*G34	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,940,254	14,940,254	06/18/2021	06/18/2051	Interest Rate Swap				91824X-AC-4	1	14,940,254	14,940,254	
57629*G35	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,685,257	14,586,630	06/18/2021	06/18/2051	Interest Rate Swap				48661C-AA-0	Rad CLO 7 Ltd-RAD 2020-7A A1	1	14,685,257	14,586,630
57629*G36	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,300,000	4,061,135	06/18/2021	06/18/2051	Interest Rate Swap				40637L-AC-4	Halsey Point CLO Ltd-SERIES 2021-4A CLASS B	1	4,300,000	4,061,135
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	9,470,000	(31,228,194)	06/18/2021	06/18/2051	Interest Rate Swap		(40,285,861)		74989H-AE-2	RR 12 Ltd-RRAM 2020-12A A2R2	1	9,470,000	9,057,667
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,350,000	8,912,925	06/18/2021	06/18/2051	Interest Rate Swap				87166R-DG-9	SYMP 2019-21A BR	1	9,350,000	8,912,925

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,200,000	8,762,540	06/18/2021	06/18/2051	Interest Rate Swap				65357L-AL-9	Niagara Park Clo Ltd-NIAPK 2019-1A BR	1	9,200,000	8,762,540
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,100,000	8,630,540	06/18/2021	06/18/2051	Interest Rate Swap				12551J-AQ-9	CIFC Funding 2017-IV Ltd-CIFC 2017-4A BR	1	9,100,000	8,630,540
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,100,000	8,693,003	06/18/2021	06/18/2051	Interest Rate Swap				42087D-AC-3	Hayfin US XII Ltd-HAYFN 2020-12A B1	1	9,100,000	8,693,003
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,000,000	8,521,938	06/18/2021	06/18/2051	Interest Rate Swap				38138L-AN-8	Goldentree Loan Managem-SERIES 2020-7A CLASS BR	1	9,000,000	8,521,938
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		74,161,888	72,665,475	06/18/2021	06/18/2051	Interest Rate Swap				316502-AA-1	Fidus Re Ltd-UNSECURED	1	74,161,888	72,665,475
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,849,545	8,833,616	06/18/2021	06/18/2051	Interest Rate Swap				87289B-AA-2	TCP DLF VIII 2018 CLO, LLC - Class A-1 Secured Floating Rate Note	1	8,849,545	8,833,616
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,963,772	15,206,175	06/18/2021	06/18/2051	Interest Rate Swap				66704J-AY-4	NORTHSTAR EDUCATION FINA-SERIES 2004-1 CLASS B1	1	16,963,772	15,206,175
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,000,000	26,336,529	06/18/2021	06/18/2051	Interest Rate Swap				75887X-AA-5	Regatta Funding Ltd.-REG11 2018-1A	1	27,000,000	26,336,529
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,900,000	11,642,710	06/18/2021	06/18/2051	Interest Rate Swap				449258-AA-0	1CG US CLO 2018-1 LTD-SERIES 2018-1A CLASS A1	1	11,900,000	11,642,710
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	3,117,577	06/18/2021	06/18/2051	Interest Rate Swap				63942N-AC-2	Navient Student Loan Tru-NAVSL 2021-1A B	1	3,200,000	3,117,577
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,200,000	10,765,429	06/18/2021	06/18/2051	Interest Rate Swap				17181T-AC-5	CIFC Funding 2018-IV Ltd-SERIES 18-4A CLASS A2	1	11,200,000	10,765,429
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,200,000	15,617,659	06/18/2021	06/18/2051	Interest Rate Swap				16409T-AC-3	CHENANGO PARK CLO LTD-SERIES 18-1A CLASS A1B	1	16,200,000	15,617,659
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,284,204	13,125,601	06/18/2021	06/18/2051	Interest Rate Swap				05890M-AA-1	BANCO DE CREDITO E INVER-SENIOR UNSECURED	1	13,284,204	13,125,601
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,830,000	12,867,468	06/18/2021	06/18/2051	Interest Rate Swap				53636C-AA-2	LiquiGlide Inc-SECURED	1	13,830,000	12,867,468
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	13,600,000	(3,093,004)	02/05/2015	02/05/2045	Interest Rate Swap		(16,087,002)		67690A-AG-6	QHA Credit Funding 9 Ltd-QAKC 2021-9A B	1	13,600,000	12,993,998
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,750,000	12,185,915	02/05/2015	02/05/2045	Interest Rate Swap				404360-AN-2	HPS Loan Management 9-20-HLM 9A-2016 A2R	1	12,750,000	12,185,915
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,000,000	24,506,850	02/05/2015	02/05/2045	Interest Rate Swap				872490-AA-8	TICP CLO Ltd-TICP 2018-11A A	1	25,000,000	24,506,850
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,238,012	15,042,599	02/05/2015	02/05/2045	Interest Rate Swap				06760E-AA-4	Babson CLO Ltd 2013-1-SERIES 2013-1A CLASS AR	1	15,238,012	15,042,599
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,200,000	14,661,738	02/05/2015	02/05/2045	Interest Rate Swap				87248K-AL-8	TICP CLO VI 2016-5 Ltd-TICP 2016-5A BR	1	15,200,000	14,661,738
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,000,000	29,270,310	02/05/2015	02/05/2045	Interest Rate Swap				00119V-AN-9	AGL CLO 6 LTD-AGL 2020-6A AR	1	30,000,000	29,270,310
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,400,000	10,848,970	02/05/2015	02/05/2045	Interest Rate Swap				38138D-AQ-9	Goldentree Loan Managem-GLM 2019-5A BR	1	11,400,000	10,848,970
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,331,401	6,129,692	02/05/2015	02/05/2045	Interest Rate Swap				28108R-AA-0	EdLine Student Loan Fund-ESLFT 2017-A A	1	6,331,401	6,129,692
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,141,957	15,903,172	02/05/2015	02/05/2045	Interest Rate Swap				74340X-BL-4	Prologis LP-SENIOR UNSECURED	1	16,141,957	15,903,172
57629*GK1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	300,000,000	7,357,666	(57,960,200)	06/21/2021	06/21/2051	Interest Rate Swap		(65,349,921)		78449F-AC-5	SMB PRIVATE ED LN TR 201-SMB PRIVATE ED LN TR 2016-A NT	1	7,357,666	7,389,721
57629*GK1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,894,112	22,049,269	06/21/2021	06/21/2051	Interest Rate Swap				63940F-AC-1	NAVIENT STUDENT LOAN TRU-SERIES 16-2 CLASS A3	1	21,894,112	22,049,269
57629*GK1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		281,578,457	281,578,457	06/21/2021	06/21/2051	Interest Rate Swap				143088-IM-7	Carlyle Aviation Runway PDP Fund LP - Revolving Promissary Note	1	281,578,457	281,578,457
57629*GK1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		61,000,000	59,952,996	06/21/2021	06/21/2051	Interest Rate Swap				48661W-AA-6	KAYNE CLO-SERIES 19-3A CLASS A	1	61,000,000	59,952,996
57629*GK1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,662,100	06/21/2021	06/21/2051	Interest Rate Swap				67109Y-AN-4	Oak Hill Credit Partners-SERIES 15-12A CLASS A2R	1	10,000,000	9,662,100
57629*GK1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,200,000	3,921,679	06/21/2021	06/21/2051	Interest Rate Swap				08180X-AU-6	Benefit Street Partners -BSP 2015-8A BR	1	4,200,000	3,921,679
57629*GK1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,719,830	06/21/2021	06/21/2051	Interest Rate Swap				04965L-AE-8	ATRIUM XIV LLC-ATRM 14A A2A	1	10,000,000	9,719,830
57629*GK1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,050,000	8,670,307	06/21/2021	06/21/2051	Interest Rate Swap				06760E-AE-6	Babson CLO Ltd 2013-1-SERIES 2013-1A CLASS CR	1	9,050,000	8,670,307

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	8,457,906	(37,505,063)	06/22/2021	06/22/2051	Interest Rate Swap	(45,813,614)	(45,813,614)	MXP001-TT-1	AEROVIAS DE MEXICO SA USD TERM LN TICOP CLO XIII Ltd-TICOP 2019-13A BR	2	8,457,906	8,308,551
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	8,000,000	8,000,000	7,621,592	06/22/2021	06/22/2051	Interest Rate Swap			87250A-AL-5	BlueMountain Fuji US CLO-SERIES	1	8,000,000	7,621,592
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	8,000,000	8,000,000	7,602,496	06/22/2021	06/22/2051	Interest Rate Swap			09628F-AE-9	2017-3A CLASS B	1	8,000,000	7,602,496
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	67,200,000	67,200,000	65,542,378	06/22/2021	06/22/2051	Interest Rate Swap			858102-AX-4	2016-1A CLASS AR	1	67,200,000	65,542,378
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	20,000,000	20,000,000	19,674,400	06/22/2021	06/22/2051	Interest Rate Swap			85816W-AC-8	Steele Creek CLO 2014-1 -SERIES 14-1RA CLASS A	1	20,000,000	19,674,400
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	10,000,000	10,000,000	9,719,830	06/22/2021	06/22/2051	Interest Rate Swap			04965L-AE-8	ATRIUM XIV LLC-ATRM 14A A2A	1	10,000,000	9,719,830
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	10,000,000	10,000,000	9,453,240	06/22/2021	06/22/2051	Interest Rate Swap			87232A-AN-4	2018-1A BR	1	10,000,000	9,453,240
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	10,000,000	10,000,000	9,336,970	06/22/2021	06/22/2051	Interest Rate Swap			77342M-AQ-9	Rockford Tower CLO 2019-SERIES 2019-1A CLASS B1R	1	10,000,000	9,336,970
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	1,629,213	1,629,213	1,696,365	06/22/2021	06/22/2051	Interest Rate Swap			429827-AK-4	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS A10	1	1,629,213	1,696,365
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	1,244,757	1,244,757	1,278,420	06/22/2021	06/22/2051	Interest Rate Swap			429827-AP-3	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS A14	1	1,244,757	1,278,420
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	1,169,213	1,169,213	1,175,163	06/22/2021	06/22/2051	Interest Rate Swap			429827-AB-4	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS A2	1	1,169,213	1,175,163
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	1,403,626	1,403,626	1,403,078	06/22/2021	06/22/2051	Interest Rate Swap			83715A-AJ-8	SOUTH CAROLINA STUDENT L-SR UNSECURED	1	1,403,626	1,403,078
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	1,790,548	1,790,548	1,839,371	06/22/2021	06/22/2051	Interest Rate Swap			640330-AC-3	MELNET STUDENT LOAN TRUS-SERIES 2015-2A CLASS B	1	1,790,548	1,839,371
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	619,822	619,822	607,516	06/22/2021	06/22/2051	Interest Rate Swap			709163-GJ-2	PENNSYLVANIA ST HGR EDU -SERIES 2006 CL B	1	619,822	607,516
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	802,087	802,087	780,858	06/22/2021	06/22/2051	Interest Rate Swap			17284L-AB-0	CIT EDUCATION LOAN TRUST-SERIES 2007-1 CLASS B	1	802,087	780,858
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	8,275,000	8,275,000	7,746,103	06/22/2021	06/22/2051	Interest Rate Swap			056162-AS-9	Babson CLO Ltd 2015-1-BABS 2015-1A CR	1	8,275,000	7,746,103
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	22,436,465	22,436,465	22,966,149	06/22/2021	06/22/2051	Interest Rate Swap			230000-AB-7	CULLEN/FROST CAP TR II-SUBORDINATED NOTE	2	22,436,465	22,966,149
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	13,000,000	13,000,000	12,251,109	06/22/2021	06/22/2051	Interest Rate Swap			75887X-AC-1	Regatta Funding Ltd.-REG11 2018-1A B	1	13,000,000	12,251,109
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	4,000,000	4,000,000	3,774,568	06/22/2021	06/22/2051	Interest Rate Swap			41154X-AL-9	Harbor Park CLO, Ltd-HARB 2018-1A C	1	4,000,000	3,774,568
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	6,924,675	6,924,675	6,885,773	06/22/2021	06/22/2051	Interest Rate Swap			73052V-AC-9	Point Au Roche Park CLO -PARPK 2021-1A B1	1	6,924,675	6,885,773
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	6,765,622	6,765,622	6,769,819	06/22/2021	06/22/2051	Interest Rate Swap			27829P-AL-0	Eaton Vance CLO 2020-2 L-EATON 2020-2A AR	1	6,765,622	6,769,819
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	7,000,000	7,000,000	6,568,779	06/22/2021	06/22/2051	Interest Rate Swap			13887W-AL-4	Canyon Capital CLO 2019-CANVC 2019-2A BR	1	7,000,000	6,568,779
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	6,000,000	6,000,000	5,499,210	06/22/2021	06/22/2051	Interest Rate Swap			92919D-AE-8	Voya CLO Ltd-VOYA 2021-3A C	1	6,000,000	5,499,210
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	5,379,000	5,379,000	5,367,296	06/22/2021	06/22/2051	Interest Rate Swap			64132D-AJ-7	Neuberger Berman Loan Ad-NEUB 2019-32A AR	1	5,379,000	5,367,296
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	5,800,000	5,800,000	5,332,856	06/22/2021	06/22/2051	Interest Rate Swap			06762T-AE-1	Babson CLO Ltd/Cayman Islands HPS Loan Management 14-2-HLM 14A-19 BR	1	5,800,000	5,332,856
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	5,600,000	5,600,000	5,213,314	06/22/2021	06/22/2051	Interest Rate Swap			40437W-AS-7	Sound Point CLO Ltd-SNDPT 2021-4A C	1	5,600,000	5,213,314
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	5,600,000	5,600,000	5,167,210	06/22/2021	06/22/2051	Interest Rate Swap			83616A-AL-3	Madison Park Funding XLV-MDPK 2020-46A CR	1	5,600,000	5,167,210
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	3,460,000	3,460,000	3,204,628	06/22/2021	06/22/2051	Interest Rate Swap			55822A-AQ-0	GoldenTree Loan Managem-GLM 2021-10A C	1	3,460,000	3,204,628
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	3,450,000	3,450,000	3,174,200	06/22/2021	06/22/2051	Interest Rate Swap			38138T-AG-6	NT CL A-3	1	3,450,000	3,174,200
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	300,000,000	8,829,888	(56,534,295)	06/28/2021	06/28/2051	Interest Rate Swap	(65,208,259)	(65,208,259)	MXP001-TT-1	AEROVIAS DE MEXICO SA USD TERM LN SMB PRIVATE ED LN TR 2015-C LN BCK	2	8,829,888	8,673,964
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	1,370,928	1,370,928	1,378,555	06/28/2021	06/28/2051	Interest Rate Swap			78448R-AD-8	NT CL A-3	1	1,370,928	1,378,555

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,041,237	1,044,003	06/28/2021	06/28/2051	Interest Rate Swap			78448P-AD-2	SMB PRIVATE ED LOAN TR 2015-A LN BACKED NT A-3	1	1,041,237	1,044,003
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,600,000	11,197,062	06/28/2021	06/28/2051	Interest Rate Swap			08179C-AQ-4	Benefit Street Partners -BSP 2017-11A A2R FLOATING	1	11,600,000	11,197,062
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,705,812	1,673,271	06/28/2021	06/28/2051	Interest Rate Swap			00432C-CW-9	ACCESS GROUP INC-SERIES 2005-B CLASS A3	1	1,705,812	1,673,271
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,935,791	9,168,178	06/28/2021	06/28/2051	Interest Rate Swap			28148W-AC-7	EDUCATIONAL FUNDING OF T-SERIES 2011-1 CLASS B	1	8,935,791	9,168,178
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,600,000	4,600,000	06/28/2021	06/28/2051	Interest Rate Swap			03113F-MM-3	AMF Levered II, LLC - Revolver	1	4,600,000	4,600,000
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,164,372	4,883,771	06/28/2021	06/28/2051	Interest Rate Swap			78442G-OA-7	SLM STUDENT LOAN TRUST-SERIES 2005-6 CLASS B	1	5,164,372	4,883,771
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,732,361	1,825,861	06/28/2021	06/28/2051	Interest Rate Swap			38021F-AB-7	GOAL CAPITAL FUNDING TRU-SERIES 2015-1 CLASS B	2	1,732,361	1,825,861
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,736,789	1,747,217	06/28/2021	06/28/2051	Interest Rate Swap			28138J-AB-0	EDUCATIONAL SERVICES OF -SERIES 15-2 CLASS B	1	1,736,789	1,747,217
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,590,263	1,514,507	06/28/2021	06/28/2051	Interest Rate Swap			78442G-GM-2	SLM STUDENT LOAN TRUST 2003-4 LN BKD CTF CL B	2	1,590,263	1,514,507
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,407,926	1,460,393	06/28/2021	06/28/2051	Interest Rate Swap			28090A-AB-5	EDUCATIONAL SERVICES OF -2014-4 SERIES B	1	1,407,926	1,460,393
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,200,000	6,939,763	06/28/2021	06/28/2051	Interest Rate Swap			03767M-AE-8	Apidos CLO-SERIES 18-29A CLASS A1B	1	7,200,000	6,939,763
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,800,000	8,382,000	06/28/2021	06/28/2051	Interest Rate Swap			39729R-AC-2	Greenwood Park CLO Ltd-SERIES 18-1A CLASS B	1	8,800,000	8,382,000
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,500,000	10,117,422	06/28/2021	06/28/2051	Interest Rate Swap			13876J-AE-2	Canyon Capital CLO Ltd-CANVC 2012-1RA B	1	10,500,000	10,117,422
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,797,965	06/28/2021	06/28/2051	Interest Rate Swap			03768R-AG-1	Apidos CLO Series 19-32A-APID 2019-32A B1	1	5,000,000	4,797,965
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		287,000,000	287,000,000	06/28/2021	06/28/2051	Interest Rate Swap			57542Z-A7-2	MM Investment Holding Revolver Floating Line	2	287,000,000	287,000,000
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	7,650,000	(35,984,742)	06/28/2021	06/28/2051	Interest Rate Swap		(43,452,363)	281397-AP-4	EDUCATION LOAN ASSET-BAC-SERIES 2003-2 CLASS 2A1	1	7,650,000	7,467,621
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,910,442	11,700,120	06/28/2021	06/28/2051	Interest Rate Swap			MXP001-TT-1	AEROVIAS DE MEXICO SA USD TERM LN EDUCATION LOAN ASSET-BAC-SERIES	2	11,910,442	11,700,120
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,349,072	4,246,294	06/28/2021	06/28/2051	Interest Rate Swap			281397-AB-5	2003-1 CLASS A2	1	4,349,072	4,246,294
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,246,053	3,135,540	06/28/2021	06/28/2051	Interest Rate Swap			640310-OK-5	NELNET STUDENT LOAN TRUS-SERIES 2005-4 CLASS A4R1	2	3,246,053	3,135,540
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,507,720	5,473,199	06/28/2021	06/28/2051	Interest Rate Swap			28108Q-AB-0	EDLINC STUDENT LOAN FUND-SERIES 2012-1 CLASS B	1	5,507,720	5,473,199
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,950,000	2,879,671	06/28/2021	06/28/2051	Interest Rate Swap			281397-AQ-2	EDUCATION LOAN ASSET-BAC-SERIES 2003-2 CLASS 2A2	1	2,950,000	2,879,671
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,193,640	1,195,057	06/28/2021	06/28/2051	Interest Rate Swap			38021E-AA-2	GOAL CAPITAL FUNDING TR 2010-1 STUDENT LN BKD NT	1	1,193,640	1,195,057
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,472,349	2,897,864	06/28/2021	06/28/2051	Interest Rate Swap			640310-CM-1	Nelnet Student Loan Trus-SERIES 2005-4 CLASS A4R2	2	2,472,349	2,897,864
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,922,099	9,591,508	06/28/2021	06/28/2051	Interest Rate Swap			83149E-AG-2	SLM STUDENT LN TR 2006-5-NOTE CL B	1	9,922,099	9,591,508
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,900,000	13,266,619	06/28/2021	06/28/2051	Interest Rate Swap			28251L-AE-4	Dryden 64 CLO Ltd-DRSLF 2018-64A B	1	13,900,000	13,266,619
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		28,000,000	26,567,727	06/28/2021	06/28/2051	Interest Rate Swap			64033E-AB-2	NSLT 2013-2A B	1	28,000,000	26,567,727
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,139,213	21,685,425	06/28/2021	06/28/2051	Interest Rate Swap			66704J-AF-5	Northstar Education Fina-REVENUE BONDS	1	22,139,213	21,685,425
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,347,338	12,790,589	06/28/2021	06/28/2051	Interest Rate Swap			78442G-KP-0	SLM Student Loan Trust 2-SLMA 2003-14 B	1	13,347,338	12,790,589
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,600,000	13,447,476	06/28/2021	06/28/2051	Interest Rate Swap			64034X-AB-9	Nelnet Student Loan Trus-NSLT 2021-1A B	1	13,600,000	13,447,476
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,100,000	10,457,133	06/28/2021	06/28/2051	Interest Rate Swap			64034G-AB-6	Nelnet Student Loan Trus-NSLT 2020-1A B	1	10,100,000	10,457,133
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,602,056	6,340,094	06/28/2021	06/28/2051	Interest Rate Swap			64031C-AB-8	NELNET STUDENT LOAN TRUS-SERIES 2012-2A CLASS B	1	6,602,056	6,340,094

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,003,109	3,893,361	06/28/2021	06/28/2051	Interest Rate Swap				78442G-PS-9	SLM STUDENT LOAN TRUST-SERIES 2005-5 CLASS B	1	4,003,109	3,893,361
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,275,000	15,936,724	06/28/2021	06/28/2051	Interest Rate Swap				04623T-AA-3	ASSURANT CLO I LTD-ASRNT 2018-1A A	1	16,275,000	15,936,724
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,100,000	12,531,892	06/28/2021	06/28/2051	Interest Rate Swap				67707B-AB-6	QHA Credit Partners XV L-SERIES 17-15A CLASS B	1	13,100,000	12,531,892
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,350,000	7,011,782	06/28/2021	06/28/2051	Interest Rate Swap				12551R-AC-2	CIFC Funding 2018-I Ltd-SERIES 18-1A CLASS B	1	7,350,000	7,011,782
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,000,000	12,469,327	06/28/2021	06/28/2051	Interest Rate Swap				21623P-AC-1	COOK PARK CLO LTD-COOK 2018-1A A2	1	13,000,000	12,469,327
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,000,000	3,896,972	06/28/2021	06/28/2051	Interest Rate Swap				63942N-AC-2	Navient Student Loan Tru-NAVSL 2021-1A B	1	4,000,000	3,896,972
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,400,000	8,019,757	06/28/2021	06/28/2051	Interest Rate Swap				48252Y-AE-9	KKR CLO 23 Ltd-KKR 23 B	1	8,400,000	8,019,757
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		26,948,000	26,948,000	06/28/2021	06/28/2051	Interest Rate Swap				67098#-MM-7	QHA Credit Solutions Master Fund I SPV, L.P. - Fund I Revolver	2	26,948,000	26,948,000
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	10,917,905	1,019,850	12/06/2016	12/06/2046	Interest Rate Swap		(9,705,260)		MXP001-TT-1	AEROVIAS DE MEXICO SA USD TERM LN SOUTH CAROLINA STUDENT L-SERIES	2	10,917,905	10,725,110
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,790,930	12,793,216	12/06/2016	12/06/2046	Interest Rate Swap				83715R-AG-7	2014-1 CLASS B	1	12,790,930	12,793,216
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,423,279	4,500,549	12/06/2016	12/06/2046	Interest Rate Swap				784420-AE-1	SLC STUDENT LOAN TRUST-SERIES 2005-1 CLASS B	1	4,423,279	4,500,549
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,871,791	2,799,002	12/06/2016	12/06/2046	Interest Rate Swap				78442G-OT-6	SLM STUDENT LOAN TRUST-SERIES 2005-8 CLASS B	1	2,871,791	2,799,002
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,300,000	18,503,798	12/06/2016	12/06/2046	Interest Rate Swap				15033E-AC-2	Cedar Funding IX CLO Ltd-SERIES 18-9A CLASS A2	1	19,300,000	18,503,798
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,645,000	2,613,570	12/06/2016	12/06/2046	Interest Rate Swap				63938E-AE-4	NAVIENT STUDENT LOAN TRU-SERIES 2014-1 CLASS B	1	2,645,000	2,613,570
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,001,786	1,897,768	12/06/2016	12/06/2046	Interest Rate Swap				64031A-AJ-5	NELNET STUDENT LOAN TRUS-SERIES 2006-3 CLASS B	1	2,001,786	1,897,768
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,431,531	6,632,978	12/06/2016	12/06/2046	Interest Rate Swap				63939L-AC-1	NAVIENT STUDENT LOAN TRU-SERIES 2015-3 CLASS B	1	6,431,531	6,632,978
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,387,886	3,242,414	12/06/2016	12/06/2046	Interest Rate Swap				64033J-AB-1	NELNET STUDENT LOAN TRUS-SERIES 2014-1A CLASS B	1	3,387,886	3,242,414
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,242,815	2,038,845	12/06/2016	12/06/2046	Interest Rate Swap				194266-AE-2	COLLEGE LOAN CORPORATION-SERIES 2005-2 CLASS B	1	2,242,815	2,038,845
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,247,569	3,311,750	12/06/2016	12/06/2046	Interest Rate Swap				64033N-AB-2	NELNET STUDENT LOAN TRUS-SERIES 2014-5A CLASS B	1	3,247,569	3,311,750
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,739,571	1,697,902	12/06/2016	12/06/2046	Interest Rate Swap				78442G-LJ-3	SLM STUDENT LOAN TRUST-SERIES 2004-3 CLASS B	1	1,739,571	1,697,902
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,250,000	3,179,462	12/06/2016	12/06/2046	Interest Rate Swap				64032A-AB-1	NELNET STUDENT LOAN TRUS-SERIES 2012-1A CLASS B	1	3,250,000	3,179,462
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,021,972	3,039,982	12/06/2016	12/06/2046	Interest Rate Swap				64033L-AD-2	NELNET STUDENT LOAN TRUS-SERIES 2014-2A CLASS B	1	3,021,972	3,039,982
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,240,000	3,216,500	12/06/2016	12/06/2046	Interest Rate Swap				64033K-AB-8	NELNET STUDENT LOAN TRUS-SERIES 2014-3A CLASS B	1	3,240,000	3,216,500
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,750,000	14,099,481	12/06/2016	12/06/2046	Interest Rate Swap				03767M-AG-3	Apidos CLO-SERIES 18-29A CLASS A2	1	14,750,000	14,099,481
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,500,000	4,244,850	12/06/2016	12/06/2046	Interest Rate Swap				55952Y-AT-4	Magnetite VIII Ltd-MAGNE 2014-8A CR2	1	4,500,000	4,244,850
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,700,000	6,378,092	12/06/2016	12/06/2046	Interest Rate Swap				04015U-AJ-7	Ares XXXVIII CLO Ltd-SERIES 15-38A CLASS BR	1	6,700,000	6,378,092
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,000,000	2,884,104	12/06/2016	12/06/2046	Interest Rate Swap				48250R-BN-5	KKR CLO 12 Ltd-KKR 12 BR2	1	3,000,000	2,884,104
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,250,000	13,697,114	12/06/2016	12/06/2046	Interest Rate Swap				67112K-AB-5	OPC CLO Ltd-SERIES 18-15A CLASS A2	1	14,250,000	13,697,114
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,380,000	13,432,611	12/06/2016	12/06/2046	Interest Rate Swap				043671-AA-4	Aseko Inc-FIRST LIEN	1	13,380,000	13,432,611
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	17,648,635	(6,915,509)	09/15/2017	09/15/2047	Interest Rate Swap		(24,554,130)		29364N-AS-7	ENERGY MISSISSIPPI INC-SECURED NOTE	1	17,648,635	17,638,621
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,815,000	8,996,802	09/15/2017	09/15/2047	Interest Rate Swap				05684L-AG-0	Bain Capital Credit CLO-BCC 2021-1A C	1	9,815,000	8,996,802

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		26,159,132	25,975,164	09/15/2017	09/15/2047	Interest Rate Swap				75972Y-AA-9	RENAISSANCE FINANCE-SR UNSECURED	1	26,159,132	25,975,164
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,500,000	8,938,351	09/15/2017	09/15/2047	Interest Rate Swap				33882G-AJ-7	Flatiron Clo 17 Ltd-FLAT 2017-1A CR	1	9,500,000	8,938,351
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	2,971,258	09/15/2017	09/15/2047	Interest Rate Swap				22615E-AE-0	Crestline Denali CLO Ltd-SERIES 2018-1A CLASS C	1	3,200,000	2,971,258
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,532,160	09/15/2017	09/15/2047	Interest Rate Swap				67104L-AG-2	QHA Loan Funding 2013-2 -QHAF	1	8,000,000	7,532,160
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,000,000	13,612,144	09/15/2017	09/15/2047	Interest Rate Swap				39862E-AB-0	GRIFFEN PARK CLO LTD-SERIES 17-1A CLASS B	1	14,000,000	13,612,144
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		83,940,000	83,940,000	09/15/2017	09/15/2047	Interest Rate Swap				57542Z-A7-2	MM Investment Holding Revolver Floating Line	2	83,940,000	83,940,000
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		28,212,967	28,162,523	09/15/2017	09/15/2047	Interest Rate Swap				06761T-AE-2	Barings Middle Market CI-BMM 2019-1A A2	1	28,212,967	28,162,523
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,600,000	22,736,972	09/15/2017	09/15/2047	Interest Rate Swap				542798-AC-7	Long Point Park CLO Ltd-LNGPT 2017-1A A1B	1	23,600,000	22,736,972
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,400,000	5,110,571	09/15/2017	09/15/2047	Interest Rate Swap				64130H-AQ-4	Neuberger Berman Loan Ad-SERIES 2017-24A CLASS CR	1	5,400,000	5,110,571
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,346,746	10,337,918	09/15/2017	09/15/2047	Interest Rate Swap				00206R-GL-0	AT&T Inc-SENIOR UNSECURED	2	10,346,746	10,337,918
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,168,890	20,701,282	09/15/2017	09/15/2047	Interest Rate Swap				009280-AQ-4	AIRCASLE LTD-SENIOR UNSECURED	2	21,168,890	20,701,282
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,489,996	6,126,136	09/15/2017	09/15/2047	Interest Rate Swap				29365T-AF-1	Entergy Texas Inc-SECURED	1	6,489,996	6,126,136
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,725,232	12,017,985	09/15/2017	09/15/2047	Interest Rate Swap				90933J-AA-9	United Airlines 2016-2 C-UNTD AIR 16-2 B	3	13,725,232	12,017,985
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	250,000,000	1,515,025	(22,725,073)	09/15/2017	09/15/2047	Interest Rate Swap		(24,217,400)		031162-CJ-7	AMGEN INC-SENIOR UNSECURED	2	1,515,025	1,492,327
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		175,620	175,064	09/15/2017	09/15/2047	Interest Rate Swap				445658-CD-7	JB HUNT TRANSPRT SVCS-SENIOR UNSECURED NOTE	2	175,620	175,064
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		21,982,810	22,289,532	09/15/2017	09/15/2047	Interest Rate Swap				456866-AM-4	INGERSOLL-RAND CO-DEBENTURE	2	21,982,810	22,289,532
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,979,044	15,706,413	09/15/2017	09/15/2047	Interest Rate Swap				664397-AK-2	EVERSOURCE ENERGY-UNSECURED NOTE Kingsland Ltd-SERIES 18-8A CLASS A	2	15,979,044	15,706,413
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		184,900,000	180,902,647	09/15/2017	09/15/2047	Interest Rate Swap				42086P-AC-7	Ballyrock CLO 2019-2 Ltd-SERIES 19-2A CLASS BR	1	184,900,000	180,902,647
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		5,900,000	5,541,457	09/15/2017	09/15/2047	Interest Rate Swap				05875M-AS-1	VALLEY NATIONAL BANCORP-SUBORDINATED NOTE	2	5,900,000	5,541,457
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		6,467,222	6,524,803	09/15/2017	09/15/2047	Interest Rate Swap				919794-AB-3	Arrow Electronics Inc-DEBENTURE	2	6,467,222	6,524,803
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		13,850,705	14,976,148	09/15/2017	09/15/2047	Interest Rate Swap				042735-AK-6	Sixth Street CLO-SIXST 2021-20A C	1	13,850,705	14,976,148
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		3,000,000	2,769,768	09/15/2017	09/15/2047	Interest Rate Swap				83012Q-AE-4	Barings Middle Market CL-BMM 2018-1A C	2	3,000,000	2,769,768
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		11,553,045	11,398,325	09/15/2017	09/15/2047	Interest Rate Swap				06761M-AD-9	Barings Middle Market CL-BMM 2021-1A C	2	11,553,045	11,398,325
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		12,200,000	11,047,905	09/15/2017	09/15/2047	Interest Rate Swap				06760W-AJ-5	Barings Middle Market CL-BMM 2021-1A C	2	12,200,000	11,047,905
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		1,725,000	1,597,940	09/15/2017	09/15/2047	Interest Rate Swap				04018X-AJ-8	ARES CLO-APES 2021-ALFA D	2	1,725,000	1,597,940
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	250,000,000	9,413,889	(14,642,113)	09/15/2017	09/15/2047	Interest Rate Swap		(24,037,811)		00287Y-AL-3	AbbVie Inc-SENIOR UNSECURED NOTE	2	9,413,889	9,395,698
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		1,024,770	911,204	09/15/2017	09/15/2047	Interest Rate Swap				04352E-AA-3	Ascension Health-SENIOR UNSECURED	1	1,024,770	911,204
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		5,174,593	5,101,899	09/15/2017	09/15/2047	Interest Rate Swap				195869-AP-7	COLONIAL PIPELINE CO-SR UNSECURED DISCOVER FINANCIAL SVS-SENIOR UNSECURED	1	5,174,593	5,101,899
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		47,769,121	46,231,898	09/15/2017	09/15/2047	Interest Rate Swap				254709-AM-0	Humana Inc-SENIOR UNSECURED NOTE LOM LTD PARTNERSHIP-SERIES 25A CLASS C2	2	47,769,121	46,231,898
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		8,941,925	8,953,224	09/15/2017	09/15/2047	Interest Rate Swap				444859-BA-9	Humana Inc-SENIOR UNSECURED NOTE LOM LTD PARTNERSHIP-SERIES 25A CLASS C2	2	8,941,925	8,953,224
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		2,500,000	2,379,155	09/15/2017	09/15/2047	Interest Rate Swap				50189P-AN-2	Humana Inc-SENIOR UNSECURED NOTE LOM LTD PARTNERSHIP-SERIES 25A CLASS C2	1	2,500,000	2,379,155

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		44,000,000	36,527,656	09/15/2017	09/15/2047	Interest Rate Swap				06762X-AA-0	Barings Clo Ltd 2020-III-BABSN 2020-3A B	2	44,000,000	36,527,656
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		66,300,000	64,664,578	09/15/2017	09/15/2047	Interest Rate Swap				858102-AX-4	Steele Creek CLO 2016-1 -SERIES 2016-1A CLASS AR	1	66,300,000	64,664,578
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		47,045,032	43,529,802	09/15/2017	09/15/2047	Interest Rate Swap				341081-FG-7	FLORIDA POWER & LIGHT CO-SECURED BOND	1	47,045,032	43,529,802
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		8,800,000	8,422,190	09/15/2017	09/15/2047	Interest Rate Swap				05683L-AC-0	Bain Capital Credit CLO -BCC 2018-1A A2	1	8,800,000	8,422,190
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		11,650,909	11,156,850	09/15/2017	09/15/2047	Interest Rate Swap				224044-CG-0	COX COMMUNICATIONS INC-SENIOR UNSECURED	2	11,650,909	11,156,850
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,289,889	15,111,183	09/15/2017	09/15/2047	Interest Rate Swap				709599-AZ-7	Penske Truck Leasing Co -SENIOR UNSECURED	2	15,289,889	15,111,183
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		20,373,591	19,999,749	09/15/2017	09/15/2047	Interest Rate Swap				98389B-AV-2	Xcel Energy Inc-SENIOR UNSECURED	2	20,373,591	19,999,749
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		1,995,000	1,950,737	09/15/2017	09/15/2047	Interest Rate Swap				06760E-AC-0	Babson CLO Ltd 2013-I-SERIES 2013-1S CLASS BR	1	1,995,000	1,950,737
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	250,000,000	16,902,431	(9,101,795)	09/15/2017	09/15/2047	Interest Rate Swap		(24,441,887)		00774M-AB-1	AERCAP IRELAND CAPITAL D-SENIOR UNSECURED	2	16,902,431	15,340,092
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		18,422,960	18,204,709	09/15/2017	09/15/2047	Interest Rate Swap				378272-AL-2	GLENORE FUNDING LLC-SR UNSECURED	2	18,422,960	18,204,709
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		50,429,718	36,824,198	09/15/2017	09/15/2047	Interest Rate Swap				191216-CY-4	Coca-Cola Co/The-SENIOR UNSECURED	1	50,429,718	36,824,198
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		16,464,178	15,200,375	09/15/2017	09/15/2047	Interest Rate Swap				09778P-AA-3	Bon Secours Mercy Health-SECURED O'REILLY AUTOMOTIVE INC-SENIOR UNSECURED	1	16,464,178	15,200,375
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		8,891,780	8,592,960	09/15/2017	09/15/2047	Interest Rate Swap				67103H-AF-4	SCHLUMBERGER HLDGS CORP-SR UNSECURED	2	8,891,780	8,592,960
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		1,617,301	1,608,924	09/15/2017	09/15/2047	Interest Rate Swap				806851-AG-6	Reckitt Benckiser Treasu-SENIOR UNSECURED	2	1,617,301	1,608,924
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		5,492,390	5,485,390	09/15/2017	09/15/2047	Interest Rate Swap				756250-AD-1	ISRAEL ELECTRIC CORP LTD-SECURED NOTE	1	5,492,390	5,485,390
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		21,022,156	21,103,215	09/15/2017	09/15/2047	Interest Rate Swap				465077-AK-1	DTE Electric Co-SECURED	2	21,022,156	21,103,215
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,795,169	13,894,710	09/15/2017	09/15/2047	Interest Rate Swap				23338V-AE-6	INTEL CORP-SENIOR UNSECURED NOTE	1	15,795,169	13,894,710
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		70,883,077	65,942,038	09/15/2017	09/15/2047	Interest Rate Swap				458140-AK-6	Brookfield Finance Inc-SENIOR UNSECURED	1	70,883,077	65,942,038
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		23,222,472	22,679,608	09/15/2017	09/15/2047	Interest Rate Swap				11271L-AC-6	HAMILTON COLLEGE-UNSECURED	1	23,222,472	22,679,608
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		18,384,491	18,848,966	09/15/2017	09/15/2047	Interest Rate Swap				40728T-AA-1	Reckitt Benckiser Treasu-SENIOR UNSECURED	1	18,384,491	18,848,966
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		18,569,833	18,259,624	09/15/2017	09/15/2047	Interest Rate Swap				756250-AE-9	Barings Clo Ltd 2020-III-BABSN 2020-3A B	1	18,569,833	18,259,624
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,500,000	12,867,697	09/15/2017	09/15/2047	Interest Rate Swap				06762X-AA-0	US TREAS N/B-NOTE	2	15,500,000	12,867,697
Awaiting PPN	Sovereign Bond of Brazil	2Z	5,000,000	10,684,371	8,891,774	12/20/2021	06/20/2027	5 Yr Credit Default Swap	(258,116)	(415,257)		912810-RP-5	US TREASURY STRIP COUPON RECEIPT	1	10,942,487	9,307,031
Awaiting PPN	Sovereign Bond of Mexico	2Z	20,000,000	25,111,870	24,972,053	03/21/2022	06/20/2027	5 Yr Credit Default Swap	(68,597)	(660,567)		912833-LL-2	US TREASURY N/B-UNSECURED	1	25,180,467	25,632,620
Awaiting PPN	Sovereign Bond of India	2Z	40,000,000	31,083,186	28,227,067	03/21/2022	06/20/2027	5 Yr Credit Default Swap	100,244	(724,028)		912810-RV-2	US TREASURY N/B-UNSECURED	1	30,982,942	28,951,095
Awaiting PPN	Sovereign Bond of India	2Z		14,894,306	13,681,641	03/21/2022	06/20/2027	5 Yr Credit Default Swap				912810-RU-4	Texas Instruments Inc-SENIOR UNSECURED	1	14,894,306	13,681,641
57629*DX6	Evergreen Basket of Floating Rate Corporate Bonds	1	200,000,000	55,845,306	37,420,128	11/07/2018	11/07/2048	Interest Rate Swap		(14,711,548)		882508-BD-5	PUGET SOUND ENERGY INC-SECURED	1	55,845,306	52,131,676
57629*DX6	Evergreen Basket of Floating Rate Corporate Bonds	1		48,996,263	44,128,544	11/07/2018	11/07/2048	Interest Rate Swap				745332-CG-9	Securian Financial Group-SENIOR UNSECURED	1	48,996,263	44,128,544
57629*DX6	Evergreen Basket of Floating Rate Corporate Bonds	1		48,663,416	43,452,036	11/07/2018	11/07/2048	Interest Rate Swap				81373P-AA-1	VISA INC-SR UNSECURED	1	48,663,416	43,452,036
57629*DX6	Evergreen Basket of Floating Rate Corporate Bonds	1		54,207,123	50,027,547	11/07/2018	11/07/2048	Interest Rate Swap				92826C-AF-9	NUCOR CORP-SENIOR UNSECURED NOTE	1	54,207,123	50,027,547
57629*DX6	Evergreen Basket of Floating Rate Corporate Bonds	1		37,123,158	37,876,125	11/07/2018	11/07/2048	Interest Rate Swap				670346-AH-8	OME Group Inc-SENIOR UNSECURED	1	37,123,158	37,876,125
57629*DI18	Evergreen Basket of Floating Rate Corporate Bonds	1	300,000,000	45,542,706	22,022,211	11/08/2018	11/08/2048	Interest Rate Swap		(21,293,048)		12572Q-AH-8	ACE INA HOLDINGS-SR UNSECURED	1	45,542,706	43,315,259
57629*DI18	Evergreen Basket of Floating Rate Corporate Bonds	1		51,131,500	44,729,243	11/08/2018	11/08/2048	Interest Rate Swap				00440E-AW-7	ACE INA HOLDINGS-SR UNSECURED	1	51,131,500	44,729,243

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		1,012,754	904,249	11/08/2018	11/08/2048	Interest Rate Swap				30231G-AW-2	EXXON MOBIL CORPORATION-SR UNSECURED	1	1,012,754	904,249
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		57,981,633	54,201,530	11/08/2018	11/08/2048	Interest Rate Swap				037833-BX-7	APPLE INC-SENIOR UNSECURED	1	57,981,633	54,201,530
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		56,181,605	49,157,457	11/08/2018	11/08/2048	Interest Rate Swap				91324P-CR-1	UNITEDHEALTH GROUP INC-SR UNSECURED	1	56,181,605	49,157,457
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		76,516,823	66,557,704	11/08/2018	11/08/2048	Interest Rate Swap				023135-AQ-9	AMAZON.COM INC-SR UNSECURED	1	76,516,823	66,557,704
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		11,322,978	10,413,705	11/08/2018	11/08/2048	Interest Rate Swap				438516-BS-4	Honeywell International -SENIOR UNSECURED	1	11,322,978	10,413,705
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		10,000,000	9,630,030	11/08/2018	11/08/2048	Interest Rate Swap				12511A-AC-8	CBAM Ltd-CBAM 2020-13A B1	1	10,000,000	9,630,030
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		13,300,000	12,540,783	11/08/2018	11/08/2048	Interest Rate Swap				75888F-AE-5	Regatta XIII Funding LLC-SERIES 18-2A CLASS A2	1	13,300,000	12,540,783
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		18,149,163	13,580,922	11/08/2018	11/08/2048	Interest Rate Swap				037833-DW-7	Apple Inc-SENIOR UNSECURED	1	18,149,163	13,580,922
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		12,991,144	12,337,338	11/08/2018	11/08/2048	Interest Rate Swap				55818R-BC-9	Madison Park Funding XIV-HDPK 2014-14A CRR	1	12,991,144	12,337,338
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		6,231,512	5,000,824	11/08/2018	11/08/2048	Interest Rate Swap				571676-AH-8	Mars Inc-SENIOR UNSECURED	1	6,231,512	5,000,824
57629*DD1	Evergreen Basket of Floating Rate Corporate Bonds	1	160,000,000	37,926,643	20,626,729	11/08/2018	11/08/2048	Interest Rate Swap		(11,534,217)		575634-AT-7	MASSACHUSETTS ELECTRIC-SENIOR UNSECURED	2	37,926,643	32,160,946
57629*DD1	Evergreen Basket of Floating Rate Corporate Bonds	1		35,440,780	29,476,643	11/08/2018	11/08/2048	Interest Rate Swap				45138L-BD-4	IDAHO POWER CORP-SECURED NOTE	1	35,440,780	29,476,643
57629*DD1	Evergreen Basket of Floating Rate Corporate Bonds	1		29,325,288	25,043,894	11/08/2018	11/08/2048	Interest Rate Swap				29246Q-AB-1	Empresa de Transporte de-SENIOR UNSECURED	1	29,325,288	25,043,894
57629*DD1	Evergreen Basket of Floating Rate Corporate Bonds	1		27,761,528	25,992,334	11/08/2018	11/08/2048	Interest Rate Swap				771196-BH-4	ROCHE HOLDING INC-SENIOR UNSECURED	1	27,761,528	25,992,334
57629*DD1	Evergreen Basket of Floating Rate Corporate Bonds	1		30,712,593	27,644,074	11/08/2018	11/08/2048	Interest Rate Swap				437076-BH-4	Home Depot Inc/The-SENIOR UNSECURED	1	30,712,593	27,644,074
57629*DD1	Evergreen Basket of Floating Rate Corporate Bonds	1		24,641,523	23,177,164	11/08/2018	11/08/2048	Interest Rate Swap				578454-AD-2	Mayo Clinic-UNSECURED	1	24,641,523	23,177,164
57629*DD1	Evergreen Basket of Floating Rate Corporate Bonds	1		17,567,199	14,097,777	11/08/2018	11/08/2048	Interest Rate Swap				571676-AH-8	Mars Inc-SENIOR UNSECURED	1	17,567,199	14,097,777
57629*DU2	Evergreen Basket of Floating Rate Corporate Bonds	1	160,000,000	36,817,771	29,642,010	12/10/2018	12/10/2048	Interest Rate Swap		(1,955,562)		828807-CZ-8	SIMON PROPERTY GROUP LP-SENIOR UNSECURED	1	36,817,771	31,597,572
57629*DU2	Evergreen Basket of Floating Rate Corporate Bonds	1		32,893,150	30,507,059	12/10/2018	12/10/2048	Interest Rate Swap				12189L-BB-6	BURLINGTN NORTH SANTA FE-SENIOR UNSECURED	1	32,893,150	30,507,059
57629*DU2	Evergreen Basket of Floating Rate Corporate Bonds	1		34,008,169	29,798,361	12/10/2018	12/10/2048	Interest Rate Swap				391382-AB-4	GREAT-WEST LIFE CO FINANC-SENIOR UNSECURED	1	34,008,169	29,798,361
57629*DU2	Evergreen Basket of Floating Rate Corporate Bonds	1		30,543,030	27,516,115	12/10/2018	12/10/2048	Interest Rate Swap				455434-BR-0	INDIANAPOLIS PWR & LIGHT-SECURED BOND	1	30,543,030	27,516,115
57629*DU2	Evergreen Basket of Floating Rate Corporate Bonds	1		54,116,938	52,023,973	12/10/2018	12/10/2048	Interest Rate Swap				002824-BH-2	ABBOTT LABORATORIES-SENIOR UNSECURED	1	54,116,938	52,023,973
57629*EP2	Evergreen Basket of Floating Rate Corporate Bonds	1	165,000,000	60,367,315	53,503,001	02/04/2019	02/04/2049	Interest Rate Swap		2,753,343		68389X-AW-7	ORACLE CORP-SENIOR UNSECURED NOTE	2	60,367,315	50,749,658
57629*EP2	Evergreen Basket of Floating Rate Corporate Bonds	1		63,287,637	58,022,804	02/04/2019	02/04/2049	Interest Rate Swap				149123-CB-5	Caterpillar Inc-SENIOR UNSECURED BOND	1	63,287,637	58,022,804
57629*EP2	Evergreen Basket of Floating Rate Corporate Bonds	1		71,971,060	70,931,127	02/04/2019	02/04/2049	Interest Rate Swap				377372-AE-7	GLAXOSMITHKLINE CAP INC-SR UNSECURED	1	71,971,060	70,931,127
57629*EP2	Evergreen Basket of Floating Rate Corporate Bonds	1		42,863,870	38,666,449	02/04/2019	02/04/2049	Interest Rate Swap				983024-AN-0	Wyeth LLC-NOTE	1	42,863,870	38,666,449
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	255,154,891	56,906,487	(1,337,382)	07/29/2021	07/29/2022	TRS Bond Index		(60,036,106)		539830-AW-9	Lockheed Martin Corp-SENIOR UNSECURED NOTE	1	56,906,487	58,698,724
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		1,496,758	1,498,336	07/29/2021	07/29/2022	TRS Bond Index				485134-BN-9	KANSAS CITY POWER & LT-SENIOR UNSECURED NOTE	1	1,496,758	1,498,336
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		14,001,631	13,613,768	07/29/2021	07/29/2022	TRS Bond Index				52107Q-AJ-4	Lazard Group LLC-SENIOR UNSECURED	2	14,001,631	13,613,768
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,530,253	14,224,130	07/29/2021	07/29/2022	TRS Bond Index				767201-AD-8	RIO TINTO FIN USA LTD-SENIOR UNSECURED NOTE	1	13,530,253	14,224,130
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		1,377,826	1,270,829	07/29/2021	07/29/2022	TRS Bond Index				12189L-AW-1	BURLINGTN NORTH SANTA FE-SENIOR UNSECURED	1	1,377,826	1,270,829

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		15,617,161	14,723,860	07/29/2021	07/29/2022	TRS Bond Index			03076C-AH-9	Ameriprise Financial Inc-SENIOR UNSECURED	1	15,617,161	14,723,860
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,470,736	12,581,546	07/29/2021	07/29/2022	TRS Bond Index			92928Q-AE-8	WEA Finance LLC-SENIOR UNSECURED	2	13,470,736	12,581,546
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,727,442	8,768,207	07/29/2021	07/29/2022	TRS Bond Index			373298-CF-3	UNSECURED NOTE	1	8,727,442	8,768,207
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,500,000	13,157,708	07/29/2021	07/29/2022	TRS Bond Index			03329A-AE-5	Anchorage Capital CLO Lt-SERIES 2014-SRA CLASS B	1	13,500,000	13,157,708
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		10,000,000	9,468,810	07/29/2021	07/29/2022	TRS Bond Index			87246M-AU-6	TICP CLO VI 2016-2 Ltd-TICP 2016-6A BR2	1	10,000,000	9,468,810
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		10,000,000	9,431,120	07/29/2021	07/29/2022	TRS Bond Index			12563Y-AC-3	CIFC Funding 2021-11-CIFC 2021-2A B	1	10,000,000	9,431,120
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,119,185	4,993,607	07/29/2021	07/29/2022	TRS Bond Index			020002-AZ-4	ALLSTATE CORP-SR UNSECURED	1	5,119,185	4,993,607
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		257,302	251,454	07/29/2021	07/29/2022	TRS Bond Index			12189L-AQ-4	Burlington Northern Sant-SENIOR UNSECURED	1	257,302	251,454
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		26,178,704	27,256,565	07/29/2021	07/29/2022	TRS Bond Index			448814-EJ-8	HYDRO-QUEBEC-NOTE	1	26,178,704	27,256,565
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		60,000,000	58,793,220	07/29/2021	07/29/2022	TRS Bond Index			67332F-AD-5	RRPF Engine Leasing Ltd Senior Secured	2	60,000,000	58,793,220
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		12,500,000	11,838,463	07/29/2021	07/29/2022	TRS Bond Index			67115L-AC-8	Oak Hill Credit Partners-OAKC 2021-16A B	1	12,500,000	11,838,463
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		10,800,000	10,320,372	07/29/2021	07/29/2022	TRS Bond Index			94949J-AC-9	Wellfleet CLO 2018-2 Ltd-WELF 2018-2A A2	1	10,800,000	10,320,372
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,700,000	8,290,674	07/29/2021	07/29/2022	TRS Bond Index			03330Y-AE-0	Anchorage Capital Clo 20-ANCHC 2021-20A B	1	8,700,000	8,290,674
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,700,000	8,259,284	07/29/2021	07/29/2022	TRS Bond Index			69700G-AL-6	Palmer Square CLO 2019-1-PLMRS 2019-1A A2R	1	8,700,000	8,259,284
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,500,000	7,123,710	07/29/2021	07/29/2022	TRS Bond Index			67112C-AN-7	OZLM XIX Ltd-OZLM 2017-19A A2AR	1	7,500,000	7,123,710
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,500,000	6,105,691	07/29/2021	07/29/2022	TRS Bond Index			33883J-AQ-4	Flatiron CLO 19 Ltd-FLAT 2019-1A BR	1	6,500,000	6,105,691
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,100,000	5,713,864	07/29/2021	07/29/2022	TRS Bond Index			05684C-AQ-8	Bain Capital Credit CLO -BCC 2020-3A BR	1	6,100,000	5,713,864
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,000,000	5,500,266	07/29/2021	07/29/2022	TRS Bond Index			40440X-AE-1	Highbridge Loan Managem-HLM 2021-16A C	1	6,000,000	5,500,266
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,850,000	3,548,422	07/29/2021	07/29/2022	TRS Bond Index			70470M-AJ-4	Peace Park CLO Ltd-PCEPK 2021-1A C	1	3,850,000	3,548,422
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	233,593,750	4,758,525	6,794,187	06/08/2022	06/08/2023	TRS Bond Index		2,091,593	57174B-AZ-5	Marsh & McLennan Cos Inc-SR UNSECURED	2	4,758,525	4,702,594
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,542,401	5,512,270	06/08/2022	06/08/2023	TRS Bond Index			69353R-EQ-7	PNC Bank NA-SENIOR UNSECURED	1	5,542,401	5,512,270
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		10,550,000	10,040,752	06/08/2022	06/08/2023	TRS Bond Index			74983A-AC-7	RR 19 Ltd-RRAM 2021-19A A2	1	10,550,000	10,040,752
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		17,375,245	17,179,943	06/08/2022	06/08/2023	TRS Bond Index			52107Q-AG-0	LAZARD GROUP LLC-SENIOR UNSECURED	2	17,375,245	17,179,943
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		20,774,249	20,430,266	06/08/2022	06/08/2023	TRS Bond Index			780082-AD-5	Royal Bank of Canada-SUBORDINATED	1	20,774,249	20,430,266
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		18,789,764	18,631,685	06/08/2022	06/08/2023	TRS Bond Index			00830Y-AB-7	Africa Finance Corp-SENIOR UNSECURED	1	18,789,764	18,631,685
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		16,670,842	16,076,862	06/08/2022	06/08/2023	TRS Bond Index			74340X-BH-3	Prologis LP-SENIOR UNSECURED	1	16,670,842	16,076,862
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		14,000,000	13,209,504	06/08/2022	06/08/2023	TRS Bond Index			67592R-AC-7	Wells Fargo-OCT53 2021-1A B	1	14,000,000	13,209,504
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		28,959,277	28,046,528	06/08/2022	06/08/2023	TRS Bond Index			911312-AJ-5	UNITED PARCEL SERVICE IN-SENIOR UNSECURED NOTE	1	28,959,277	28,046,528
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,500,000	6,648,585	06/08/2022	06/08/2023	TRS Bond Index			06654D-AB-3	Banner Health-UNSECURED	1	7,500,000	6,648,585
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,046,868	2,879,539	06/08/2022	06/08/2023	TRS Bond Index			06051G-GA-1	BANK OF AMERICA CORP-SENIOR UNSECURED	1	3,046,868	2,879,539
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		136,412,335	136,412,335	06/08/2022	06/08/2023	TRS Bond Index			57542Z-A7-2	MM Investment Holding Revolver Floating Line	2	136,412,335	136,412,335

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		15,000,000	14,150,805	06/08/2022	06/08/2023	TRS Bond Index			671020-AZ-1	QHA Credit Partners VII -SERIES 2012-7A CLASS BR3	1	15,000,000	14,150,805
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	150,000,000	9,900,000	(15,669,777)	08/30/2019	08/30/2034	Interest Rate Swap		(25,159,303)	69688X-AU-5	Palmer Square CLO 2014-1-SERIES 2014-1A CLASS A2RR	1	9,900,000	9,489,526
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		2,234,841	2,379,232	08/30/2019	08/30/2034	Interest Rate Swap			281378-AB-5	EDUCATIONAL SERVICES OF -SERIES 2015-1 CLASS B	1	2,234,841	2,379,232
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		2,365,567	2,350,739	08/30/2019	08/30/2034	Interest Rate Swap			281377-AB-9	EDUCATIONAL SERVICES OF -SERIES 2014-2 CLASS B	1	2,365,567	2,350,739
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		944,371	874,947	08/30/2019	08/30/2034	Interest Rate Swap			19458L-BD-1	COLLEGIATE FUNDING SERVI-SERIES 2005-A CLASS B	1	944,371	874,947
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		17,085,719	16,751,110	08/30/2019	08/30/2034	Interest Rate Swap			03666H-AA-9	Antares Holdings LP-SENIOR UNSECURED	2	17,085,719	16,751,110
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		4,196,691	4,197,632	08/30/2019	08/30/2034	Interest Rate Swap			445658-CE-5	JOB HUNT TRANSPRT SVCS-SR UNSECURED	2	4,196,691	4,197,632
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		12,242,787	11,757,038	08/30/2019	08/30/2034	Interest Rate Swap			708696-BY-4	Pennsylvania Electric Co-SENIOR UNSECURED	2	12,242,787	11,757,038
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		23,975,810	23,313,194	08/30/2019	08/30/2034	Interest Rate Swap			806851-AK-7	Schlumberger Holdings Co-SENIOR UNSECURED	2	23,975,810	23,313,194
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		20,599,588	20,378,898	08/30/2019	08/30/2034	Interest Rate Swap			10510K-AC-1	BRAMBLES USA INC-SR UNSECURED HONEYWELL INTERNATIONAL -	2	20,599,588	20,378,898
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		32,478,402	30,244,863	08/30/2019	08/30/2034	Interest Rate Swap			438516-BB-1	SENIORUNSECURED NOTE HONEYWELL INTERNATIONAL -SENIOR	1	32,478,402	30,244,863
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		25,010,588	23,689,151	08/30/2019	08/30/2034	Interest Rate Swap			438516-AT-3	NOTE ANCHORAGE CAPITAL CLO 1-ANCHC	1	25,010,588	23,689,151
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,447,798	15,149,158	08/30/2019	08/30/2034	Interest Rate Swap			03328Y-AA-2	2018-TRA A1	1	15,447,798	15,149,158
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		10,141,515	9,923,161	08/30/2019	08/30/2034	Interest Rate Swap			06761T-AJ-1	Barings Middle Market CI-BMM 2019-1A C	2	10,141,515	9,923,161
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		2,700,000	2,513,174	08/30/2019	08/30/2034	Interest Rate Swap			125550-AI-6	CIFC Funding 2020-I Ltd-CIFC 2020-1A DR	2	2,700,000	2,513,174
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		2,700,000	2,466,412	08/30/2019	08/30/2034	Interest Rate Swap			06762J-AG-8	Babson CLO Ltd/Cayman Is-BABSN 2021-2A D	2	2,700,000	2,466,412
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	200,000,000	19,724,728	(29,462,241)	08/30/2019	08/30/2039	Interest Rate Swap		(44,019,073)	683304-AY-3	PECO Energy Co-SECURED	1	19,724,728	14,556,832
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,940,971	15,771,532	08/30/2019	08/30/2039	Interest Rate Swap			579780-AN-7	MCCORMICK & CO INC/MID-SENIOR UNSECURED	2	15,940,971	15,771,532
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		17,550,453	14,579,538	08/30/2019	08/30/2039	Interest Rate Swap			90932K-AA-7	United Airlines 2019-2 C-UNTD AIR 19-2 B FIXED	3	17,550,453	14,579,538
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		14,331,296	13,843,954	08/30/2019	08/30/2039	Interest Rate Swap			22822V-AE-1	CROWN CASTLE INTL CORP-SENIOR UNSECURED	2	14,331,296	13,843,954
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		29,223,952	29,251,021	08/30/2019	08/30/2039	Interest Rate Swap			378272-AF-5	GLENCORE FUNDING LLC-SENIOR UNSECURED NOTE	2	29,223,952	29,251,021
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		26,336,107	24,158,071	08/30/2019	08/30/2039	Interest Rate Swap			05369A-AA-9	Aviation Capital Group L-SENIOR UNSECURED	2	26,336,107	24,158,071
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		45,350,000	45,219,483	08/30/2019	08/30/2039	Interest Rate Swap			592688-B8-3	Mettler-Toledo Internati Senior Note Ser	2	45,350,000	45,219,483
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		10,000,000	9,685,650	08/30/2019	08/30/2039	Interest Rate Swap			290015-AN-6	Elmwood CLO I Ltd-ELMW1 2019-1A BR	1	10,000,000	9,685,650
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		7,850,000	7,571,663	08/30/2019	08/30/2039	Interest Rate Swap			48661Q-AE-1	Kayne CLO 9 Ltd-SERIES 20-9A CLASS B1	1	7,850,000	7,571,663
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,000,000	14,495,220	08/30/2019	08/30/2039	Interest Rate Swap			04019L-AL-8	ARES LI CLO Ltd-ARES 2019-51A AIR	1	15,000,000	14,495,220
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,000,000	14,413,950	08/30/2019	08/30/2039	Interest Rate Swap			17180W-AC-9	CIFC Funding 2018-II Ltd-CIFC 2018-2A A2	1	15,000,000	14,413,950
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		11,750,000	11,335,542	08/30/2019	08/30/2039	Interest Rate Swap			55821A-AC-2	Madison Park Funding Ltd-SERIES 18-28A CLASS A2	1	11,750,000	11,335,542
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		35,500,000	29,471,177	08/30/2019	08/30/2039	Interest Rate Swap			06762X-AA-0	Barings Clo Ltd 2020-III-BABSN 2020-3A B	2	35,500,000	29,471,177
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	200,000,000	925,643	(53,044,425)	08/30/2019	08/30/2049	Interest Rate Swap		(53,929,776)	984851-AF-2	Yara International ASA-SENIOR UNSECURED	2	925,643	885,351
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		30,166,856	29,441,394	08/30/2019	08/30/2049	Interest Rate Swap			28176E-AD-0	Edwards Lifesciences Cor-SENIOR UNSECURED	2	30,166,856	29,441,394

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		36,993,235	36,308,397	08/30/2019	08/30/2049	Interest Rate Swap				361448-BG-6	GATX Corp-SENIOR UNSECURED	2	36,993,235	36,308,397
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		17,610,573	17,134,628	08/30/2019	08/30/2049	Interest Rate Swap				120568-AX-8	BUNGE LTD FINANCE CORP-SENIOR UNSECURED	2	17,610,573	17,134,628
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		21,233,289	20,252,570	08/30/2019	08/30/2049	Interest Rate Swap				00908P-AC-1	Air Canada 2017-1 Class -SECURED CHURCH & DWIGHT CO INC-SENIOR UNSECURED	2	21,233,289	20,252,570
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		5,160,899	5,172,058	08/30/2019	08/30/2049	Interest Rate Swap				171340-AN-2	Schneider Electric SE-SENIOR UNSECURED NOTE	2	5,160,899	5,172,058
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		10,244,103	10,226,109	08/30/2019	08/30/2049	Interest Rate Swap				80687P-AA-4	DTE Electric Co-SECURED	1	10,244,103	10,226,109
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		45,165,650	39,731,363	08/30/2019	08/30/2049	Interest Rate Swap				23338V-AE-6	MM Investment Holding Revolver	1	45,165,650	39,731,363
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		97,999,997	98,000,000	08/30/2019	08/30/2049	Interest Rate Swap				57542Z-A9-8	Fixed Line	2	97,999,997	98,000,000
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	306,000,000	75,000,000	(4,560,566)	09/03/2019	09/03/2049	Interest Rate Swap		(80,165,891)		30290Y-AC-5	FS Global Credit Opportu-FS GLOBAL CREDIT	1	75,000,000	75,605,325
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,459,838	10,355,872	09/03/2019	09/03/2049	Interest Rate Swap				801060-AD-6	Sanofi-SENIOR UNSECURED	1	10,459,838	10,355,872
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,059,085	6,821,983	09/03/2019	09/03/2049	Interest Rate Swap				00108W-AH-3	AEP Texas Inc-SENIOR UNSECURED	2	7,059,085	6,821,983
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,200,000	20,731,794	09/03/2019	09/03/2049	Interest Rate Swap				892331-AD-1	Toyota Motor Corp-SENIOR UNSECURED	1	21,200,000	20,731,794
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,693,296	20,498,889	09/03/2019	09/03/2049	Interest Rate Swap				79466L-AF-1	salesforce.com Inc-SENIOR UNSECURED	1	20,693,296	20,498,889
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,059,269	6,870,641	09/03/2019	09/03/2049	Interest Rate Swap				369550-BC-1	General Dynamics Corp-SENIOR UNSECURED	1	7,059,269	6,870,641
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,830,869	23,511,007	09/03/2019	09/03/2049	Interest Rate Swap				892330-AC-5	Toyota Industries Corp-SENIOR UNSECURED	1	23,830,869	23,511,007
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		35,000,000	34,274,730	09/03/2019	09/03/2049	Interest Rate Swap				501886-AT-0	LCM XVIII LP-LCM 18A A1R Canyon Capital CLO Ltd-CANYC 2012-1RA A	1	35,000,000	34,274,730
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		45,000,000	44,298,765	09/03/2019	09/03/2049	Interest Rate Swap				13876J-AC-6	Federal Realty Investmen-SENIOR UNSECURED	1	45,000,000	44,298,765
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,306,781	2,295,099	09/03/2019	09/03/2049	Interest Rate Swap				313747-AU-1	MM Investment Holding Revolver	2	2,306,781	2,295,099
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		144,999,995	145,000,000	09/03/2019	09/03/2049	Interest Rate Swap				57542Z-A9-8	Fixed Line	2	144,999,995	145,000,000
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	255,000,000	129,999,996	64,247,251	09/03/2019	09/03/2049	Interest Rate Swap		(65,752,749)		57542Z-A9-8	Fixed Line	2	129,999,996	130,000,000
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,945,957	7,691,652	09/03/2019	09/03/2049	Interest Rate Swap				06406R-AF-4	Bank of New York Mellon -SENIOR UNSECURED	1	7,945,957	7,691,652
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,364,412	2,418,346	09/03/2019	09/03/2049	Interest Rate Swap				90932P-AA-6	United Airlines 2014-1 C-SECURED NOTE	2	2,364,412	2,418,346
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,837,942	12,426,845	09/03/2019	09/03/2049	Interest Rate Swap				60682Z-AV-6	Mitsubishi UFJ Financial-SENIOR UNSECURED	1	12,837,942	12,426,845
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,083,898	3,082,537	09/03/2019	09/03/2049	Interest Rate Swap				857477-AN-3	State Street Corp-SR UNSECURED	1	3,083,898	3,082,537
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,800,000	6,585,159	09/03/2019	09/03/2049	Interest Rate Swap				631005-BH-7	Narragansett Electric Co-SENIOR UNSECURED	1	6,800,000	6,585,159
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,375,757	2,365,158	09/03/2019	09/03/2049	Interest Rate Swap				532457-AZ-1	Eli Lilly & Co-SENIOR UNSECURED	1	2,375,757	2,365,158
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,975,242	1,973,627	09/03/2019	09/03/2049	Interest Rate Swap				06366R-JJ-5	BANK OF MONTREAL-SR UNSECURED	1	1,975,242	1,973,627
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,102,813	11,972,467	09/03/2019	09/03/2049	Interest Rate Swap				09062X-AF-0	BIOGEN INC-SR UNSECURED	2	12,102,813	11,972,467
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,235,430	3,059,127	09/03/2019	09/03/2049	Interest Rate Swap				46625H-JY-7	JPMorgan Chase & Co-SUBORDINATED NOTE	1	3,235,430	3,059,127
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,694,533	2,676,830	09/03/2019	09/03/2049	Interest Rate Swap				452308-AX-7	Illinois Tool Works Inc-SENIOR UNSECURED	1	2,694,533	2,676,830
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		29,328,473	29,271,044	09/03/2019	09/03/2049	Interest Rate Swap				254687-CP-9	Walt Disney Co/The-SENIOR UNSECURED	1	29,328,473	29,271,044
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,620,166	7,233,396	09/03/2019	09/03/2049	Interest Rate Swap				313747-AY-3	Federal Realty Investmen-SENIOR UNSECURED	2	7,620,166	7,233,396

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,465,534	6,610,730	09/03/2019	09/03/2049	Interest Rate Swap				477143-AJ-0	JetBlue 2019-1 Class A P-JETBLUE 19-1 A	2	7,465,534	6,610,730
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,194,606	5,995,332	09/03/2019	09/03/2049	Interest Rate Swap				670346-AP-0	Nucor Corp-SENIOR UNSECURED SLM STUDENT LOAN TRUST-SERIES 2006-2 CLASS B	1	6,194,606	5,995,332
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,074,100	1,954,623	09/03/2019	09/03/2049	Interest Rate Swap				784426-RY-4	Kingsland VI Ltd-KING 2013-6A AR Steele Creek CLO 2014-1 -SERIES 14-1RA CLASS A	1	2,074,100	1,954,623
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		100,000,000	98,084,800	09/03/2019	09/03/2049	Interest Rate Swap				420860-AA-9	CIFC Funding 2020-I Ltd-CIFC 2020-1A A1R	1	100,000,000	98,084,800
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	110,000,000	82,394,041	01/08/2020	01/08/2032	Interest Rate Swap		(25,815,159)		85816W-AC-8	ALM XIV Ltd-SERIES 14-14A CLASS A1R2	1	110,000,000	108,209,200
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		72,155,000	69,946,913	01/08/2020	01/08/2032	Interest Rate Swap				125550-AN-6	CIFC Funding 2014-V Ltd-CIFC 2014-5A A1R2	1	72,155,000	69,946,913
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,900,000	15,640,512	01/08/2020	01/08/2032	Interest Rate Swap				74988L-AA-2	Wind River CLO Ltd-SERIES 18-3A CLASS A2	1	15,900,000	15,640,512
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,479,629	15,240,778	01/08/2020	01/08/2032	Interest Rate Swap				12550A-AT-3	Ares XXVII CLO Ltd-ARES 2013-2A BR2	1	15,479,629	15,240,778
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,449,620	01/08/2020	01/08/2032	Interest Rate Swap				88432U-AC-0	00190Y-BF-1	1	15,000,000	14,449,620
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,900,000	11,305,000	01/08/2020	01/08/2032	Interest Rate Swap				00190Y-BF-1	Ballyrock CLO 2018-1 Ltd	1	11,900,000	11,305,000
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,835,242	24,415,900	01/08/2020	01/08/2032	Interest Rate Swap				05875H-AA-1	KKR Wolverine I Ltd Class A Senior	1	24,835,242	24,415,900
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,241,173	16,987,452	01/08/2020	01/08/2032	Interest Rate Swap				48251C-AA-6	COOF Onshore Co-Borrower Revolving Loan	1	18,241,173	16,987,452
57629*EW7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	216,000,000	190,027,036	01/08/2020	01/08/2035	Interest Rate Swap		(25,972,964)		12499F-MM-8	Morgan Stanley-SENIOR UNSECURED Hofer Financial Services Senior Note Ser	1	216,000,000	216,000,000
57629*EW7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,004,883	10,241,924	01/08/2020	01/08/2035	Interest Rate Swap				61744Y-AK-4	TPF Equity REIT Operatin Gtd Senior Note	1	11,004,883	10,241,924
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	400,000,000	74,770,000	(16,675,140)	02/11/2020	02/11/2050	Interest Rate Swap		(90,491,673)		A3158F-AC-3	AquaSure Finance Pty Ltd Gtd Senior Secu	1	74,770,000	73,816,533
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		79,100,000	77,583,416	02/11/2020	02/11/2050	Interest Rate Swap				87278*-AD-4	Johnson Matthey PLC Senior Note Ser	1	79,100,000	77,583,416
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		57,050,000	57,471,542	02/11/2020	02/11/2050	Interest Rate Swap				00458*-AB-5	Safran Senior Note Ser	1	57,050,000	57,471,542
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		59,800,000	57,019,599	02/11/2020	02/11/2050	Interest Rate Swap				G5147*-AD-8	Australia Pacific Airpor Gtd Senior Note	1	59,800,000	57,019,599
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		62,900,000	63,090,335	02/11/2020	02/11/2050	Interest Rate Swap				786584-AF-9	Anchorage Capital CLO 3-ANCHC 2014-3RA C	2	62,900,000	63,090,335
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		62,800,000	63,133,320	02/11/2020	02/11/2050	Interest Rate Swap				00832*-AD-8	AGL CLO Ltd-AGL 2021-10A B	1	62,800,000	63,133,320
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,022,963	02/11/2020	02/11/2050	Interest Rate Swap				03330A-AE-2	Babson CLO Ltd/Cayman Is-BABSN 2021-2A B	1	7,500,000	7,022,963
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,750,000	6,309,880	02/11/2020	02/11/2050	Interest Rate Swap				00119Y-AC-7	Neuberger Berman CLO Ltd-NEUB 2021-44A B	1	6,750,000	6,309,880
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,025,000	11,229,907	02/11/2020	02/11/2050	Interest Rate Swap				06762J-AC-7	Bain Capital Credit CLO -BCC 2021-5A B	1	12,025,000	11,229,907
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,900,000	11,236,706	02/11/2020	02/11/2050	Interest Rate Swap				64133V-AC-1	AGL CLO 10 Ltd-AGL 2021-10A A ANCHORAGE CREDIT FUNDING-SERIES 18-5A CLASS A	1	11,900,000	11,236,706
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,100,000	5,721,733	02/11/2020	02/11/2050	Interest Rate Swap				05682E-AE-3	Rad CLO 12 Ltd-RAD 2021-12A B	1	6,100,000	5,721,733
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,588,762	14,447,385	02/11/2020	02/11/2050	Interest Rate Swap				00119Y-AA-1	Benefit Street Partners -BSP 2022-27A B1	1	14,588,762	14,447,385
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,000,000	13,860,252	02/11/2020	02/11/2050	Interest Rate Swap				03330P-AA-7	KKR CLO 30 Ltd-KKR 30A BR	1	14,000,000	13,860,252
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,100,000	12,364,409	02/11/2020	02/11/2050	Interest Rate Swap				75009P-AC-1	Barings Middle Market CL-BMM 2018-1A A2	1	13,100,000	12,364,409
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	10,000,000	02/11/2020	02/11/2050	Interest Rate Swap				08179P-AE-2		1	10,000,000	10,000,000
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,625,000	6,302,442	02/11/2020	02/11/2050	Interest Rate Swap				48250E-AS-4		1	6,625,000	6,302,442
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	185,000,000	23,279,421	(20,648,244)	02/20/2020	02/20/2050	Interest Rate Swap		(44,457,419)		06761M-AB-3		1	23,279,421	23,809,175

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,500,000	5,255,162	02/20/2020	02/20/2050	Interest Rate Swap			55820B-AL-1	Madison Park Funding XLV-MDPK 2020-45A BR	1	5,500,000	5,255,162
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,337,120	02/20/2020	02/20/2050	Interest Rate Swap			38137Y-AS-0	Goldentree Loan Managem-GLM 2019-4A BR	1	15,000,000	14,337,120
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,500,000	11,130,632	02/20/2020	02/20/2050	Interest Rate Swap			282523-AM-1	1828 CLO Ltd-GUGG4 2016-1A A1JR ... CARLYLE US CLO 2018-3 LT-CGMS 2018-3A A1B	1	11,500,000	11,130,632
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,684,616	02/20/2020	02/20/2050	Interest Rate Swap			14317R-AC-3	Oak Hill Credit Partners-OAKC 2020-5A B	1	8,000,000	7,684,616
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,700,000	7,309,433	02/20/2020	02/20/2050	Interest Rate Swap			67113G-AG-2	Neuberger Berman CLO XIV-NEUB 2013-14A BR2	1	7,700,000	7,309,433
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,200,000	8,892,674	02/20/2020	02/20/2050	Interest Rate Swap			64129J-BG-4	Eaton Vance CLO 2018-1 L-EATON 2018-1A B	1	9,200,000	8,892,674
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,680,408	02/20/2020	02/20/2050	Interest Rate Swap			27831B-AE-3	Madison Park Funding XXX-MDPK 2021-39A B	1	8,000,000	7,680,408
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,700,000	13,933,013	02/20/2020	02/20/2050	Interest Rate Swap			55821L-AC-8	MP CLO III LTD-IMP3 2013-1A AR Wind River CLO Ltd-SERIES 18-3A CLASS B	1	14,700,000	13,933,013
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,500,000	14,193,934	02/20/2020	02/20/2050	Interest Rate Swap			553205-AC-9	BALLYROCK CLO 2018-1 LTD-SERIES 2018-1A CLASS A2	1	14,500,000	14,193,934
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,500,000	9,039,554	02/20/2020	02/20/2050	Interest Rate Swap			88432U-AE-6	Anchorage Capital CLO 7 -ANCHC 2015-7A BR2 FLOATING	1	9,500,000	9,039,554
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,154,730	3,053,261	02/20/2020	02/20/2050	Interest Rate Swap			05875H-AC-7	RR Ltd-RRAM 2018-5A A2	1	3,154,730	3,053,261
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,950,000	9,578,099	02/20/2020	02/20/2050	Interest Rate Swap			03328T-BC-8	ALM Ltd/KY-SERIES 21-14A CLASS A2 Wind River CLO Ltd-WINDR 2021-1A B1	1	9,950,000	9,578,099
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,739,216	02/20/2020	02/20/2050	Interest Rate Swap			74979V-AE-3	Madison Park Funding XXI-MDPK 2018-29A B	1	8,000,000	7,739,216
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	18,887,000	02/20/2020	02/20/2050	Interest Rate Swap			74980P-AC-7	LCM XVIII LP-LCM 19A BR GT Loan Financing I Ltd -SERIES 2013-1A CLASS BR	1	20,000,000	18,887,000
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,700,000	7,173,405	02/20/2020	02/20/2050	Interest Rate Swap			97314H-AC-3	Sound Point Clo XXXI Ltd-SNDPT 2021-3A B	1	7,700,000	7,173,405
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,625,480	02/20/2020	02/20/2050	Interest Rate Swap			55820C-AG-0	CenterPoint Properties T Senior Note Ser RREEF America REIT II, I Senior Unsecured Notes	1	10,000,000	9,625,480
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,898,171	02/20/2020	02/20/2050	Interest Rate Swap			50188Q-AL-5	KREF Lending VII LLC - Term Loan Series 2019-7	1	7,000,000	6,898,171
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,765,318	02/20/2020	02/20/2050	Interest Rate Swap			36248M-AL-1	Peace Park CLO Ltd-PCEPK 2021-1A A	1	7,000,000	6,765,318
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,100,000	9,484,799	02/20/2020	02/20/2050	Interest Rate Swap			83615P-AC-1	THL Credit Wind River 20-WINDR 2017-1A BR	1	10,100,000	9,484,799
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,135,000	13,956,701	02/20/2020	02/20/2050	Interest Rate Swap			151895-D*-7	TICP CLO VI 2016-2 Ltd-TICP 2016-6A AR2	1	14,135,000	13,956,701
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	13,538,250	02/20/2020	02/20/2050	Interest Rate Swap			74986B-BB-6	Atrium IX-ATRM 9A BR2 Goldentree Loan Managem-SERIES 19-4A CLASS AJR	1	15,000,000	13,538,250
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	215,000,000	51,250,853	(663,084)	02/20/2020	02/20/2050	Interest Rate Swap		(51,913,937)	50079B-MS-5	Peace Park CLO Ltd-PCEPK 2021-1A A	1	51,250,853	51,250,853
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,300,000	23,532,776	02/20/2020	02/20/2050	Interest Rate Swap			70470M-AC-9	THL Credit Wind River 20-WINDR 2017-1A BR	1	24,300,000	23,532,776
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,000,000	20,528,200	02/20/2020	02/20/2050	Interest Rate Swap			97315T-AE-2	TICP CLO VI 2016-2 Ltd-TICP 2016-6A AR2	1	22,000,000	20,528,200
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		26,113,261	25,494,289	02/20/2020	02/20/2050	Interest Rate Swap			87246M-AS-1	Atrium IX-ATRM 9A BR2 Goldentree Loan Managem-SERIES 19-4A CLASS AJR	1	26,113,261	25,494,289
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,000,000	20,288,856	02/20/2020	02/20/2050	Interest Rate Swap			55821C-AC-8	TIAA CLO I Ltd-TIA 2016-1A AR Flatiron CLO 18 Ltd-FLAT 2018-1A A	1	21,000,000	20,288,856
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,000,000	23,080,896	02/20/2020	02/20/2050	Interest Rate Swap			38137Y-AQ-4	Kingsland Ltd-SERIES 18-8A CLASS A	1	24,000,000	23,080,896
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		48,000,000	46,825,008	02/20/2020	02/20/2050	Interest Rate Swap			87271L-AJ-1	Millennium Pipeline Comp Senior Secured	1	48,000,000	46,825,008
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,000,000	26,538,138	02/20/2020	02/20/2050	Interest Rate Swap			33883G-AA-5	Millennium Pipeline Comp Senior Secured	1	27,000,000	26,538,138
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,100,000	7,924,886	02/20/2020	02/20/2050	Interest Rate Swap			42086P-AC-7	Millennium Pipeline Comp Senior Secured	1	8,100,000	7,924,886
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,940,102	21,566,949	02/20/2020	02/20/2050	Interest Rate Swap			60040F-AB-8	Millennium Pipeline Comp Senior Secured	1	19,940,102	21,566,949

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	51,500,000	(15,540,861)	02/25/2020	02/25/2050	Interest Rate Swap		(65,923,260)	65791#-AA-9	Manchester United Football Club, Ltd Senior Secu	1	51,500,000	50,382,399
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		106,999,996	107,000,000	02/25/2020	02/25/2050	Interest Rate Swap			57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	106,999,996	107,000,000
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		39,500,000	37,201,298	02/25/2020	02/25/2050	Interest Rate Swap			Q8396#-AK-7	Victoria Power Networks Gtd Senior Note	1	39,500,000	37,201,298
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,240,137	25,244,516	02/25/2020	02/25/2050	Interest Rate Swap			04351L-AA-8	Ascension Health-UNSECURED BOND	1	24,240,137	25,244,516
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		29,334,636	28,970,857	02/25/2020	02/25/2050	Interest Rate Swap			46247#-AA-2	Iowa Interstate Railroad Senior Secured	1	29,334,636	28,970,857
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		56,365,748	56,365,750	02/25/2020	02/25/2050	Interest Rate Swap			57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	56,365,748	56,365,750
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,225,000	18,334,368	02/25/2020	02/25/2050	Interest Rate Swap			Q3950#-AJ-5	GAIF Bond Issuer Pty Ltd Gtd Senior Note	1	18,225,000	18,334,368
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	37,900,000	(27,896,519)	02/25/2020	02/25/2050	Interest Rate Swap		(65,348,238)	Q3920#-AL-3	Fonterra Co-operative Gr Senior Unsecured Notes	1	37,900,000	37,451,719
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		42,700,000	42,387,393	02/25/2020	02/25/2050	Interest Rate Swap			838515-G*-9	South Jersey Gas Co. First Mortgage	1	42,700,000	42,387,393
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,200,000	29,852,821	02/25/2020	02/25/2050	Interest Rate Swap			23325P-A*-5	DNP Select Income Fund I Senior Secured	1	30,200,000	29,852,821
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		36,150,000	39,655,863	02/25/2020	02/25/2050	Interest Rate Swap			Q3535#-AD-8	Envestra Victoria Pty Lt Senior Secured	1	36,150,000	39,655,863
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		39,000,000	38,485,629	02/25/2020	02/25/2050	Interest Rate Swap			74986#-AV-3	FREF AMERICA REIT II INC SR UNSEC NT SER D	1	39,000,000	38,485,629
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		38,250,000	36,982,242	02/25/2020	02/25/2050	Interest Rate Swap			Q3920#-AG-4	Fonterra Co-operative Gr Senior Note	1	38,250,000	36,982,242
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		31,036,721	28,240,988	02/25/2020	02/25/2050	Interest Rate Swap			87305Q-CM-1	TTX CO-SENIOR UNSECURED KEYCORP STUDENT LOAN TRU-SERIES	1	31,036,721	28,240,988
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		959,715	851,143	02/25/2020	02/25/2050	Interest Rate Swap			49326B-BW-5	2004-A CLASS 1B	1	959,715	851,143
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,900,000	7,529,767	02/25/2020	02/25/2050	Interest Rate Swap			92916Q-AC-6	VOYA CLO 2017-4 LTD-SERIES 17-4A CLASS B	1	7,900,000	7,529,767
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,050,000	6,570,431	02/25/2020	02/25/2050	Interest Rate Swap			04016P-AN-8	Ares XLIII CLO Ltd-SERIES 2017-43A CLASS CR	1	7,050,000	6,570,431
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,672,484	02/25/2020	02/25/2050	Interest Rate Swap			14315R-AE-1	Carlyle Global Market St-SERIES 18-4A CLASS A2	1	7,000,000	6,672,484
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		45,500,000	44,220,631	02/25/2020	02/25/2050	Interest Rate Swap			27889*-AM-1	ECOM Atlantic Inc - Guaranteed Series A Senior Note	1	45,500,000	44,220,631
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	38,900,000	(33,497,976)	02/26/2020	02/26/2050	Interest Rate Swap		(71,005,006)	Q6235#-AN-2	Mirvac Group Finance Ltd Senior Note	1	38,900,000	37,507,030
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		34,080,000	33,520,781	02/26/2020	02/26/2050	Interest Rate Swap			74979U-AA-3	RS 2018 Private, LLC Senior Secured	1	34,080,000	33,520,781
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		35,600,000	35,533,036	02/26/2020	02/26/2050	Interest Rate Swap			05565E-G8-8	BMW U.S. Capital LLC Gtd Senior Note	1	35,600,000	35,533,036
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		38,150,000	37,084,203	02/26/2020	02/26/2050	Interest Rate Swap			Q3189*-AC-3	DEXUS Funds Management L Senior Note Ser	1	38,150,000	37,084,203
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		37,600,000	37,680,050	02/26/2020	02/26/2050	Interest Rate Swap			00003#-AB-9	A&E Television Networks, Senior Note Ser	1	37,600,000	37,680,050
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		31,100,000	30,555,315	02/26/2020	02/26/2050	Interest Rate Swap			74264*-AC-0	PRIISA LHC Senior Note Ser	1	31,100,000	30,555,315
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		32,900,000	32,599,358	02/26/2020	02/26/2050	Interest Rate Swap			48661E-B*-8	KAYNE ANDERSON MID/ENERGY-SR UNSEC SER D	1	32,900,000	32,599,358
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,000,000	15,368,528	02/26/2020	02/26/2050	Interest Rate Swap			65023P-AQ-3	Newark BSL CLO 2 Ltd-NBCL0 2017-1A A2R	1	16,000,000	15,368,528
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,850,000	9,392,123	02/26/2020	02/26/2050	Interest Rate Swap			48254H-AC-8	KKR CLO 32 Ltd-KKR 32A B	1	9,850,000	9,392,123
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,300,000	7,929,978	02/26/2020	02/26/2050	Interest Rate Swap			29002Q-AC-3	Elmwood CLO VII Ltd-ELM7 2020-4A B	1	8,300,000	7,929,978
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,125,000	4,768,797	02/26/2020	02/26/2050	Interest Rate Swap			05683H-AS-4	Bain Capital Credit CLO -BOC 2017-2A CR2	1	5,125,000	4,768,797
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,100,000	4,935,260	02/26/2020	02/26/2050	Interest Rate Swap			06760B-AJ-1	BABSON CLO LTD-SERIES 17-1A CLASS C	1	5,100,000	4,935,260

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		39,500,000	39,349,426	02/26/2020	02/26/2050	Interest Rate Swap			G2037*-AA-4	Chanel Limited Senior Note Series A	1	39,500,000	39,349,426
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1	250,000,000	50,000,000	(47,169,011)	06/15/2020	06/15/2050	Interest Rate Swap	(95,432,061)		143133-AA-4	CGMS 2021-6A A1	1	50,000,000	48,263,050
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		50,000,000	48,522,300	06/15/2020	06/15/2050	Interest Rate Swap			82670Q-AA-7	Signal Peak CLO 9 Ltd-SPEAK 2021-9A A1	1	50,000,000	48,522,300
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		13,100,000	12,635,304	06/15/2020	06/15/2050	Interest Rate Swap			037666-AQ-5	Apidos CLO XXVI-APID 2017-26A A2R	1	13,100,000	12,635,304
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		60,587,528	58,634,435	06/15/2020	06/15/2050	Interest Rate Swap			25255D-AA-8	Diameter Capital CLO 1 L-DOLO 2021-1A A1A	1	60,587,528	58,634,435
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		13,600,000	12,845,771	06/15/2020	06/15/2050	Interest Rate Swap			97316L-AC-2	THL Credit Wind River 20-WINDR 2017-3A BR	1	13,600,000	12,845,771
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		11,525,000	10,933,318	06/15/2020	06/15/2050	Interest Rate Swap			48252U-AJ-6	KKR Clo 25 Ltd-SERIES 25 CLASS BR	1	11,525,000	10,933,318
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		11,000,000	10,477,764	06/15/2020	06/15/2050	Interest Rate Swap			06759J-AS-7	Barings CLO Ltd 2019-I-SERIES 2019-1A CLASS BR	1	11,000,000	10,477,764
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		9,200,000	8,861,974	06/15/2020	06/15/2050	Interest Rate Swap			38809G-AC-9	GREYWOLF CLO VI Ltd-GWOLF 2018-1A A2	1	9,200,000	8,861,974
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		8,650,000	8,247,922	06/15/2020	06/15/2050	Interest Rate Swap			67400F-AE-1	OAKTREE CLO 2018-1 LTD SR SECD NT CL A-2	1	8,650,000	8,247,922
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		8,124,944	8,126,920	06/15/2020	06/15/2050	Interest Rate Swap			124166-AA-7	Buttermilk Park CLO Ltd-BMHLK 2018-1A A1	1	8,124,944	8,126,920
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		11,000,000	10,392,459	06/15/2020	06/15/2050	Interest Rate Swap			13875M-AC-0	Canyon CLO 2021-3 Ltd-CANYC 2021-3A B	1	11,000,000	10,392,459
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		7,200,000	6,969,866	06/15/2020	06/15/2050	Interest Rate Swap			06759M-AE-1	Babson CLO Ltd 2016-I-BABSN 2016-1A A2R	1	7,200,000	6,969,866
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		6,900,000	6,547,845	06/15/2020	06/15/2050	Interest Rate Swap			67110U-AN-9	QHA Loan Funding 2016-1 -OHALF 2016-1A B1R	1	6,900,000	6,547,845
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		6,700,000	6,414,131	06/15/2020	06/15/2050	Interest Rate Swap			87249C-AC-5	TICP CLO X LTD-SERIES 18-10A CLASS B	1	6,700,000	6,414,131
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		25,000,000	25,000,000	06/15/2020	06/15/2050	Interest Rate Swap			12499F-MM-8	COOF Onshore Co-Borrower Revolving Loan	1	25,000,000	25,000,000
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		6,028,116	6,048,416	06/15/2020	06/15/2050	Interest Rate Swap			87250R-AA-2	TICP CLO XV Ltd-TICP 2020-15A A ... Elmwood CLO IV Ltd-ELMIV 2020-1A B	1	6,028,116	6,048,416
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		5,800,000	5,524,419	06/15/2020	06/15/2050	Interest Rate Swap			29002G-AC-5	Rockford Tower CLO 2017-2 Ltd	1	5,800,000	5,524,419
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		5,750,000	5,551,924	06/15/2020	06/15/2050	Interest Rate Swap			77340G-AL-5	LCM 26 Ltd-SERIES 26A CLASS C	1	5,750,000	5,551,924
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		5,650,000	5,258,167	06/15/2020	06/15/2050	Interest Rate Swap			50200F-AG-4	TCW Direct Lending Structured Solutions 2019 LLC - Class A Note	1	5,650,000	5,258,167
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		5,250,000	5,080,488	06/15/2020	06/15/2050	Interest Rate Swap			12555X-AG-6	PRISA LHC, LLC Senior Note Series C	1	5,250,000	5,080,488
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		17,573,684	17,573,684	06/15/2020	06/15/2050	Interest Rate Swap			87241F-AA-0	Caterpillar Inc-SENIOR UNSECURED UnitedHealth Group Inc-SENIOR UNSECURED	1	17,573,684	17,573,684
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		17,700,000	17,625,448	06/15/2020	06/15/2050	Interest Rate Swap			74264*-AE-6	Carnegie Institution of -UNSECURED	1	17,700,000	17,625,448
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1	300,000,000	56,447,370	(70,242,450)	06/29/2020	06/29/2050	Interest Rate Swap	(116,549,551)		149123-CJ-8	Fred Hutchinson Cancer R-UNSECURED	1	56,447,370	46,307,101
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		50,523,738	36,635,113	06/29/2020	06/29/2050	Interest Rate Swap			91324P-EA-6	Emory University-UNSECURED	1	50,523,738	36,635,113
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		46,541,898	38,063,807	06/29/2020	06/29/2050	Interest Rate Swap			143499-AB-7	PIONEERS GATE LLC 2020-2 CERB	1	46,541,898	38,063,807
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		44,784,537	34,811,823	06/29/2020	06/29/2050	Interest Rate Swap			355611-AA-2	Carlyle Global Market St-CGMS 2021-3SA A2	1	44,784,537	34,811,823
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		12,893,638	11,368,378	06/29/2020	06/29/2050	Interest Rate Swap			29157T-AD-8	PIONEERS GATE LLC 2017-7 FNBM	1	12,893,638	11,368,378
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		80,690,909	80,674,771	06/29/2020	06/29/2050	Interest Rate Swap			72403Z-NR-1	Carlyle Global Market St-CGMS 2021-3SA A2	1	80,690,909	80,674,771
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		50,000,000	50,070,000	06/29/2020	06/29/2050	Interest Rate Swap			72403Z-MZ-4		1	50,000,000	50,070,000
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		6,700,000	6,328,914	06/29/2020	06/29/2050	Interest Rate Swap			14315D-AC-6		1	6,700,000	6,328,914

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,904,108	19,871,446	06/29/2020	06/29/2050	Interest Rate Swap			26442T-AH-0	Duke University-UNSECURED	1	25,904,108	19,871,446
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,635,981	20,267,238	06/29/2020	06/29/2050	Interest Rate Swap			06654D-AC-1	Banner Health-UNSECURED	1	25,635,981	20,267,238
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,750,000	11,163,005	06/29/2020	06/29/2050	Interest Rate Swap			50200F-AE-9	LOM 26 Ltd-SERIES 26A CLASS B	1	11,750,000	11,163,005
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,600,000	11,223,174	06/29/2020	06/29/2050	Interest Rate Swap			64130H-AN-1	Neuberger Berman Loan Ad-NEUB 2017-24A BR FLOATING	1	11,600,000	11,223,174
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,325,000	9,743,238	06/29/2020	06/29/2050	Interest Rate Swap			05683E-AQ-5	Bain Capital Credit CLO -BCC 2020-2A BR	1	10,325,000	9,743,238
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		43,827,180	41,823,007	06/29/2020	06/29/2050	Interest Rate Swap			44919*-AC-2	1 595 Express, LLC Senior Secured	1	43,827,180	41,823,007
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	161,034,783	16,600,000	(19,551,655)	07/13/2021	07/13/2022	TRS Bond Index		(36,141,546)	12656*-AD-4	CSLB Holdings, Inc. Gtd Senior Note	1	16,600,000	16,589,891
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		16,500,000	16,510,346	07/13/2021	07/13/2022	TRS Bond Index			12656*-AC-6	CSLB Holdings, Inc. Gtd Senior Note	1	16,500,000	16,510,346
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		16,500,000	16,269,396	07/13/2021	07/13/2022	TRS Bond Index			09194@-AC-1	Transpower New Zealand L Senior Note Ser	1	16,500,000	16,269,396
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		16,450,000	16,395,797	07/13/2021	07/13/2022	TRS Bond Index			674003-A*-9	Oaktree Capital Managemen Senior Note Ser	1	16,450,000	16,395,797
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,028,750	8,108,680	07/13/2021	07/13/2022	TRS Bond Index			02379*-AA-7	American Airlines Group Senior Secured Notes Class A	1	9,028,750	8,108,680
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		37,500,000	37,418,839	07/13/2021	07/13/2022	TRS Bond Index			91412N-AK-6	University of Chicago/Th-UNSECURED BOND	1	37,500,000	37,418,839
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		14,250,000	14,020,471	07/13/2021	07/13/2022	TRS Bond Index			486606-K*-2	KAYNE ANDERSON MLP INVT CO-SR UNSECD SER KK	1	14,250,000	14,020,471
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		15,000,000	14,918,250	07/13/2021	07/13/2022	TRS Bond Index			05616B-A*-1	BABSON CAPITAL PARTN INWS TR-SR CONV NT	1	15,000,000	14,918,250
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,500,000	12,887,316	07/13/2021	07/13/2022	TRS Bond Index			74170*-AN-9	Prime Property Fund LLC Senior Note Ser	1	13,500,000	12,887,316
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		11,900,000	11,262,386	07/13/2021	07/13/2022	TRS Bond Index			73020*-AK-9	PNG Companies LLC Senior Secured Austin Powder Holdings C Senior Note Ser	1	11,900,000	11,262,386
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,730,000	13,898,179	07/13/2021	07/13/2022	TRS Bond Index			05237*-AH-7	Oaktree Capital Managemen Senior Note Ser	1	13,730,000	13,898,179
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		14,325,000	14,184,329	07/13/2021	07/13/2022	TRS Bond Index			674003-A@-7	Oaktree Capital Managemen Senior Note Ser	1	14,325,000	14,184,329
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,175,000	6,833,721	07/13/2021	07/13/2022	TRS Bond Index			033291-AN-5	Anchorage Capital Clo 13-ANHC 2019-13A B1R	1	7,175,000	6,833,721
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	23,000,000	(48,169,845)	09/02/2020	09/02/2050	Interest Rate Swap		(70,113,731)	41242*-AY-8	Hardwood Funding LLC Senior Secured Note	1	23,000,000	21,943,886
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,190,000	21,772,806	09/02/2020	09/02/2050	Interest Rate Swap			Q7795#-AA-0	QIC Finance (Shopping Ce Gtd Senior Note Ser	1	22,190,000	21,772,806
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,700,000	7,255,633	09/02/2020	09/02/2050	Interest Rate Swap			949723-AC-4	Wellman Park CLO Ltd-SERIES 21-1A CLASS B	1	7,700,000	7,255,633
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,255,939	9,262,665	09/02/2020	09/02/2050	Interest Rate Swap			02376*-AA-0	American Airlines Group Senior Secured	1	10,255,939	9,262,665
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,600,000	21,961,562	09/02/2020	09/02/2050	Interest Rate Swap			05237*-AF-1	Austin Powder Holdings C Senior Note Ser	1	21,600,000	21,961,562
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,600,000	18,354,536	09/02/2020	09/02/2050	Interest Rate Swap			G2044@-BA-2	Compass Group PLC Senior Note Ser	1	18,600,000	18,354,536
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,483,491	16,020,910	09/02/2020	09/02/2050	Interest Rate Swap			929287-ZZ-6	WINGS Aviation 62696 USD Tranche A-1 Ln	1	17,483,491	16,020,910
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,400,000	19,298,971	09/02/2020	09/02/2050	Interest Rate Swap			12656*-AK-8	CSLB Holdings, Inc. Gtd Senior Note	1	20,400,000	19,298,971
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,100,000	21,068,730	09/02/2020	09/02/2050	Interest Rate Swap			G9850@-AC-7	YORKSHIRE WTR SERV BRADFORD-GTD SR SEC CL A	1	21,100,000	21,068,730
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,950,000	8,582,567	09/02/2020	09/02/2050	Interest Rate Swap			50184N-AP-7	LOM LTD PARTNERSHIP-SERIES 15A CLASS CR	1	8,950,000	8,582,567
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		28,006,538	25,146,877	09/02/2020	09/02/2050	Interest Rate Swap			141781-BJ-2	Cargill Inc-SENIOR UNSECURED	1	28,006,538	25,146,877
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,500,000	8,000,795	09/02/2020	09/02/2050	Interest Rate Swap			38136F-BJ-1	Goldentree Loan Managem-GLM 2017-1A B1R2	1	8,500,000	8,000,795

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,550,000	7,148,476	09/02/2020	09/02/2050	Interest Rate Swap				92917W-AY-4	Voya CLO 2018-4 Ltd-SERIES 18-4A CLASS BR	1	7,550,000	7,148,476
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,850,000	13,112,058	09/02/2020	09/02/2050	Interest Rate Swap				05684R-AE-2	Bain Capital Credit CLO-BCC 2021-2A	1	13,850,000	13,112,058
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,700,000	12,859,437	09/02/2020	09/02/2050	Interest Rate Swap				48255A-AC-2	KKR CLO 36 Ltd-KKR 36A B	1	13,700,000	12,859,437
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,500,000	5,221,057	09/02/2020	09/02/2050	Interest Rate Swap				08182B-AN-8	Benefit Street Partners -BSP 2019-17A BR	1	5,500,000	5,221,057
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,050,000	17,966,429	09/02/2020	09/02/2050	Interest Rate Swap				151895-C*-8	CenterPoint Properties T Senior Note Ser	1	18,050,000	17,966,429
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,900,000	17,158,331	09/02/2020	09/02/2050	Interest Rate Swap				74170*-AW-9	Prime Property Fund LLC Senior Note Series U	1	17,900,000	17,158,331
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	18,750,000	(51,038,878)	09/02/2020	09/02/2050	Interest Rate Swap		(69,977,803)		74170*-AC-3	Prime Property Fund LLC Senior Note Ser	1	18,750,000	18,938,925
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,100,000	19,670,182	09/02/2020	09/02/2050	Interest Rate Swap				56081F-CA-6	Major League Baseball Tr Series 44 Term Note	1	20,100,000	19,670,182
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,677,678	12,549,893	09/02/2020	09/02/2050	Interest Rate Swap				47715*-AA-5	JetBlue Airways Corporat Pass Thru Certi	1	12,677,678	12,549,893
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,450,000	20,492,597	09/02/2020	09/02/2050	Interest Rate Swap				G20446-AY-1	Compass Group PLC Senior Note Ser	1	20,450,000	20,492,597
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,700,000	18,204,562	09/02/2020	09/02/2050	Interest Rate Swap				41242*-AU-6	Hardwood Funding LLC Senior Note Ser	1	18,700,000	18,204,562
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,315,000	18,614,668	09/02/2020	09/02/2050	Interest Rate Swap				36198*-AA-4	GI Manager L.P. Senior Secured Notes	1	19,315,000	18,614,668
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,700,000	17,228,100	09/02/2020	09/02/2050	Interest Rate Swap				41242*-AX-0	Hardwood Funding LLC Senior Secured	1	17,700,000	17,228,100
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,204,794	9,209,145	09/02/2020	09/02/2050	Interest Rate Swap				00114*-AA-1	AEP TRANSMISSION CO LLC SR NT SER A	1	9,204,794	9,209,145
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,900,000	15,693,888	09/02/2020	09/02/2050	Interest Rate Swap				68233J-A8-3	Oncor Electric Delivery SR SEC0 NT SER B	1	15,900,000	15,693,888
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		94,468,663	105,324,234	09/02/2020	09/02/2050	Interest Rate Swap				931142-CS-0	WAL-MART STORES INC-SENIOR NOTE	1	94,468,663	105,324,234
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,700,000	26,542,805	09/02/2020	09/02/2050	Interest Rate Swap				38176D-AJ-8	GoLub Capital Partners C-GOCAP 2015-26A A2R	1	27,700,000	26,542,805
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	24,000,000	(46,461,528)	09/02/2020	09/02/2050	Interest Rate Swap		(70,230,240)		00114*-AR-4	AEP Transmission Company Senior Note Ser	1	24,000,000	23,768,712
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,700,000	26,392,769	09/02/2020	09/02/2050	Interest Rate Swap				G4622F-AB-5	Howard De Walden Estates Gtd Senior Note	1	25,700,000	26,392,769
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,750,000	24,708,074	09/02/2020	09/02/2050	Interest Rate Swap				G0646F-AN-9	Associated British Foods Senior Note Ser	1	24,750,000	24,708,074
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,900,000	23,294,637	09/02/2020	09/02/2050	Interest Rate Swap				57169*-AU-1	Mars, Inc. Senior Note Ser	1	23,900,000	23,294,637
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,750,000	22,069,486	09/02/2020	09/02/2050	Interest Rate Swap				Q6235F-AF-9	Mirvac Group Finance Ltd Gtd Senior Note	1	21,750,000	22,069,486
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,150,000	20,093,137	09/02/2020	09/02/2050	Interest Rate Swap				25763F-AE-0	Donaldson Co Inc Senior Note Ser	1	20,150,000	20,093,137
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		121,999,996	122,000,000	09/02/2020	09/02/2050	Interest Rate Swap				57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	121,999,996	122,000,000
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,000,000	12,708,319	09/02/2020	09/02/2050	Interest Rate Swap				48250W-AG-0	KKR CLO 14 Ltd-KKR 14 AR	1	13,000,000	12,708,319
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	8,500,000	(44,169,976)	09/02/2020	09/02/2050	Interest Rate Swap		(52,352,280)		74170*-AR-0	Prime Property Fund LLC Senior Note Ser	1	8,500,000	8,182,304
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,200,000	9,285,680	09/02/2020	09/02/2050	Interest Rate Swap				G1108F-AF-5	British Land Company PLC Senior Note Ser	1	9,200,000	9,285,680
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,500,000	8,206,750	09/02/2020	09/02/2050	Interest Rate Swap				41242*-BF-8	Hardwood Funding LLC Senior Secured	1	8,500,000	8,206,750
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,200,000	8,133,293	09/02/2020	09/02/2050	Interest Rate Swap				479142-E8-6	Johnson Matthey PLC Series A Senior Notes	1	8,200,000	8,133,293
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,750,000	8,330,388	09/02/2020	09/02/2050	Interest Rate Swap				151515-YY-3	Bridge Investment Group Senior Secured Notes	1	8,750,000	8,330,388
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,133,334	5,212,541	09/02/2020	09/02/2050	Interest Rate Swap				838515-F8-8	South Jersey Gas Co. Medium Term Not	1	5,133,334	5,212,541

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,386,855	7,321,617	09/02/2020	09/02/2050	Interest Rate Swap			184692-B8-9	Clearbridge Energy MLP F Senior Secured	1	7,386,855	7,321,617
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,386,855	7,141,997	09/02/2020	09/02/2050	Interest Rate Swap			184692-B#-7	Clearbridge Energy MLP Fd Inc-Senior Secured	1	7,386,855	7,141,997
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,283,646	4,886,606	09/02/2020	09/02/2050	Interest Rate Swap			05389L-AK-9	Avolon Aerospace Leasing Secured Note B7	1	5,283,646	4,886,606
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,137,516	6,240,165	09/02/2020	09/02/2050	Interest Rate Swap			C1466#-AA-6	OPR Leasing Ltd Senior Secured	2	6,137,516	6,240,165
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,950,000	7,197,323	09/02/2020	09/02/2050	Interest Rate Swap			92203#-AR-9	Yanguard Group, Inc. Senior Notes Series D	1	6,950,000	7,197,323
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,450,000	4,073,637	09/02/2020	09/02/2050	Interest Rate Swap			04018E-AE-1	Ares LIX CLO Ltd-ARES 2021-59A C1	1	4,450,000	4,073,637
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,953,806	4,598,806	09/02/2020	09/02/2050	Interest Rate Swap			05389L-AH-6	Avolon Aerospace Leasing Secured Note B7	1	4,953,806	4,598,806
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		93,779,334	84,020,238	09/02/2020	09/02/2050	Interest Rate Swap			055451-AV-0	BHP Billiton Finance USA-SR UNSECURED	1	93,779,334	84,020,238
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		32,723,981	32,372,689	09/02/2020	09/02/2050	Interest Rate Swap			90226#-AA-3	2014 REPLACEMENT PWR STATUTORY TR SR SECQ NT	1	32,723,981	32,372,689
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	13,864,000	(39,367,739)	09/02/2020	09/02/2050	Interest Rate Swap		(51,959,061)	78403D-AR-1	SBA Tower Trust-ASSET BACKED	1	13,864,000	12,591,322
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,700,000	6,733,312	09/02/2020	09/02/2050	Interest Rate Swap			74986#-AN-1	RREEF America REIT II, I Senior Note Ser	1	6,700,000	6,733,312
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,810,156	4,465,527	09/02/2020	09/02/2050	Interest Rate Swap			05389L-AA-1	Avolon Aerospace Leasing Secured Note A3	1	4,810,156	4,465,527
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,440,000	6,416,507	09/02/2020	09/02/2050	Interest Rate Swap			74170*-AD-1	Prime Property Fund LLC Senior Note Ser	1	6,440,000	6,416,507
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,785,449	4,442,787	09/02/2020	09/02/2050	Interest Rate Swap			05389L-AD-5	Avolon Aerospace Leasing Secured Note A3	1	4,785,449	4,442,787
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,798,909	5,499,813	09/02/2020	09/02/2050	Interest Rate Swap			05400F-AE-1	Avolon Aerospace Funding Senior Secured	1	5,798,909	5,499,813
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,779,851	5,498,401	09/02/2020	09/02/2050	Interest Rate Swap			05400F-AG-6	Avolon Aerospace Funding Senior Secured	1	5,779,851	5,498,401
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,500,807	6,409,199	09/02/2020	09/02/2050	Interest Rate Swap			184692-B*-1	Clearbridge Energy MLP Fd Inc-Senior Secured	1	6,500,807	6,409,199
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,401,984	5,126,191	09/02/2020	09/02/2050	Interest Rate Swap			05400F-AC-5	Avolon Aerospace Funding Senior Secured	1	5,401,984	5,126,191
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,200,000	5,880,789	09/02/2020	09/02/2050	Interest Rate Swap			393154-L8-6	Green Mountain Power Cor First Mtg Bond	1	5,200,000	5,880,789
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		36,609,354	30,902,670	09/02/2020	09/02/2050	Interest Rate Swap			45866F-AH-7	Intercontinental Exchange-SENIOR UNSECURED	1	36,609,354	30,902,670
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	19,395,820	09/02/2020	09/02/2050	Interest Rate Swap			55819D-AE-6	Madison Park Funding XXX-MDPK 2018-31A A2A	1	20,000,000	19,395,820
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		91,999,997	92,000,000	09/02/2020	09/02/2050	Interest Rate Swap			57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	91,999,997	92,000,000
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	6,500,000	(45,237,201)	09/02/2020	09/02/2050	Interest Rate Swap		(52,002,752)	90312*-AC-8	UNS Gas, Inc. Gtd Senior Note	1	6,500,000	6,765,551
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,294,409	2,284,203	09/02/2020	09/02/2050	Interest Rate Swap			46625H-JE-1	JPMORGAN CHASE & CO-SR UNSECURED	1	2,294,409	2,284,203
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,447,072	4,638,954	09/02/2020	09/02/2050	Interest Rate Swap			63080#-AA-5	NARA Caves Lease Trust Lease Backed Ce	1	4,447,072	4,638,954
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,400,000	5,328,742	09/02/2020	09/02/2050	Interest Rate Swap			47914Z-E#-4	Johnson Matthey PLC Series B Senior Notes	1	5,400,000	5,328,742
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,482,611	4,236,170	09/02/2020	09/02/2050	Interest Rate Swap			05400F-AA-9	Avolon Aerospace Funding Senior Secured	1	4,482,611	4,236,170
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,039,071	7,970,139	09/02/2020	09/02/2050	Interest Rate Swap			064159-SH-0	Bank of Nova Scotia/The-SENIOR UNSECURED	1	8,039,071	7,970,139
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		699,621	708,242	09/02/2020	09/02/2050	Interest Rate Swap			05577#-AN-0	BTMU Capital Corp. Equipment Note	1	699,621	708,242
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,630,000	16,445,322	09/02/2020	09/02/2050	Interest Rate Swap			216378-AA-7	Cooks Venture Inc-SECURED	1	16,630,000	16,445,322
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,986,029	18,875,747	09/02/2020	09/02/2050	Interest Rate Swap			06761T-AG-7	Barings Middle Market CI-BMM 2019-1A B	1	18,986,029	18,875,747

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,085,911	4,399,507	09/02/2020	09/02/2050	Interest Rate Swap			589331-AD-9	MERCK SHARP & DOHME CORP-DEBENTURE	1	4,085,911	4,399,507
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		928,829	903,503	09/02/2020	09/02/2050	Interest Rate Swap			05348E-AW-9	AVALONBAY COMMUNITIES IN-SR UNSECURED	1	928,829	903,503
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,500,000	4,400,276	09/02/2020	09/02/2050	Interest Rate Swap			74264*-AD-8	PRISA LHC LLC-SENIOR NOTE SER B	1	4,500,000	4,400,276
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	5,006,080	09/02/2020	09/02/2050	Interest Rate Swap			46513A-NC-0	ISRAEL STATE JUBILEE ISSUE BD 7TH SER	1	5,000,000	5,006,080
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,184,775	4,843,705	09/02/2020	09/02/2050	Interest Rate Swap			89236T-DR-3	Toyota Motor Credit Corp-SENIOR UNSECURED	1	5,184,775	4,843,705
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,750,000	3,845,648	09/02/2020	09/02/2050	Interest Rate Swap			018522-D8-8	ALLETE Inc. First Mortgage	1	3,750,000	3,845,648
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,870,527	3,780,179	09/02/2020	09/02/2050	Interest Rate Swap			18469P-A#-7	Clearbridge Energy MLP Op Fd Inc-Senior Secured	1	3,870,527	3,780,179
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,500,000	8,959,422	09/02/2020	09/02/2050	Interest Rate Swap			74980X-AC-0	ALM Ltd/KY-RRAM 2021-15A A2	1	9,500,000	8,959,422
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,767,648	3,680,017	09/02/2020	09/02/2050	Interest Rate Swap			18469Q-A#-5	Clearbridge Energy MLP Fd Inc-Senior Secured	1	3,767,648	3,680,017
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,250,000	8,569,478	09/02/2020	09/02/2050	Interest Rate Swap			64131T-AS-3	Neuberger Berman CLO XVI-SERIES 2017 CALSS 16SA	1	9,250,000	8,569,478
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,004,720	2,979,848	09/02/2020	09/02/2050	Interest Rate Swap			486606-J8-6	Kayne Anderson MLP Inves Senior Note Ser	1	3,004,720	2,979,848
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,761,000	1,733,200	09/02/2020	09/02/2050	Interest Rate Swap			84519#-AF-1	Southwest Power Pool, In Senior Note Ser	1	1,761,000	1,733,200
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,133,684	1,107,367	09/02/2020	09/02/2050	Interest Rate Swap			247358-LL-6	EAIV Delta MSN 15176	1	1,133,684	1,107,367
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,123,100	1,097,029	09/02/2020	09/02/2050	Interest Rate Swap			247358-VV-3	EAIV Delta MSN 15170	1	1,123,100	1,097,029
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		588,494	593,151	09/02/2020	09/02/2050	Interest Rate Swap			89838#-AA-5	Dartmouth College Senior Secured	1	588,494	593,151
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,960,596	1,952,401	09/02/2020	09/02/2050	Interest Rate Swap			18469Q-A#-7	Clearbridge Energy MLP TR Fd Inc-Senior Secured	1	1,960,596	1,952,401
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		50,000,000	48,397,650	09/02/2020	09/02/2050	Interest Rate Swap			03329F-AN-4	Anchorage Capital CLO 15-ANCHC 2020-15A AR	1	50,000,000	48,397,650
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,000,000	20,282,304	09/02/2020	09/02/2050	Interest Rate Swap			97316D-AA-4	Wind River CLO Ltd-WINDR 2021-3A A	1	21,000,000	20,282,304
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,425,000	6,154,373	09/02/2020	09/02/2050	Interest Rate Swap			08180X-AQ-5	Benefit Street Partners -BSP 2015-8A A1BR	1	6,425,000	6,154,373
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,450,000	2,260,071	09/02/2020	09/02/2050	Interest Rate Swap			04018X-AG-4	ARES CLO-ARES 2021-ALFA C	1	2,450,000	2,260,071
57629*FT3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	300,000,000	24,967,624	(95,286,608)	07/14/2020	07/14/2050	Interest Rate Swap		(123,711,316)	244199-AW-5	Deere & Co-BOND	1	24,967,624	28,424,708
57629*FT3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,465,000	29,017,124	07/14/2020	07/14/2050	Interest Rate Swap			Z22066-36-8	AUST & NZ BANKING GROUP-SUBORDINATED NOTE	1	21,465,000	29,017,124
57629*FT3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		41,858,921	44,785,973	07/14/2020	07/14/2050	Interest Rate Swap			873050-CB-5	TTX CO-UNSECURED NOTE	1	41,858,921	44,785,973
57629*FT3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		36,110,331	37,106,319	07/14/2020	07/14/2050	Interest Rate Swap			594918-CB-8	MICROSOFT CORP-SENIOR UNSECURED	1	36,110,331	37,106,319
57629*FT3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		137,343,949	137,343,949	07/14/2020	07/14/2050	Interest Rate Swap			50079#-MM-6	KREF Lending VII LLC - Term Loan Series 2022-11	1	137,343,949	137,343,949
57629*FT3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		50,375,000	50,375,000	07/14/2020	07/14/2050	Interest Rate Swap			69324Z-MO-1	PCRED II HOLDING I LLC, PCRED II HOLDING I OFFSHORE LP and PCRED II HOLDCO ARGUS S.A R.L.,-Term Loan Series 2022-4	1	50,375,000	50,375,000
57629*FT3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		35,170,433	35,170,433	07/14/2020	07/14/2050	Interest Rate Swap			46655H-AB-9	JCP Direct Lending CLO 2022 LLC - Revolving Credit Facility Class A	1	35,170,433	35,170,433
57629*FT3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		64,000,000	63,727,936	07/14/2020	07/14/2050	Interest Rate Swap			18685#-AA-0	Cliffwater Corporate Len Senior Secured Notes	1	64,000,000	63,727,936
57629*FU0	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		150,000,000	(48,887,972)	07/14/2020	07/14/2050	Interest Rate Swap		(62,421,772)	662325-B#-7	North Shore Gas Co. First Mtg Bond	1	13,748,112	13,533,800
57629*FU0	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,300,000	13,660,231	07/14/2020	07/14/2050	Interest Rate Swap			G1108#-AG-3	British Land Company PLC Senior Note Ser	1	13,300,000	13,660,231

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*FU0	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,400,000	11,888,872	07/14/2020	07/14/2050	Interest Rate Swap			720186-F*-1	Piedmont Natural Gas Co. Senior Note Ser	2	12,400,000	11,888,872
57629*FU0	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,600,000	11,416,964	07/14/2020	07/14/2050	Interest Rate Swap			41242*-AT-9	Hardwood Funding LLC Senior Note Ser	1	11,600,000	11,416,964
57629*FU0	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,042,308	10,941,854	07/14/2020	07/14/2050	Interest Rate Swap			48661E-C8-5	Kayne Anderson Midstream SER H SR UNSECD NT	1	11,042,308	10,941,854
57629*FU0	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,534,615	10,221,317	07/14/2020	07/14/2050	Interest Rate Swap			48661E-C#-3	Kayne Anderson Midstream SER I SR UNSECD NT	1	10,534,615	10,221,317
57629*FU0	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,250,000	10,837,225	07/14/2020	07/14/2050	Interest Rate Swap			151515-XX-6	Bridge Investment Group Senior Secured Notes	1	11,250,000	10,837,225
57629*FU0	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,925,000	9,819,160	07/14/2020	07/14/2050	Interest Rate Swap			74170*-AE-9	Prime Property Fund LLC Senior Note Ser	1	9,925,000	9,819,160
57629*FU0	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,874,680	07/14/2020	07/14/2050	Interest Rate Swap			57169*-AT-4	Mars, Inc. Senior Note Ser	1	10,000,000	9,874,680
57629*FU0	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,935,764	07/14/2020	07/14/2050	Interest Rate Swap			003009-A8-6	Aberdeen Asia-Pacific In Senior Secured	1	10,000,000	9,935,764
57629*FU0	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,600,000	8,684,254	07/14/2020	07/14/2050	Interest Rate Swap			05237*-AG-9	Austin Powder Holdings C Senior Note Ser	1	8,600,000	8,684,254
57629*FU0	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		94,999,997	95,000,000	07/14/2020	07/14/2050	Interest Rate Swap			575422-A9-8	MM Investment Holding Revolver Fixed Line	2	94,999,997	95,000,000
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	108,853,659	21,405,678	09/02/2020	09/02/2050	Interest Rate Swap		(87,447,981)	117028-AA-4	Brunswick Asset Financing LLC - Term A Loan	1	108,853,659	108,853,659
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		31,750,000	31,790,100	09/02/2020	09/02/2050	Interest Rate Swap			Q3629#-AG-8	ETSA Utilities Finance P Gtd Senior Note	1	31,750,000	31,790,100
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,000,000	24,023,688	09/02/2020	09/02/2050	Interest Rate Swap			910200-A#-4	UNITED ENERGY DISTRIBUTION PTY-GTD SR NT SER A	1	24,000,000	24,023,688
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,000,000	28,318,470	09/02/2020	09/02/2050	Interest Rate Swap			576292-YY-6	Barings Corporate Invest Convertible Not	1	30,000,000	28,318,470
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		26,500,000	26,168,141	09/02/2020	09/02/2050	Interest Rate Swap			68233J-A*-5	Oncor Electric Delivery & Senior Secured	1	26,500,000	26,168,141
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		26,600,000	26,628,249	09/02/2020	09/02/2050	Interest Rate Swap			Q91948-AF-4	Transpower New Zealand L Gtd Senior Note	1	26,600,000	26,628,249
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,200,000	12,518,893	09/02/2020	09/02/2050	Interest Rate Swap			Q1297#-AK-4	CSL Finance Pty Ltd Gtd Senior Note	1	13,200,000	12,518,893
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		41,711,072	44,262,753	09/02/2020	09/02/2050	Interest Rate Swap			20030N-AM-3	Comcast Corp-NOTE	1	41,711,072	44,262,753
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,045,000	1,955,492	09/02/2020	09/02/2050	Interest Rate Swap			056162-AQ-3	Babson CLO Ltd 2015-I-BABSN 2015-IA BR	1	2,045,000	1,955,492
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,900,000	17,053,867	09/02/2020	09/02/2050	Interest Rate Swap			03464A-A*-1	Angel Oak Financial Stra Senior Note Series A	1	18,900,000	17,053,867
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,376,000	16,578,637	09/02/2020	09/02/2050	Interest Rate Swap			05707#-AA-9	Baird Financial Corporat Senior Secured Notes	1	16,376,000	16,578,637
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	200,000,000	247,999,992	202,051,238	07/08/2021	07/08/2051	Interest Rate Swap		(45,948,762)	575422-A9-8	MM Investment Holding Revolver Fixed Line	2	247,999,992	248,000,000
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	150,000,000	6,650,000	(28,759,254)	07/08/2021	07/08/2051	Interest Rate Swap		(35,056,325)	55954Y-AL-9	Magnetite XXVI Ltd-MAGNE 2020-26A BR	1	6,650,000	6,297,071
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,550,000	6,113,685	07/08/2021	07/08/2051	Interest Rate Swap			00190Y-BH-7	Ares XXVII CLO Ltd-ARES 2013-2A CR2	1	6,550,000	6,113,685
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,400,000	5,918,477	07/08/2021	07/08/2051	Interest Rate Swap			278300-AN-8	Eaton Vance CLO 2020-1 L-EATON 2020-1A CR	1	6,400,000	5,918,477
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,400,000	5,931,213	07/08/2021	07/08/2051	Interest Rate Swap			143133-AG-1	CGMS 2021-6A C	1	6,400,000	5,931,213
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,400,000	5,934,528	07/08/2021	07/08/2051	Interest Rate Swap			87168B-AG-5	SYMP 2021-28A C-SYMP 2021-28A C	1	6,400,000	5,934,528
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,400,000	5,902,387	07/08/2021	07/08/2051	Interest Rate Swap			12565E-AE-1	CIFC Funding Ltd-CIFC 2021-5A C	1	6,400,000	5,902,387
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,400,000	5,935,277	07/08/2021	07/08/2051	Interest Rate Swap			97316J-AG-8	THL Credit Wind River 20-WINDR 2019-1A CR	1	6,400,000	5,935,277
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,400,000	5,853,606	07/08/2021	07/08/2051	Interest Rate Swap			05685A-AJ-7	Bain Capital Credit CLO-BCC 2021-4A C	1	6,400,000	5,853,606
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,400,000	5,897,798	07/08/2021	07/08/2051	Interest Rate Swap			38136N-AU-0	Golentree Loan Managem-GLM 2020-8A CR	1	6,400,000	5,897,798

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,100,000	5,565,530	07/08/2021	07/08/2051	Interest Rate Swap			00900L-AS-3	AIMCO CLO Series 2015-A-AIMCO 2015-AA CR2	1	6,100,000	5,565,530
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,050,000	5,699,100	07/08/2021	07/08/2051	Interest Rate Swap			05685A-AG-3	Bain Capital Credit CLO-BCC 2021-4A	1	6,050,000	5,699,100
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,050,000	5,701,157	07/08/2021	07/08/2051	Interest Rate Swap			00119V-AQ-2	AGL CLO 6 LTD-AGL 2020-6A BR	1	6,050,000	5,701,157
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,700,000	5,406,439	07/08/2021	07/08/2051	Interest Rate Swap			13887T-AN-7	Canyon Capital CLO 2019-CANVC 2019-1A BR	1	5,700,000	5,406,439
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,650,000	5,298,022	07/08/2021	07/08/2051	Interest Rate Swap			670881-AP-6	OCP CLO 2020-19 Ltd-OCP 2020-19A BR	1	5,650,000	5,298,022
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,625,000	5,337,461	07/08/2021	07/08/2051	Interest Rate Swap			03766G-AS-1	Apidos CLO XXVI-APID 2017-26A BR	1	5,625,000	5,337,461
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,300,000	5,026,255	07/08/2021	07/08/2051	Interest Rate Swap			48253U-AC-0	KKR-SERIES 34A CLASS B	1	5,300,000	5,026,255
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,300,000	4,954,164	07/08/2021	07/08/2051	Interest Rate Swap			09627F-AQ-3	BlueMountain CLO XXV Ltd-BLUEM 2019-25A BR	1	5,300,000	4,954,164
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,150,000	4,884,914	07/08/2021	07/08/2051	Interest Rate Swap			95023A-AC-4	Wellfleet CLO Ltd-WELF 2021-2A B	1	5,150,000	4,884,914
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,125,000	4,750,183	07/08/2021	07/08/2051	Interest Rate Swap			14317Y-AG-9	Carlyle Global Market St-SERIES 21-5A CLASS C	1	5,125,000	4,750,183
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,650,000	4,448,855	07/08/2021	07/08/2051	Interest Rate Swap			48661A-AL-0	KAYNE CLO I Ltd-KAYNE 2018-1A BR	1	4,650,000	4,448,855
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,600,000	4,280,314	07/08/2021	07/08/2051	Interest Rate Swap			29002V-AE-8	ELM10 2021-3A C-ELM10 2021-3A C	1	4,600,000	4,280,314
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,600,000	4,384,817	07/08/2021	07/08/2051	Interest Rate Swap			67110N-AP-0	OHA Credit Partners XIII-OAKC 2016-13A BR	1	4,600,000	4,384,817
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,500,000	4,124,790	07/08/2021	07/08/2051	Interest Rate Swap			73052V-AG-0	Point Au Roche Park CLO -PARPK 2021-1A C	1	4,500,000	4,124,790
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,500,000	4,145,828	07/08/2021	07/08/2051	Interest Rate Swap			83615P-AE-7	Sound Point Clo XXXI Ltd-SNDPT 2021-3A C	1	4,500,000	4,145,828
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,500,000	4,171,185	07/08/2021	07/08/2051	Interest Rate Swap			29002H-AQ-2	Elmwood CLO III Ltd-ELMW3 2019-3A CR	1	4,500,000	4,171,185
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,500,000	4,214,115	07/08/2021	07/08/2051	Interest Rate Swap			33835N-AE-1	ASSURANT CLO LTD-MORGN 2018-3A CR	1	4,500,000	4,214,115
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,500,000	4,170,029	07/08/2021	07/08/2051	Interest Rate Swap			97316D-AG-1	Wind River CLO Ltd-WINDR 2021-3A C	1	4,500,000	4,170,029
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,400,000	4,051,612	07/08/2021	07/08/2051	Interest Rate Swap			48255A-AE-8	KKR CLO 36 Ltd-KKR 36A C	1	4,400,000	4,051,612
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,300,000	3,956,391	07/08/2021	07/08/2051	Interest Rate Swap			125550-AU-0	CIFC Funding 2020-I Ltd-CIFC 2020-1A CR	1	4,300,000	3,956,391
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,028,484	8,139,984	07/08/2021	07/08/2051	Interest Rate Swap			48253W-AA-0	KKR CLO 28 LTD-KKR 28A A	1	8,028,484	8,139,984
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,000,000	4,770,875	07/08/2021	07/08/2051	Interest Rate Swap			94950J-AC-5	Wellfleet CLO Ltd-SERIES 18-1A CLASS B	1	5,000,000	4,770,875
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		25,000,000	24,297,450	07/08/2021	07/08/2051	Interest Rate Swap			88675B-AB-3	Tiger Global Management Senior Note Series B	1	25,000,000	24,297,450
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	350,000,000	50,000,000	(36,684,790)	07/09/2021	07/09/2051	Interest Rate Swap		(85,126,840)	14316W-AA-7	Carlyle Global Market St-CGMS 2021-7A A1	1	50,000,000	48,442,050
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		48,500,000	47,014,300	07/09/2021	07/09/2051	Interest Rate Swap			12547L-AL-2	CIFC Funding 2020-II Ltd-CIFC 2020-2A AR	1	48,500,000	47,014,300
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		45,100,000	43,517,216	07/09/2021	07/09/2051	Interest Rate Swap			05876L-AA-1	Ballyrock CDO Ltd-BALLY 2021-17A A1A	1	45,100,000	43,517,216
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,700,000	12,989,984	07/09/2021	07/09/2051	Interest Rate Swap			87168B-AE-0	SYMP-SYMP 2021-28A B	1	13,700,000	12,989,984
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,700,000	12,956,474	07/09/2021	07/09/2051	Interest Rate Swap			97316D-AC-0	Wind River CLO Ltd-WINDR 2021-3A B1	1	13,700,000	12,956,474
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,864,872	07/09/2021	07/09/2051	Interest Rate Swap			13876G-AL-2	Canyon Capital CLO 2017-CANVC 2017-1A BR	1	9,200,000	8,864,872
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,752,852	07/09/2021	07/09/2051	Interest Rate Swap			03330N-AK-0	Anchorage Capital Clo 11-ANCHC 2019-11A BR	1	9,200,000	8,752,852
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,727,819	07/09/2021	07/09/2051	Interest Rate Swap			03328W-AU-2	Anchorage Capital CLO 9 -ANCHC 2016-9A BR2	1	9,200,000	8,727,819

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,709,980	07/09/2021	07/09/2051	Interest Rate Swap			14316W-AC-3	Carlyle Global Market St-CGMS 2021-7A A2	1	9,200,000	8,709,980
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,724,645	07/09/2021	07/09/2051	Interest Rate Swap			12547L-AQ-1	CIFC Funding 2020-II Ltd-CIFC 2020-2A BR	1	9,200,000	8,724,645
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,708,959	07/09/2021	07/09/2051	Interest Rate Swap			04018X-AE-9	ARES CLO-ARES 2021-ALFA B	1	9,200,000	8,708,959
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,666,823	07/09/2021	07/09/2051	Interest Rate Swap			25255L-AC-6	Diameter Capital Clo 2 L-DLO 2021-2A A2	1	9,200,000	8,666,823
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,749,016	07/09/2021	07/09/2051	Interest Rate Swap			125550-AS-5	CIFC Funding 2020-I Ltd-CIFC 2020-1A BR	1	9,200,000	8,749,016
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,646,942	07/09/2021	07/09/2051	Interest Rate Swap			48253H-AQ-8	KKR CLO 26 Ltd-KKR 26 BR	1	9,200,000	8,646,942
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,100,000	8,641,424	07/09/2021	07/09/2051	Interest Rate Swap			86271P-AG-0	Strata CLO II Ltd-STRTA 2021-1A C	1	9,100,000	8,641,424
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,725,000	8,267,731	07/09/2021	07/09/2051	Interest Rate Swap			38136N-AS-5	Goldentree Loan Managem-GLM 2020-8A BR	1	8,725,000	8,267,731
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		16,929,487	16,459,252	07/09/2021	07/09/2051	Interest Rate Swap			13876N-AN-3	Canyon CLO 2020-2 Ltd-CANVC 2020-2A BR	1	16,929,487	16,459,252
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,800,000	7,412,660	07/09/2021	07/09/2051	Interest Rate Swap			143133-AE-6	CGMS 2021-6A B-CGMS 2021-6A B	1	7,800,000	7,412,660
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,375,000	6,995,291	07/09/2021	07/09/2051	Interest Rate Swap			13877P-AC-1	CANVC-2021-4A B	1	7,375,000	6,995,291
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,300,000	6,709,123	07/09/2021	07/09/2051	Interest Rate Swap			13875M-AE-6	Canyon CLO 2021-3 Ltd-CANVC 2021-3A C	1	7,300,000	6,709,123
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,300,000	6,990,071	07/09/2021	07/09/2051	Interest Rate Swap			12551J-AN-6	CIFC Funding 2017-IV Ltd-CIFC 2017-4A A2R	1	7,300,000	6,990,071
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,200,000	6,793,049	07/09/2021	07/09/2051	Interest Rate Swap			97315V-AE-7	Wind River CLO Ltd-WINDR 2021-2A B	1	7,200,000	6,793,049
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,100,000	6,785,967	07/09/2021	07/09/2051	Interest Rate Swap			04019L-AN-4	ARES LI CLO Ltd-ARES 2019-51A BR	1	7,100,000	6,785,967
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,040,000	6,627,294	07/09/2021	07/09/2051	Interest Rate Swap			03328W-AW-8	Anchorage Capital CLO 9 -ANCHC 2016-9A CR2	1	7,040,000	6,627,294
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,000,000	6,554,450	07/09/2021	07/09/2051	Interest Rate Swap			61773K-AC-6	Morgan Stanley Eaton Van-MSEV 2021-1A B	1	7,000,000	6,554,450
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,000,000	6,680,387	07/09/2021	07/09/2051	Interest Rate Swap			00901A-AL-1	AIMCO CLO 10 Ltd-AIMCO 2019-10A BR	1	7,000,000	6,680,387
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,800,000	6,509,300	07/09/2021	07/09/2051	Interest Rate Swap			03762Y-AH-0	Apidos Clo XXV-APID 2016-25A A2R	1	6,800,000	6,509,300
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,750,000	6,326,242	07/09/2021	07/09/2051	Interest Rate Swap			50204A-AE-6	LCM LP-LCM 32A B	1	6,750,000	6,326,242
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		15,000,000	14,409,765	07/09/2021	07/09/2051	Interest Rate Swap			48251M-AS-5	KKR CLO 15 Ltd-KKR 15 A2R	1	15,000,000	14,409,765
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		15,000,000	14,502,975	07/09/2021	07/09/2051	Interest Rate Swap			55952Y-AR-8	Magnetite VIII Ltd-MAGNE 2014-8A BR2	1	15,000,000	14,502,975
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,500,000	9,028,933	07/09/2021	07/09/2051	Interest Rate Swap			48252W-AC-7	KKR CLO LTD 22-SERIES 22A CLASS B	1	9,500,000	9,028,933
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,625,800	8,961,620	07/09/2021	07/09/2051	Interest Rate Swap			86209*-AA-6	Stonehenge OH Rural Fund II LLC Series 2021B-1	1	9,625,800	8,961,620
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,114,163	8,413,284	07/09/2021	07/09/2051	Interest Rate Swap			86208*-AA-3	Stonehenge Cap Fund Conn VI Series 2021B-1	1	9,114,163	8,413,284
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,666,667	6,709,334	07/09/2021	07/09/2051	Interest Rate Swap			87289B-AB-0	TCP DLF VIII 2018 CLO, LLC - Class A-2 Secured Floating Rate Note	1	6,666,667	6,709,334
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,063,868	6,063,868	07/09/2021	07/09/2051	Interest Rate Swap			46655H-AH-6	JCP Direct Lending CLO 2022 LLC - Revolving Credit Facility Class D	2	6,063,868	6,063,868
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,547,901	4,547,901	07/09/2021	07/09/2051	Interest Rate Swap			46655H-AF-0	JCP Direct Lending CLO 2022 LLC - Revolving Credit Facility Class C	1	4,547,901	4,547,901
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,244,707	4,244,707	07/09/2021	07/09/2051	Interest Rate Swap			46655H-AD-5	JCP Direct Lending CLO 2022 LLC - Revolving Credit Facility Class B	1	4,244,707	4,244,707
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,047,929	2,960,758	07/09/2021	07/09/2051	Interest Rate Swap			86208*-AA-5	Stonehenge Capital Fund South Carolina IV, LLC Senior Structured Notes	1	3,047,929	2,960,758
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		2,666,667	2,684,534	07/09/2021	07/09/2051	Interest Rate Swap			87289B-AD-6	TCP DLF VIII 2018 CLO, LLC - Class B Secured Floating Rate Note	1	2,666,667	2,684,534

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		2,222,223	2,260,001	07/09/2021	07/09/2051	Interest Rate Swap			87289B-AE-4	TCF DLF VIII 2018 CLO, LLC - Class C Secured Floating Rate Note	2	2,222,223	2,260,001
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	200,000,000	253,999,991	202,612,901	07/12/2021	07/12/2051	Interest Rate Swap	(51,387,099)		57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	253,999,991	254,000,000
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	350,000,000	50,000,000	(45,584,556)	07/21/2021	07/21/2051	Interest Rate Swap	(93,707,756)		83615P-AA-5	Sound Point Clo XXXI Ltd-SNDPT 2021-3A A	1	50,000,000	48,123,200
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		50,000,000	48,445,800	07/21/2021	07/21/2051	Interest Rate Swap			95023A-AA-8	Wellfleet CLO Ltd-WELF 2021-2A A1	1	50,000,000	48,445,800
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		50,000,000	48,309,450	07/21/2021	07/21/2051	Interest Rate Swap			69702E-AA-3	Palmer Square CLO Ltd-PLMRS 2021-4A	1	50,000,000	48,309,450
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		50,000,000	48,395,350	07/21/2021	07/21/2051	Interest Rate Swap			03328J-AA-5	Anchorage Capital CLO 19-ANCHC 2021-19A A	1	50,000,000	48,395,350
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		50,000,000	48,229,650	07/21/2021	07/21/2051	Interest Rate Swap			42088A-AA-2	Hayfin US XII Ltd-HAYFN 2021-14A A1	1	50,000,000	48,229,650
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		56,194,635	54,749,059	07/21/2021	07/21/2051	Interest Rate Swap			87168B-AC-4	SYMP-SYMP 2021-28A A	1	56,194,635	54,749,059
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		50,000,000	48,243,300	07/21/2021	07/21/2051	Interest Rate Swap			67110N-AM-7	OHA Credit Partners XIII-OAKC 2016-13A AR	1	50,000,000	48,243,300
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		14,312,500	13,737,309	07/21/2021	07/21/2051	Interest Rate Swap			70470M-AE-5	Peace Park CLO Ltd-PCEPK 2021-1A B1	1	14,312,500	13,737,309
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		14,090,000	13,416,794	07/21/2021	07/21/2051	Interest Rate Swap			55822A-AM-7	Madison Park Funding XLV-MDPK 2020-46A B1R	1	14,090,000	13,416,794
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		10,000,000	9,451,060	07/21/2021	07/21/2051	Interest Rate Swap			13876R-AE-4	Canyon CLO 2020-3 Ltd-CANYC 2020-3A B	1	10,000,000	9,451,060
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		10,000,000	9,572,110	07/21/2021	07/21/2051	Interest Rate Swap			69703P-AC-3	Palmer Square CLO 2018-1-PLMRS 2018-1A A2	1	10,000,000	9,572,110
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		10,000,000	9,427,760	07/21/2021	07/21/2051	Interest Rate Swap			13876X-AG-6	Canyon Capital CLO Ltd-CANYC 2021-2A B1	1	10,000,000	9,427,760
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,000,000	3,848,404	07/21/2021	07/21/2051	Interest Rate Swap			94949R-AW-7	Wellfleet CLO 2016-1 Ltd-WELF 2016-1A CR	1	4,000,000	3,848,404
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,912,840	3,843,936	07/21/2021	07/21/2051	Interest Rate Swap			25255L-AA-0	Diameter Capital Clo 2 L-DQLO 2021-2A A1	1	3,912,840	3,843,936
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,050,000	3,801,038	07/21/2021	07/21/2051	Interest Rate Swap			00120B-AE-0	AGL CLO Ltd-AGL 2021-12A B	1	4,050,000	3,801,038
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,885,000	3,593,722	07/21/2021	07/21/2051	Interest Rate Swap			83012K-AE-7	SIXST-SERIES 2021-19A CLASS C	1	3,885,000	3,593,722
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,750,000	3,561,930	07/21/2021	07/21/2051	Interest Rate Swap			74980Q-AE-1	ALM Ltd/KY-BRAM 2021-17A A2	1	3,750,000	3,561,930
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,550,000	3,434,139	07/21/2021	07/21/2051	Interest Rate Swap			26251B-AN-6	Dryden XXVIII Senior Loa-DRSLF 2013-28A A2LR	1	3,550,000	3,434,139
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,600,000	3,338,510	07/21/2021	07/21/2051	Interest Rate Swap			67110N-AT-2	OHA Credit Partners XIII-OAKC 2016-13A CR	1	3,600,000	3,338,510
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,600,000	3,299,526	07/21/2021	07/21/2051	Interest Rate Swap			92918Q-AG-5	Voya CLO Ltd-VOYA 2021-1A C	1	3,600,000	3,299,526
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,525,000	3,276,502	07/21/2021	07/21/2051	Interest Rate Swap			94950A-AS-9	Wellfleet CLO 2020-2 Ltd-WELF 2020-2A CR	1	3,525,000	3,276,502
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,500,000	3,223,689	07/21/2021	07/21/2051	Interest Rate Swap			55821L-AE-4	Madison Park Funding XXX-MDPK 2021-39A C	1	3,500,000	3,223,689
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,500,000	3,206,364	07/21/2021	07/21/2051	Interest Rate Swap			13876N-AS-2	Canyon CLO 2020-2 Ltd-CANYC 2020-2A CR	1	3,500,000	3,206,364
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,000,000	2,805,700	07/21/2021	07/21/2051	Interest Rate Swap			05684A-AU-3	Bain Capital Credit Clo -BCC 2019-4A CR	1	3,000,000	2,805,700
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		2,800,000	2,597,484	07/21/2021	07/21/2051	Interest Rate Swap			27829P-AS-5	Eaton Vance CLO 2020-2 L-EATON 2020-2A CR	1	2,800,000	2,597,484
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	200,000,000	252,999,991	202,119,682	08/09/2021	08/09/2051	Interest Rate Swap	(50,880,318)		57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	252,999,991	253,000,000
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	300,000,000	378,999,987	302,828,490	08/09/2021	08/09/2051	Interest Rate Swap	(76,171,510)		57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	378,999,987	379,000,000
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	250,000,000	312,999,989	252,723,132	08/10/2021	08/10/2051	Interest Rate Swap	(60,276,868)		57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	312,999,989	313,000,000
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	200,000,000	251,999,992	203,857,960	08/10/2021	08/10/2051	Interest Rate Swap	(48,142,040)		57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	251,999,992	252,000,000

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STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 1**

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held				
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	300,000,000	374,999,987	302,548,578	08/10/2021	08/10/2051	Interest Rate Swap		(72,451,422)	57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	374,999,987	375,000,000
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	250,000,000	313,999,989	252,878,933	08/10/2021	08/10/2051	Interest Rate Swap		(61,121,067)	57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	313,999,989	314,000,000
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	200,000,000	42,034,488	(10,239,554)	08/23/2021	08/23/2051	Interest Rate Swap		(52,274,042)	482480-MM-7	KKR Eagle Asset Term Loan A	1	42,034,488	42,034,488
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z		41,325,000	41,325,000	08/23/2021	08/23/2051	Interest Rate Swap			69324Z-MN-3	PCRED II HOLDING I LLC, PCRED II HOLDING I OFFSHORE LP and PCRED II HOLDCO ARGUS S.A R.L., -Term Loan Series 2022-3	1	41,325,000	41,325,000
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z		40,300,000	40,300,000	08/23/2021	08/23/2051	Interest Rate Swap			69324Z-MM-5	PCRED II HOLDING I LLC, PCRED II HOLDING I OFFSHORE LP and PCRED II HOLDCO ARGUS S.A R.L., -Term Loan Series 2022-1	1	40,300,000	40,300,000
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z		29,289,474	29,289,474	08/23/2021	08/23/2051	Interest Rate Swap			87241F-AB-8	TOW Direct Lending Structured Solutions 2019 LLC - Class B Note	2	29,289,474	29,289,474
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z		26,990,789	26,990,789	08/23/2021	08/23/2051	Interest Rate Swap			67080B-MM-6	NXT Capital Structured Note I, LLC - Class A Secured Float Rate Revolving Loan	1	26,990,789	26,990,789
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z		26,000,000	26,000,000	08/23/2021	08/23/2051	Interest Rate Swap			70212Z-MM-8	PARTNERS GROUP PRIVATE EQUITY II, LLC - Senior Secured Revolving Facility	1	26,000,000	26,000,000
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z		22,267,279	22,267,279	08/23/2021	08/23/2051	Interest Rate Swap			89532Z-MN-9	TREZ CAPITAL MANHATTAN BRIDGE LP - Secured Term Loan Facility - Series 2022-3	1	22,267,279	22,267,279
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z		18,491,242	18,221,860	08/23/2021	08/23/2051	Interest Rate Swap			22822R-BH-2	Crown Castle Towers LLC-SECURED	1	18,491,242	18,221,860
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z		10,020,297	10,020,297	08/23/2021	08/23/2051	Interest Rate Swap			55379Z-MM-8	M360 MM Series LLC - Series 2022-1 Secured Secure Notes	1	10,020,297	10,020,297
<b>999999999 - Totals</b>				<b>23,745,169,579</b>	<b>19,380,147,527</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>(226,469)</b>	<b>(3,761,839,060)</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>23,745,396,048</b>	<b>23,141,986,587</b>

S105.34

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - PART C - SECTION 2**

Replication (Synthetic Asset) Transactions Open

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Year To Date	
	1 Number of Positions	2 Total Replication (Synthetic Asset) Transactions Statement Value	3 Number of Positions	4 Total Replication (Synthetic Asset) Transactions Statement Value	5 Number of Positions	6 Total Replication (Synthetic Asset) Transactions Statement Value	7 Number of Positions	8 Total Replication (Synthetic Asset) Transactions Statement Value	9 Number of Positions	10 Total Replication (Synthetic Asset) Transactions Statement Value
1. Beginning Inventory .....	119	21,873,158,424	101	19,534,158,424					119	21,873,158,424
2. Add: Opened or Acquired Transactions .....	4	95,000,000	1	233,593,750					5	328,593,750
3. Add: Increases in Replication (Synthetic Asset) Transactions Statement Value .....	XXX									
4. Less: Closed or Disposed of Transactions .....	22	2,434,000,000	5	962,968,750					27	3,396,968,750
5. Less: Positions Disposed of for Failing Effectiveness Criteria .....										
6. Less: Decreases in Replication (Synthetic Asset) Transactions Statement Value .....	XXX									
7. Ending Inventory .....	101	19,534,158,424	97	18,804,783,424					97	18,804,783,424

STATEMENT AS OF JUNE 30, 2022 OF THE Massachusetts Mutual Life Insurance Company

**SCHEDULE DB - VERIFICATION**

Verification of Book/Adjusted Carrying Value, Fair Value and Potential Exposure of all Open Derivative Contracts

	Book/Adjusted Carrying Value Check
1. Part A, Section 1, Column 14.....	7,982,845,350
2. Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance.....	.....
3. Total (Line 1 plus Line 2).....	7,982,845,350
4. Part D, Section 1, Column 6.....	17,533,259,471
5. Part D, Section 1, Column 7.....	(9,589,963,629)
6. Total (Line 3 minus Line 4 minus Line 5).....	39,549,508
	Fair Value Check
7. Part A, Section 1, Column 16.....	4,221,232,759
8. Part B, Section 1, Column 13.....	(39,549,508)
9. Total (Line 7 plus Line 8).....	4,181,683,251
10. Part D, Section 1, Column 9.....	17,547,576,511
11. Part D, Section 1, Column 10.....	(13,365,893,260)
12. Total (Line 9 minus Line 10 minus Line 11).....	.....
	Potential Exposure Check
13. Part A, Section 1, Column 21.....	4,591,416,570
14. Part B, Section 1, Column 20.....	129,199,256
15. Part D, Section 1, Column 12.....	4,720,615,827
16. Total (Line 13 plus Line 14 minus Line 15).....	.....(1)

**SCHEDULE E - PART 2 - VERIFICATION**

(Cash Equivalents)

	1	2
	Year To Date	Prior Year Ended December 31
1. Book/adjusted carrying value, December 31 of prior year .....	1,774,108,873	3,252,909,998
2. Cost of cash equivalents acquired .....	82,253,252,420	187,354,954,014
3. Accrual of discount .....		
4. Unrealized valuation increase (decrease) .....	6,310,552	5,476,968
5. Total gain (loss) on disposals .....	(5,311,399)	589,492
6. Deduct consideration received on disposals .....	80,994,011,163	188,839,821,599
7. Deduct amortization of premium .....		
8. Total foreign exchange change in book/adjusted carrying value .....	(805)	
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) .....	3,034,348,478	1,774,108,873
11. Deduct total nonadmitted amounts .....		
12. Statement value at end of current period (Line 10 minus Line 11)	3,034,348,478	1,774,108,873