



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

QUARTERLY STATEMENT

AS OF SEPTEMBER 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
(Current) (Prior)

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
(Street and Number) (City or Town, State, Country and Zip Code)

Main Administrative Office 1295 State Street Springfield, MA, US 01111
(Street and Number) (City or Town, State, Country and Zip Code)
413-788-8411 (Area Code) (Telephone Number)

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

Primary Location of Books and Records 1295 State Street Springfield, MA, US 01111
(Street and Number) (City or Town, State, Country and Zip Code)
413-788-8411 (Area Code) (Telephone Number)

Internet Website Address www.massmutual.com

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

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

OTHER

Elizabeth Ward Chicares, Chief Financial Officer Michael Robert Fanning, Head of MassMutual U.S. Melvin Timothy Corbett, Chief Investment Officer
Adnan Omar Ahmed, Head of MassMutual International Geoffrey James Craddock, Chief Risk Officer Susan Marie Cicco, Head of Human Resources & Employee Experience
Michael James O'Connor, General Counsel Sears Andrew Merritt #, Head of Enterprise Technology & Experience

DIRECTORS OR TRUSTEES

Roger William Crandall - Chairman Mark Thomas Bertolini Kathleen Ann Corbet
James Henry DeGraffenreid, Jr. Isabella Davidov Goren Jeffrey Marc Leiden
Laura Jeanne Sen William Taylor Spitz - Lead Director Howard Todd Stitzer
Michelle Kwok Lee Bernard Anthony Harris, Jr. #

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 SEPTEMBER 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	132,540,926,829		132,540,926,829	124,286,602,019
2. Stocks:				
2.1 Preferred stocks	458,010,590		458,010,590	554,665,007
2.2 Common stocks	25,824,564,368	183,808	25,824,380,560	25,917,031,110
3. Mortgage loans on real estate:				
3.1 First liens	24,652,944,598		24,652,944,598	26,344,845,562
3.2 Other than first liens.....				
4. Real estate:				
4.1 Properties occupied by the company (less \$ encumbrances)	371,720,052		371,720,052	377,966,253
4.2 Properties held for the production of income (less \$865,000,000 encumbrances)	(116,243,600)		(116,243,600)	16,931,489
4.3 Properties held for sale (less \$ encumbrances)				
5. Cash (\$889,656,024), cash equivalents (\$3,161,471,759) and short-term investments (\$869,848,982)	4,920,976,765		4,920,976,765	5,942,799,274
6. Contract loans (including \$ premium notes)	16,717,288,809	111,639	16,717,177,170	16,119,781,299
7. Derivatives	23,744,148,855		23,744,148,855	16,378,561,586
8. Other invested assets	12,611,427,522	46,960,259	12,564,467,263	12,545,487,974
9. Receivables for securities	2,319,597,058		2,319,597,058	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)	244,045,361,847	47,255,706	243,998,106,141	229,771,795,867
13. Title plants less \$ charged off (for Title insurers only)				
14. Investment income due and accrued	3,419,017,180	1,597,953	3,417,419,227	3,583,739,803
15. Premiums and considerations:				
15.1 Uncollected premiums and agents' balances in the course of collection	126,722,972		126,722,972	160,958,506
15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due (including \$ earned but unbilled premiums)	943,801,608		943,801,608	1,021,645,302
15.3 Accrued retrospective premiums (\$) and contracts subject to redetermination (\$)				
16. Reinsurance:				
16.1 Amounts recoverable from reinsurers	69,206,551	4,847,089	64,359,462	95,482,348
16.2 Funds held by or deposited with reinsured companies				
16.3 Other amounts receivable under reinsurance contracts	100,530,297		100,530,297	142,829,065
17. Amounts receivable relating to uninsured plans				
18.1 Current federal and foreign income tax recoverable and interest thereon	68,874,373		68,874,373	55,008,554
18.2 Net deferred tax asset	887,578,687		887,578,687	709,692,126
19. Guaranty funds receivable or on deposit	7,560,508		7,560,508	8,391,196
20. Electronic data processing equipment and software	241,589,268	232,950,611	8,638,657	13,709,888
21. Furniture and equipment, including health care delivery assets (\$)	46,121,045	46,121,045		
22. Net adjustment in assets and liabilities due to foreign exchange rates				
23. Receivables from parent, subsidiaries and affiliates	124,884,294		124,884,294	127,639,697
24. Health care (\$) and other amounts receivable				
25. Aggregate write-ins for other than invested assets	3,829,377,774	1,083,632,331	2,745,745,443	3,116,510,053
26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)	253,910,626,405	1,416,404,736	252,494,221,669	238,807,402,404
27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts	53,341,216,030		53,341,216,030	76,159,844,023
28. Total (Lines 26 and 27)	307,251,842,435	1,416,404,736	305,835,437,699	314,967,246,427
DETAILS OF WRITE-INS				
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	2,592,327,677		2,592,327,677	2,667,336,639
2502. Fully refundable deposits, prepayments and miscellaneous assets	141,965,971	47,898,547	94,067,424	384,170,889
2503. Employee insurance plan advances	40,223,791	3,383	40,220,408	38,927,150
2598. Summary of remaining write-ins for Line 25 from overflow page	1,054,860,335	1,035,730,401	19,129,934	26,075,375
2599. Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	3,829,377,774	1,083,632,331	2,745,745,443	3,116,510,053

STATEMENT AS OF SEPTEMBER 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 \$ 143,180,531,433 less \$ included in Line 6.3 (including \$ 144,630,251 Modco Reserve)	143,180,531,433	134,668,226,295
2. Aggregate reserve for accident and health contracts (including \$ Modco Reserve)	3,585,148,357	3,600,781,585
3. Liability for deposit-type contracts (including \$ Modco Reserve)	17,802,867,345	17,041,384,885
4. Contract claims:		
4.1 Life	594,658,176	716,241,129
4.2 Accident and health	34,913,568	25,642,780
5. Policyholders' dividends/refunds to members \$ 9,866,672 and coupons \$ due and unpaid	9,866,672	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)	1,903,332,903	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 \$ 4,810,486 accident and health premiums	61,555,149	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	14,896,147	7,671,842
9.3 Other amounts payable on reinsurance, including \$ 14,521,607 assumed and \$ 32,794,042 ceded	47,315,649	99,626,723
9.4 Interest Maintenance Reserve	136,842,060	1,552,353,881
10. Commissions to agents due or accrued-life and annuity contracts \$ 38,316,929 , accident and health \$ 131,271 and deposit-type contract funds \$	38,448,200	31,901,431
11. Commissions and expense allowances payable on reinsurance assumed	3,176,141	3,251,156
12. General expenses due or accrued	1,108,194,479	1,385,083,327
13. Transfers to Separate Accounts due or accrued (net) (including \$ (62,013,090) accrued for expense allowances recognized in reserves, net of reinsured allowances)	(70,606,392)	(103,155,236)
14. Taxes, licenses and fees due or accrued, excluding federal income taxes	46,738,822	92,894,406
15.1 Current federal and foreign income taxes, including \$ 308,815,659 on realized capital gains (losses)	40,322	
15.2 Net deferred tax liability		
16. Unearned investment income	380,959,095	238,003,640
17. Amounts withheld or retained by reporting entity as agent or trustee	15,875,048	25,618,860
18. Amounts held for agents' account, including \$ agents' credit balances	343,000,662	432,802,377
19. Remittances and items not allocated	1,728,703,192	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	207,949,176	232,733,194
22. Borrowed money \$ 249,587,063 and interest thereon \$ 0	249,587,063	249,984,222
23. Dividends to stockholders declared and unpaid		
24. Miscellaneous liabilities:		
24.01 Asset valuation reserve	5,756,459,372	6,414,184,335
24.02 Reinsurance in unauthorized and certified (\$) companies	137,198	122,421
24.03 Funds held under reinsurance treaties with unauthorized and certified (\$) reinsurers	10,057,487,091	7,757,716,485
24.04 Payable to parent, subsidiaries and affiliates	77,931,794	64,824,977
24.05 Drafts outstanding		
24.06 Liability for amounts held under uninsured plans		
24.07 Funds held under coinsurance	11,637,670,956	11,497,302,189
24.08 Derivatives	13,597,414,452	10,876,753,492
24.09 Payable for securities	334,653,270	12,694,663
24.10 Payable for securities lending		
24.11 Capital notes \$ and interest thereon \$		
25. Aggregate write-ins for liabilities	11,525,182,402	11,220,883,362
26. Total liabilities excluding Separate Accounts business (Lines 1 to 25)	224,410,929,802	211,975,619,833
27. From Separate Accounts Statement	53,212,884,962	76,012,370,602
28. Total liabilities (Lines 26 and 27)	277,623,814,764	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)	23,619,911,087	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 \$ 128,331,068 in Separate Accounts Statement)	28,211,622,935	26,979,255,992
38. Totals of Lines 29, 30 and 37	28,211,622,935	26,979,255,992
39. Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3)	305,835,437,699	314,967,246,427
DETAILS OF WRITE-INS		
2501. Derivative collateral	6,087,489,523	6,157,803,850
2502. Repurchase agreements	3,050,994,999	2,802,264,186
2503. Derivative accrued interest	1,790,581,838	1,769,379,570
2598. Summary of remaining write-ins for Line 25 from overflow page	596,116,042	491,435,755
2599. Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	11,525,182,402	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

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	15,442,691,783	14,535,501,948	19,867,980,547
2. Considerations for supplementary contracts with life contingencies	19,641,600	16,925,632	22,983,412
3. Net investment income	6,450,493,467	5,848,198,938	8,695,509,359
4. Amortization of Interest Maintenance Reserve (IMR)	70,023,684	113,960,912	149,913,026
5. Separate Accounts net gain from operations excluding unrealized gains or losses	(209,226)	15,422	(809,011)
6. Commissions and expense allowances on reinsurance ceded	358,280,673	308,133,731	430,087,792
7. Reserve adjustments on reinsurance ceded	(304,119)	(10,940,975)	(26,907,697)
8. Miscellaneous Income:			
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	188,648,220	189,953,641	257,209,606
8.2 Charges and fees for deposit-type contracts			
8.3 Aggregate write-ins for miscellaneous income	227,618,643	418,109,267	592,352,641
9. Totals (Lines 1 to 8.3)	22,756,884,726	21,419,858,515	29,988,319,675
10. Death benefits	1,734,635,605	1,814,396,340	2,413,896,750
11. Matured endowments (excluding guaranteed annual pure endowments)	9,264,060	10,155,743	13,068,360
12. Annuity benefits	1,810,540,144	1,654,699,508	2,237,998,137
13. Disability benefits and benefits under accident and health contracts	288,494,799	278,839,039	370,223,560
14. Coupons, guaranteed annual pure endowments and similar benefits			
15. Surrender benefits and withdrawals for life contracts	9,585,266,817	4,318,646,322	6,086,403,189
16. Group conversions			
17. Interest and adjustments on contract or deposit-type contract funds	317,867,173	275,992,882	362,157,341
18. Payments on supplementary contracts with life contingencies	17,882,988	17,865,584	23,739,019
19. Increase in aggregate reserves for life and accident and health contracts	8,423,141,092	9,701,678,470	13,093,329,810
20. Totals (Lines 10 to 19)	22,187,092,678	18,072,273,887	24,600,816,166
21. Commissions on premiums, annuity considerations, and deposit-type contract funds (direct business only)	903,843,223	829,395,729	1,164,362,836
22. Commissions and expense allowances on reinsurance assumed	35,521,213	45,056,498	59,451,679
23. General insurance expenses and fraternal expenses	1,558,009,073	1,661,592,050	2,270,386,225
24. Insurance taxes, licenses and fees, excluding federal income taxes	235,375,213	255,469,749	326,354,324
25. Increase in loading on deferred and uncollected premiums	9,216,952	(18,852,018)	5,593,436
26. Net transfers to or (from) Separate Accounts net of reinsurance	(4,304,680,799)	(1,116,284,134)	(1,441,565,233)
27. Aggregate write-ins for deductions	469,026,370	745,075,109	805,197,597
28. Totals (Lines 20 to 27)	21,093,403,923	20,473,726,870	27,790,597,031
29. Net gain from operations before dividends to policyholders and federal income taxes (Line 9 minus Line 28)	1,663,480,802	946,131,645	2,197,722,644
30. Dividends to policyholders and refunds to members	1,332,339,027	1,248,387,138	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)	331,141,775	(302,255,493)	389,586,684
32. Federal and foreign income taxes incurred (excluding tax on capital gains)	(68,870,494)	(45,334,039)	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)	400,012,270	(256,921,455)	317,954,007
34. Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital gains tax of \$ 146,731,832 (excluding taxes of \$ 82,547,017) transferred to the IMR	291,736,957	(860,763,546)	(534,360,828)
35. Net income (Line 33 plus Line 34)	691,749,227	(1,117,685,001)	(216,406,821)
CAPITAL AND SURPLUS ACCOUNT			
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)	691,749,227	(1,117,685,001)	(216,406,821)
38. Change in net unrealized capital gains (losses) less capital gains tax of \$ 854,150,292	2,478,716,110	3,374,556,720	3,365,774,080
39. Change in net unrealized foreign exchange capital gain (loss)	(2,696,589,387)	(612,800,276)	(673,352,955)
40. Change in net deferred income tax	316,266,706	454,134,617	543,739,109
41. Change in nonadmitted assets	(10,824,517)	5,238,832	19,624,116
42. Change in liability for reinsurance in unauthorized and certified companies	(14,776)	9,661	13,256
43. Change in reserve on account of change in valuation basis, (increase) or decrease			
44. Change in asset valuation reserve	657,724,963	(948,328,328)	(1,209,136,105)
45. Change in treasury stock			
46. Surplus (contributed to) withdrawn from Separate Accounts during period	(3)	(150,000,000)	(150,000,000)
47. Other changes in surplus in Separate Accounts Statement	(18,933,126)	149,209,820	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	(160,728,253)	105,147,231	(17,426,309)
54. Net change in capital and surplus for the year (Lines 37 through 53)	1,232,366,944	1,493,000,380	2,651,842,656
55. Capital and surplus, as of statement date (Lines 36 + 54)	28,211,622,935	25,820,413,715	26,979,255,991
DETAILS OF WRITE-INS			
08.301. Management and administrative fees	216,448,561	276,861,661	327,314,386
08.302. Experience refunds on reinsurance contracts	65,346,262	65,874,290	93,714,575
08.303. Revenue sharing	29,208,454	35,991,400	46,257,499
08.398. Summary of remaining write-ins for Line 8.3 from overflow page	(83,384,633)	39,381,916	125,066,181
08.399. Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above)	227,618,643	418,109,267	592,352,641
2701. Ceded income on funds withheld	609,072,379	543,649,076	754,915,197
2702. Miscellaneous charges to operations	40,487,591	26,155,134	55,995,047
2703. Change in reserves due to reinsurance agreement	10,153,202	31,989,978	(2,616,096)
2798. Summary of remaining write-ins for Line 27 from overflow page	(190,686,803)	143,280,920	(3,096,551)
2799. Totals (Lines 2701 through 2703 plus 2798)(Line 27 above)	469,026,370	745,075,109	805,197,597
5301. Deferred gain on reinsurance ceded	(99,367,122)	90,390,483	(70,479,015)
5302. Other changes in surplus	(61,361,132)	14,756,748	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)	(160,728,253)	105,147,231	(17,426,309)

STATEMENT AS OF SEPTEMBER 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
Cash from Operations			
1. Premiums collected net of reinsurance	15,696,990,788	14,018,415,017	19,016,605,795
2. Net investment income	6,664,103,486	7,125,864,882	9,237,875,323
3. Miscellaneous income	957,151,015	886,923,433	1,216,591,630
4. Total (Lines 1 to 3)	23,318,245,289	22,031,203,332	29,471,072,748
5. Benefit and loss related payments	13,622,215,781	8,316,481,763	11,348,598,276
6. Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts	(4,632,901,822)	(1,030,124,419)	(1,129,486,910)
7. Commissions, expenses paid and aggregate write-ins for deductions	3,662,614,313	3,512,492,252	4,554,289,205
8. Dividends paid to policyholders	1,252,284,606	1,176,108,086	1,687,898,014
9. Federal and foreign income taxes paid (recovered) net of \$ (5,327,332) tax on capital gains (losses)	(16,457,597)	606,958,410	848,515,206
10. Total (Lines 5 through 9)	13,887,755,281	12,581,916,092	17,309,813,791
11. Net cash from operations (Line 4 minus Line 10)	9,430,490,008	9,449,287,240	12,161,258,957
Cash from Investments			
12. Proceeds from investments sold, matured or repaid:			
12.1 Bonds	20,814,889,705	26,784,472,249	37,911,439,932
12.2 Stocks	364,691,806	490,914,984	629,126,523
12.3 Mortgage loans	3,358,979,218	3,105,579,142	4,889,448,336
12.4 Real estate	243,412,260	75,387,206	75,387,206
12.5 Other invested assets	1,064,440,488	405,254,664	1,629,188,561
12.6 Net gains or (losses) on cash, cash equivalents and short-term investments	(73,685,183)	25,415,251	12,177,704
12.7 Miscellaneous proceeds	(1,058,489,440)	(537,528,242)	(305,410,969)
12.8 Total investment proceeds (Lines 12.1 to 12.7)	24,714,238,854	30,349,495,254	44,841,357,293
13. Cost of investments acquired (long-term only):			
13.1 Bonds	32,901,512,568	31,239,079,536	47,343,011,600
13.2 Stocks	477,200,449	4,106,348,598	4,481,057,055
13.3 Mortgage loans	1,545,628,270	3,901,902,618	5,170,406,661
13.4 Real estate	36,524,332	149,805,551	174,082,441
13.5 Other invested assets	2,426,007,101	2,222,374,440	4,032,799,863
13.6 Miscellaneous applications	(225,014,676)	(320,888,755)	(19,983,770)
13.7 Total investments acquired (Lines 13.1 to 13.6)	37,161,858,044	41,298,621,988	61,181,373,850
14. Net increase (or decrease) in contract loans and premium notes	597,996,043	457,991,802	522,273,694
15. Net cash from investments (Line 12.8 minus Line 13.7 and Line 14)	(13,045,615,233)	(11,407,118,536)	(16,862,290,251)
Cash from Financing and Miscellaneous Sources			
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	(630,056)	869,736,972	(1,465)
16.4 Net deposits on deposit-type contracts and other insurance liabilities	599,251,012	2,277,228,555	2,358,979,535
16.5 Dividends to stockholders			
16.6 Other cash provided (applied)	2,019,681,760	(569,985,610)	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)	2,593,302,716	2,576,979,917	4,905,591,537
RECONCILIATION OF CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS			
18. Net change in cash, cash equivalents and short-term investments (Line 11, plus Lines 15 and 17)	(1,021,822,509)	619,148,621	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)	4,920,976,765	6,357,387,652	5,942,799,274

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

20.0001. Bonds transferred to mortgage loans	625,966,172		
20.0002. Bond conversions and refinancing	513,931,318	509,780,659	728,694,414
20.0003. Transfer of partnerships to common stocks - subsidiaries and affiliates	284,717,390		
20.0004. Partnerships and LLCs transferred to bonds	173,154,514		
20.0005. Stock conversion	103,952,014	62,323,634	106,924,558
20.0006. Change in market value of COLI	74,527,234	213,946,244	271,872,643
20.0007. Transfer of mortgage loans to partnerships and LLCs	40,200,000	11,266,500	11,331,264
20.0008. Deferred gain on sale of real estate	16,134,760		
20.0009. Net investment income payment in-kind bonds	9,821,599	13,585,791	16,245,620
20.0010. Cash equivalents transferred to bonds	5,009,911		

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

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

20.0011. Premium income recognized for group annuity contracts			1,236,691,127
20.0012. Bonds received as consideration for group annuity contracts		720,238,386	1,231,331,225
20.0013. Premium ceded in exchange for invested assets			514,062,514
20.0014. Bonds transferred in exchange for premium ceded			511,092,839
20.0015. Surplus notes issued in exchange for bonds		233,056,607	233,056,607
20.0016. Bonds received as consideration for surplus notes		233,056,607	233,056,607
20.0017. Transfer of Bonds to Cash Equivalents			150,000,000
20.0018. Exchange of mortgage loans for other assets		18,380,541	18,380,541
20.0019. Common stock received as consideration for group annuity contracts		3,987,084	5,359,902
20.0020. Transfer of stocks to partnerships		3,803,184	3,803,184
20.0021. Stock transferred in exchange for premium ceded		2,969,675	2,969,675
20.0022. Dividend reinvestment		355,601	355,601
20.0023. Premium income recognized for a group annuity contracts		721,255,795	

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	7,841,556,324	8,222,228,049	11,365,857,097
3. Ordinary individual annuities	6,494,429,302	3,829,015,671	6,098,675,931
4. Credit life (group and individual)			
5. Group life insurance	104,551,646	98,938,835	131,009,303
6. Group annuities	9,786,111,341	9,396,931,037	12,514,735,897
7. A & H - group	498,929	354,089	604,222
8. A & H - credit (group and individual)			
9. A & H - other	585,549,677	577,702,478	773,966,424
10. Aggregate of all other lines of business			
11. Subtotal (Lines 1 through 10)	24,812,697,220	22,125,170,159	30,884,848,873
12. Fraternal (Fraternal Benefit Societies Only)			
13. Subtotal (Lines 11 through 12)	24,812,697,220	22,125,170,159	30,884,848,873
14. Deposit-type contracts	3,831,538,241	4,982,549,363	6,245,596,458
15. Total (Lines 13 and 14)	28,644,235,461	27,107,719,522	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)			

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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
NET INCOME					
(1) State basis (Page 4, Line 35, Columns 1 & 3)	XXX	XXX	XXX	\$ 691,749,227	\$ (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>691,749,227</u>	\$ <u>(216,406,821)</u>
SURPLUS					
(5) State basis (Page 3, Line 38, Columns 1 & 2)	XXX	XXX	XXX	\$ 28,211,622,935	\$ 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>28,211,622,935</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 nine months ended September 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	(58,074,882)	(58,074,882)	58,074,882
Cash, cash equivalents and short-term investments	(3,626,087)	(3,626,087)	(3,626,087)
Total	\$ (61,700,969)	\$ (61,700,969)	

Of the \$61,700,969 decrease to surplus for prior years' errors, \$61,700,969 was recorded as prior period adjustments, net of taxes

NOTES TO FINANCIAL STATEMENTS

For the nine months ended September 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	(12,536,002)	(12,536,002)	(12,536,002)
Common stocks - subsidiaries and affiliates	-	(1,500,000)	(1,500,000)
Net deferred income taxes	-	49,330,000	49,330,000
Total	<u>\$ 13,612,998</u>	<u>\$ 61,442,998</u>	

Of the \$61,442,998 increase to surplus for prior years' errors, \$13,612,998 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	-	-	-	-	14,246,796	14,246,796
3. Total (1+2)	-	-	-	-	14,246,796	14,246,796
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	-	-	-	-	-	-

NOTES TO FINANCIAL STATEMENTS

- (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	\$ -	\$ -	\$ -	\$ -	15,331,504	\$ -	15,331,504
2. Interest income recognized	-	-	-	-	-	-	-
3. Recorded investment on nonaccrual status	-	-	-	-	14,246,796	-	14,246,796
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 September 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.

- (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	30,135,997	-	6,278,218	23,857,779
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	17,306,639	-	1,480,248	15,826,391
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	23,315,048	-	1,298,978	22,016,070
i. Total third quarter	<u>\$ 23,315,048</u>	<u>\$ -</u>	<u>\$ 1,298,978</u>	<u>\$ 22,016,070</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	-	-	-	-
l. Total fourth quarter	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

m. Annual aggregate total

\$ - \$ 9,057,444

NOTES TO FINANCIAL STATEMENTS

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.

CUSIP	Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value at Time of OTTI	Date of Financial Instrument Where Reported
00256DAA0	\$ 1,762,699	\$ 1,364,210	\$ (398,489)	\$ 1,364,210	\$ 1,122,333	March 31, 2022
07388VAH1	2,364,730	244,594	(2,120,137)	244,594	244,594	March 31, 2022
22545XBB8	1,683,921	211,871	(1,472,050)	211,871	210,934	March 31, 2022
00442FAB8	70,075	52,264	(17,811)	52,264	10,685	March 31, 2022
040104TF8	59,249	53,852	(5,397)	53,852	41,892	March 31, 2022
040104TG6	623,388	531,410	(91,978)	531,410	545,952	March 31, 2022
04012XAC9	178,777	162,199	(16,578)	162,199	136,446	March 31, 2022
1248MGAJ3	52,182	51,033	(1,149)	51,033	45,331	March 31, 2022
17311YAC7	1,623,994	1,327,822	(296,172)	1,327,822	1,502,602	March 31, 2022
24763LFY1	134,155	67,703	(66,452)	67,703	106,050	March 31, 2022
35729RAE6	4,416,912	4,231,274	(185,638)	4,231,274	3,947,591	March 31, 2022
40431KAE0	2,521,316	2,214,702	(306,614)	2,214,702	2,513,960	March 31, 2022
45071KDD3	488,363	436,903	(51,460)	436,903	448,752	March 31, 2022
55291KAC1	633,248	169,402	(463,846)	169,402	598,172	March 31, 2022
57643LMP8	906,102	809,314	(96,788)	809,314	815,499	March 31, 2022
617463AA2	10,553	9,894	(659)	9,894	8,101	March 31, 2022
61750FAE0	509,354	473,873	(35,481)	473,873	435,242	March 31, 2022
617526AE8	262,688	214,229	(48,459)	214,229	243,939	March 31, 2022
86359DXD4	304,264	279,462	(24,802)	279,462	275,224	March 31, 2022
07384YPP5	314,885	207,555	(107,330)	207,555	66,352	March 31, 2022
32053LAA0	27,875	22,820	(5,055)	22,820	25,221	March 31, 2022
45660LAU3	78,731	75,334	(3,397)	75,334	76,824	March 31, 2022
59020UW43	176,900	108,489	(68,411)	108,489	132,229	March 31, 2022
65535VRK6	592,663	536,987	(55,676)	536,987	561,983	March 31, 2022
761118FM5	1,932,729	1,911,872	(20,857)	1,911,872	1,863,619	March 31, 2022
76112HAE7	13,536	10,283	(3,253)	10,283	13,495	March 31, 2022
92978EAA2	102,806	97,782	(5,024)	97,782	94,757	March 31, 2022
93935PAH2	137,585	115,483	(22,102)	115,483	131,766	March 31, 2022
41161PWB5	884,324	852,993	(31,331)	852,993	771,130	March 31, 2022
45660N5H4	1,600,750	1,533,921	(66,829)	1,533,921	1,444,261	March 31, 2022
36298XAB8	5,320,204	5,307,865	(12,338)	5,307,865	5,034,048	March 31, 2022
55274SAM3	177,495	25,133	(152,362)	25,133	29,827	March 31, 2022
59024WAB3	137,567	119,223	(18,344)	119,223	142,528	March 31, 2022
94984GAD9	31,976	26,026	(5,950)	26,026	33,031	March 31, 2022
01853GAB6	66,515	11,444	(55,072)	11,444	88,216	June 30, 2022
040104RV5	1,784,407	1,603,660	(180,747)	1,603,660	1,520,334	June 30, 2022
040104TF8	38,441	35,870	(2,572)	35,870	27,369	June 30, 2022
04012XAC9	110,303	106,039	(4,264)	106,039	85,613	June 30, 2022
1248MGAJ3	33,572	31,812	(1,760)	31,812	27,009	June 30, 2022
14454AAB5	881,442	677,715	(203,728)	677,715	840,850	June 30, 2022
35729RAE6	4,202,719	4,089,490	(113,229)	4,089,490	3,504,758	June 30, 2022
45071KDD3	273,858	258,285	(15,573)	258,285	253,045	June 30, 2022
61749BAB9	51,130	41,427	(9,703)	41,427	50,025	June 30, 2022
86359DXD4	272,114	262,835	(9,280)	262,835	230,996	June 30, 2022
86363HAB8	33,458	28,887	(4,571)	28,887	26,054	June 30, 2022
05535DAN4	1,158,770	873,964	(284,806)	873,964	779,790	June 30, 2022
07387AFX8	65,702	54,499	(11,203)	54,499	65,889	June 30, 2022
12668ABP9	177,942	145,191	(32,751)	145,191	170,379	June 30, 2022
18974BAA7	163,686	159,493	(4,193)	159,493	158,996	June 30, 2022
18974BAN9	77,869	70,973	(6,896)	70,973	75,478	June 30, 2022
22943HAD8	4,013,588	3,751,800	(261,788)	3,751,800	2,037,389	June 30, 2022
45254TRX4	45,557	40,333	(5,224)	40,333	42,158	June 30, 2022
525221AJ6	718,882	583,189	(135,689)	583,191	606,787	June 30, 2022
59020UW43	106,580	102,698	(3,880)	102,698	124,978	June 30, 2022
761118FM5	1,217,617	1,142,589	(75,026)	1,142,589	1,144,285	June 30, 2022
85554NAG5	94,558	80,862	(13,696)	80,862	90,860	June 30, 2022
92978EAA2	67,304	65,210	(2,094)	65,210	61,610	June 30, 2022

NOTES TO FINANCIAL STATEMENTS

45660N5H4	1,537,499	1,502,180	(35,320)	1,502,180	1,379,463	June 30, 2022
12669GXW6	44,815	41,990	(2,826)	41,990	77,371	June 30, 2022
589929N38	68,312	63,956	(4,356)	63,956	65,216	June 30, 2022
01853GAB6	14,137	14,133	(4)	14,133	81,535	September 30, 2022
02660CAH3	30,416	30,133	(283)	30,133	520	September 30, 2022
040104RV5	1,615,798	1,524,246	(91,552)	1,524,246	1,400,628	September 30, 2022
040104TF8	51,554	45,567	(5,987)	45,567	35,698	September 30, 2022
040104TG6	548,457	448,751	(99,706)	448,751	462,045	September 30, 2022
04012XAC9	158,236	138,996	(19,240)	138,996	114,648	September 30, 2022
1248MGAJ3	48,376	46,059	(2,317)	46,059	37,828	September 30, 2022
14454AAB5	676,443	675,900	(543)	675,900	797,469	September 30, 2022
35729RAE6	4,081,381	3,766,230	(315,151)	3,766,230	3,254,010	September 30, 2022
40431KAE0	2,165,192	2,079,404	(85,788)	2,079,404	2,080,910	September 30, 2022
46629NAC7	37,064	34,532	(2,532)	34,532	28,639	September 30, 2022
46630KAA4	168,908	166,176	(2,733)	166,176	156,211	September 30, 2022
57643LMP8	794,964	695,958	(99,006)	695,958	707,626	September 30, 2022
617463AA2	9,759	8,712	(1,047)	8,712	6,788	September 30, 2022
61750FAE0	472,290	426,190	(46,100)	426,190	370,275	September 30, 2022
617526AE8	213,790	183,317	(30,473)	183,317	205,107	September 30, 2022
86359DXD4	258,372	209,421	(48,950)	209,421	209,160	September 30, 2022
86363HAB8	42,386	39,363	(3,023)	39,363	33,395	September 30, 2022
93934XAB9	173,541	135,596	(37,945)	135,596	152,650	September 30, 2022
05535DAN4	846,722	844,091	(2,632)	844,091	719,154	September 30, 2022
12667GKG7	53,610	50,015	(3,595)	50,015	52,574	September 30, 2022
12668ACY9	196,165	158,127	(38,037)	158,127	199,829	September 30, 2022
18974BAA7	139,604	135,673	(3,931)	135,673	142,094	September 30, 2022
22540VG71	39,290	38,205	(1,085)	38,205	39,865	September 30, 2022
22943HAD8	3,726,422	3,648,804	(77,618)	3,648,804	1,947,539	September 30, 2022
45254TSM7	666,066	648,569	(17,497)	648,569	557,450	September 30, 2022
466247XE8	670,770	665,673	(5,097)	665,673	576,833	September 30, 2022
525221AJ6	554,561	553,790	(771)	553,790	552,476	September 30, 2022
59020UW43	99,571	98,502	(1,069)	98,502	80,640	September 30, 2022
65535VRK6	537,959	492,267	(45,692)	492,267	506,957	September 30, 2022
75116CET9	52,218	37,480	(14,738)	37,480	51,726	September 30, 2022
92926UAC5	57,744	45,834	(11,910)	45,834	55,826	September 30, 2022
92978EAA2	93,378	87,280	(6,098)	87,280	83,812	September 30, 2022
23332UCM4	26,121	24,163	(1,958)	24,163	25,263	September 30, 2022
41161PTP8	76,675	72,259	(4,416)	72,259	68,493	September 30, 2022
41161PWB5	796,629	761,585	(35,044)	761,585	655,513	September 30, 2022
45660N5H4	1,475,897	1,375,793	(100,104)	1,375,793	1,309,005	September 30, 2022
362341VU0	1,644,583	1,609,277	(35,306)	1,609,277	1,524,505	September 30, 2022
Totals	\$ 70,757,685	\$ 61,700,239	\$ (9,057,444)	\$ 61,700,241	\$ 56,493,984	

(4) As of September 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	\$ (1,154,269,479)
2. 12 months or longer	\$ (545,052,443)
b. The aggregate related fair value of securities with unrealized losses:	
1. Less than 12 months	\$ 16,893,862,503
2. 12 months or longer	\$ 3,260,432,216

(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 September 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.

NOTES TO FINANCIAL STATEMENTS

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	YES	-
b. Tri-Party (YES/NO)	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	\$ 491,742,647	\$ -
5. > 1 Month to 3 Months	\$ 2,091,585,319	\$ 2,968,437,775	\$ 3,486,300,017	\$ -
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	\$ 491,742,647	\$ -
5. > 1 Month to 3 Months	\$ 1,900,876,431	\$ 2,968,437,775	\$ 3,049,205,843	\$ -
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 September 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
Nonadmitted - Subset of				
2. BACV	XXX	XXX	XXX	XXX
3. Fair Value	\$ 3,264,812,726	\$ 3,196,875,275	\$ 3,680,550,017	\$ -

	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
b. Ending Balance				
1. BACV	\$ 2,655,546,652	\$ 3,196,875,275	\$ 3,049,205,843	\$ -
Nonadmitted - Subset of				
2. BACV	-	-	-	-
3. Fair Value	\$ 2,655,546,652	\$ 3,196,875,275	\$ 3,049,205,843	\$ -

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

ENDING BALANCE		1 NONE	2 NAIC 1	3 NAIC 2	4 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 NAIC 4	6 NAIC 5	7 NAIC 6	8 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

NOTES TO FINANCIAL STATEMENTS

(7) Collateral Received - Secured Borrowing

	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
a. Maximum Amount				
1. Cash	\$ 61,166,000	\$ 88,202,811	\$ 143,669,541	\$ -
2. Securities (FV)	\$ 2,800,312,571	\$ 2,881,690,980	\$ 3,248,928,084	\$ -
b. Ending Balance				
1. Cash	\$ 61,166,000	\$ 24,467,000	\$ 50,217,936	\$ -
2. Securities (FV)	\$ 2,464,377,215	\$ 2,881,690,980	\$ 3,051,632,273	\$ -

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

ENDING BALANCE		1 NONE	2 NAIC 1	3 NAIC 2	4 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 NAIC 4	6 NAIC 5	7 NAIC 6	8 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)	\$ -	\$ -	\$ -	\$ -

(9) Allocation of Aggregate Collateral by Remaining Contractual Maturity

	FAIR VALUE
a. Overnight and Continuous	\$ -
b. 30 Days or Less	\$ 164,974,830
c. 31 to 90 Days	\$ 30,40,879,137
d. > 90 Days	\$ -

(10) The company did not have any repurchase agreements where cash collateral received was reinvested as of September 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	\$ 143,669,541	\$ -
2. Securities Collateral (FV)	\$ 2,800,312,571	\$ 2,881,690,980	\$ 3,248,928,084	\$ -
b. Ending Balance				
1. Cash (Collateral – All)	\$ 61,166,000	\$ 24,467,000	\$ 50,217,936	\$ -
2. Securities Collateral (FV)	\$ 2,464,377,215	\$ 2,881,690,980	\$ 3,051,632,273	\$ -

- 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 September 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 September 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 September 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 September 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 September 30, 2022.

NOTES TO FINANCIAL STATEMENTS

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	188	153	\$1,402,160,143	\$1,298,544,081	\$1,391,531,605	\$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	9,983,584	7,066,789
(4) Preferred Stock - FV		1		6,276,526		6,276,526
(5) Total (1+2+3+4)	191	159	\$1,409,174,639	\$1,322,235,103	\$1,401,515,189	\$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:

	Nine Months Ended September 30, 2022	
	General Account	Separate Account
1. Number of CUSIPS	30	10
2. Aggregate amount of investment income	\$ 29,763,305	\$ 1,678,174

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

Asset Type	Percent Share
(1) Cash	18 %
(2) Cash equivalents	64 %
(3) Short-term investments	18 %
(4) Total	100 %

Note 6 – Joint Ventures, Partnerships and Limited Liability Companies - No change**Note 7 – Investment Income** – No change**Note 8 – Derivative Instruments**

- The Company did not have any deferred derivative premium payments under SSAP No. 86.
- The Company did not account for any derivatives under SSAP No. 108.

Note 9 – Income Taxes – No change.**Note 10 – Information Concerning Parent, Subsidiaries and Affiliates**

- MassMutual Holding LLC (MMHLLC) paid \$604,000,000 in dividends to MassMutual for the nine months ended September 30, 2022, \$344,000,000 of which were declared in 2021, and paid \$1,200,000,000 in dividends to MassMutual for the nine months ended September 30, 2021, \$1,000,000,000 of which were declared in 2020.

MassMutual contributed capital of \$526,162,476 to MMHLLC for the nine months ended September 30, 2022 and \$167,462,515 for the nine months ended September 30, 2021.

d-f. No change

- 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

- No change.
- Federal Home Loan Bank agreements:
 - 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 \$3,891,720,164 as of September 30, 2022.

NOTES TO FINANCIAL STATEMENTS

(2) FHLB Boston capital stock

a. Aggregate totals:

		September 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		<u>\$ 91,670,000</u>	<u>\$ 91,670,000</u>	<u>\$ -</u>
(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		<u>\$ 75,004,600</u>	<u>\$ 75,004,600</u>	<u>\$ -</u>
(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:

		Nine Months Ended September 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 September 30, 2022:

1. Current year total general and separate accounts:

	Fair Value	Carrying Value	Aggregate Total Borrowing
Total collateral pledged	\$ 3,695,088,035	\$ 2,679,502,390	\$ 2,108,279,836

2. Current year general account:

	Fair Value	Carrying Value	Aggregate Total Borrowing
Total collateral pledged	\$ 3,695,088,035	\$ 2,679,502,390	\$ 2,108,279,836

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 nine months ended September 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	\$ 2,113,805,888

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	\$ 2,113,805,888

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:

	September 30, 2022			
	1 Total 2+3	2 General Account	3 Separate Account	4 Funding Agreements Reserves Established
(a) Debt	\$ -	\$ -	\$ -	\$ -
(b) Funding agreements	2,108,279,836	2,108,279,836	-	2,108,279,836
(c) Other	-	-	-	-
(d) Aggregate total	<u>\$ 2,108,279,836</u>	<u>\$ 2,108,279,836</u>	<u>\$ -</u>	<u>\$ 2,108,279,836</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:

	Nine Months Ended September 30, 2022		
	1 Total 2+3	2 General Account	3 Separate Account
1. Debt	\$ -	\$ -	\$ -
2. Funding	2,113,805,888	2,113,805,888	-
3. Other	-	-	-
4. Aggregate	<u>\$ 2,113,805,888</u>	<u>\$ 2,113,805,888</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 Nine months Ended September 30,					
	2022	2021	2022	2021	2022	2021
	Pension Benefits		Postretirement Benefits		Special or Contractual Benefits per SSAP No 11	
a. Service cost	\$ 72,738,464	\$ 82,370,039	\$ 7,200,000	\$ 7,725,000	\$ -	\$ -
b. Interest cost	64,298,970	57,875,031	7,725,000	6,975,000	-	-
c. Expected return on plan assets	(145,214,563)	(137,158,818)	-	-	-	-
d. Transition asset or obligation	-	-	-	-	-	-
e. Gains and losses	6,995,366	28,966,061	(1,200,000)	750,000	-	-
f. Prior service cost or (credit)	-	-	(4,125,000)	(4,125,000)	-	-
h. Total net periodic benefit cost	<u>\$ (1,181,763)</u>	<u>\$ 32,052,313</u>	<u>\$ 9,600,000</u>	<u>\$ 11,325,000</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.

NOTES TO FINANCIAL STATEMENTS

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

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 nine months ended September 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.

NOTES TO FINANCIAL STATEMENTS

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

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

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

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

The fair value of 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:

	September 30, 2022			Net Asset Value	
	Level 1	Level 2	Level 3	(NAV)	Total
Financial assets:					
Bonds:					
All other governments	\$ -	\$ 5,360,189	\$ -	\$ -	\$ 5,360,189
Special revenue	\$ -	\$ 5,631,125	\$ -	\$ -	\$ 5,631,125
Industrial and miscellaneous	-	346,842,570	196,603,637	-	543,446,207
Preferred stocks	20,601,760	-	47,841,323	-	68,443,083
Common stock - subsidiaries and affiliates	90,814,235	-	399,804,398	-	490,618,633
Common stock - unaffiliated	467,351,010	3,111,353	911,061,817	-	1,381,524,180
Derivatives:					
Interest rate swaps	-	18,378,451,635	-	-	18,378,451,635
Options	35,417,150	536,081,673	-	-	571,498,823
Currency swaps	-	4,395,559,351	-	-	4,395,559,351
Forward contracts	-	337,440,017	-	-	337,440,017
Credit default swaps	-	5,322,000	-	-	5,322,000
Financial futures	55,877,029	-	-	-	55,877,029
Separate account assets	32,951,033,910	18,796,109,215	1,594,072,906	-	53,341,216,031
Total financial assets carried at fair value	\$ 33,621,095,094	\$ 42,809,909,128	\$ 3,149,384,081	\$ -	\$ 79,580,388,303
Financial liabilities:					
Interest rate swaps	\$ -	\$ 13,223,020,506	\$ -	\$ -	\$ 13,223,020,506
Options	9,772,800	-	-	-	9,772,800
Currency swaps	-	72,951,585	-	-	72,951,585
Forward contracts	-	63,446,868	-	-	63,446,868
Credit default swaps	-	63,400	-	-	63,400
Financial futures	227,115,365	-	-	-	227,115,365
Total financial liabilities carried at fair value	\$ 236,888,165	\$ 13,359,482,359	\$ -	\$ -	\$ 13,596,370,524

STATEMENT AS OF SEPTEMBER 30, 2022 OF Massachusetts Mutual Life Insurance Company

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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 September 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.

	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	306,315,848	-	-	321,418,748
Currency swaps	-	947,968,166	-	-	947,968,166
Forward contracts	-	67,173,173	-	-	67,173,173
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:

Financial assets:	Balance as of 1/1/2022	Transfers		Gains (Losses) in Net Income	Gains (Losses) in Surplus	Purchases	Issuances	Sales	Settlements	Other	Balance as of 9/30/2022
		In	Out								
Bonds:											
Industrial and miscellaneous	\$ 186,869,899	\$ -	\$ 1,000,000	\$ 5,799	\$ (37,980,811)	\$ 15,954,001	\$ 7,292,350	\$ -	\$ (10,537,601)	\$ 34,000,000	\$ 196,603,637
Preferred stock	17,819,880	30,000,000	-	-	21,443	-	-	-	-	-	47,841,323
Common stock - subsidiaries and affiliates	253,282,028	-	-	289,286	(38,000,000)	7,819,201	178,359,213	-	(1,945,330)	-	399,804,398
Common stock - unaffiliated	753,429,486	416	(2,923,664)	27,630,392	29,141,875	298,314,939	224	(27,035,206)	(167,496,645)	-	911,061,817
Separate account assets	1,893,940,793	-	(12,868,618)	(196,077,816)	-	169,284,923	-	(260,014,004)	(192,372)	-	1,594,072,906
Total financial assets	\$ 3,105,342,086	\$ 30,000,416	\$ (14,792,282)	\$ (168,152,339)	\$ (46,817,493)	\$ 491,373,064	\$ 185,651,787	\$ (287,049,210)	\$ (180,171,948)	\$ 34,000,000	\$ 3,149,384,081

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.

Financial assets:	Balance as of 01/01/2021	Transfers ⁽¹⁾		Gains (Losses) in Net Income	Gains (Losses) in Surplus	Purchases	Issuances	Sales	Settlements	Balance as of 12/31/2021
		In	Out							
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

⁽¹⁾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.

NOTES TO FINANCIAL STATEMENTS

(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:

		September 30, 2022					Net	Not
		Aggregate	Admitted				Asset	Practicable
		Fair Value	Assets	Level 1	Level 2	Level 3	Value	(Carrying
							(NAV)	Value)
Financial assets:								
Bonds:								
U. S. government and agencies	\$	4,629,119,834	\$ 4,929,542,188	-	\$ 4,629,029,454	\$ (1,325)	-	-
All other governments		1,340,854,163	1,656,593,233	-	1,256,913,841	83,940,322	-	-
States, territories and possessions		257,150,380	267,611,909	-	257,150,380	-	-	-
Political subdivisions		384,589,664	404,843,806	-	384,589,664	-	-	-
Special revenue		4,110,980,684	4,210,633,851	-	4,102,024,617	8,956,067	-	-
Industrial and miscellaneous		102,035,417,825	113,641,128,938	31,479,737	45,822,071,789	56,181,866,299	-	-
Parent, subsidiaries and affiliates		7,225,173,079	7,430,572,904	-	36,724,424	7,188,448,655	-	-
Preferred stocks		453,083,783	458,083,783	49,823,646	-	403,260,137	-	-
Common stocks - subsidiaries								
and affiliates ⁽¹⁾		490,618,633	490,618,633	90,814,235	-	399,804,398	-	-
Common stocks - unaffiliated		1,381,524,181	1,381,524,181	467,351,010	3,111,353	911,061,818	-	-
Mortgage loans - commercial		18,673,064,557	20,404,581,025	-	-	18,673,064,557	-	-
Mortgage loans - residential		3,926,294,286	4,248,363,573	-	-	3,926,294,286	-	-
Cash, cash equivalents and								
short-term investments		4,921,014,480	4,921,014,480	-	4,921,014,480	-	-	-
Derivatives:								
Interest rate swaps		18,517,482,318	18,378,451,633	-	18,517,482,320	-	-	-
Options		571,498,823	571,498,823	35,417,150	536,081,673	-	-	-
Currency swaps		4,395,559,351	4,395,559,351	-	4,395,559,351	-	-	-
Forward contracts		337,440,018	337,440,018	-	337,440,017	-	-	-
Credit default swaps		5,782,001	5,322,001	-	5,782,001	-	-	-
Financial futures		55,877,030	55,877,030	55,877,030	-	-	-	-
Separate account assets		53,341,216,031	53,341,216,031	32,951,033,910	18,796,109,215	1,594,072,906	-	-
Financial liabilities:								
Commercial paper		249,947,917	249,947,917	-	249,947,917	-	-	-
Guaranteed interest contracts		13,404,016,899	14,358,743,363	-	-	13,404,016,899	-	-
Group annuity contracts and								
other deposits		1,815,881,132	2,052,810,425	-	-	1,815,881,132	-	-
Individual annuity contracts		15,050,042,328	14,579,760,271	-	-	15,050,042,328	-	-
Supplementary contracts		1,177,582,945	1,176,333,632	-	-	1,177,582,945	-	-
Derivatives:								
Interest rate swaps		18,086,020,506	13,223,020,506	-	18,086,020,506	-	-	-
Options		9,772,800	9,772,800	9,772,800	-	-	-	-
Currency swaps		72,951,585	72,951,585	-	72,951,585	-	-	-
Forward contracts		63,446,868	63,446,868	-	63,446,868	-	-	-
Credit default swaps		2,525,213	1,107,328	-	2,525,213	-	-	-
Financial futures		227,115,365	227,115,365	227,115,365	-	-	-	-

⁽¹⁾Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had a statutory carrying value of \$23,933,343,709

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December 31, 2021

	Aggregate	Admitted				Net	Not
	Fair Value	Assets	Level 1	Level 2	Level 3	Asset	Practicable
						Value	(Carrying
						(NAV)	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 ⁽¹⁾	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	-	-	-	-

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

- d. As of September 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.

NOTES TO FINANCIAL STATEMENTS**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.

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 geopolitics 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 September 30, 2022 was \$325,171,264. On March 25, 2022, all Russia securities and Ukraine sovereign investments were impaired to market value due to intent to sell. This has resulted in a year-to-date impaired realized loss of \$235,551,655. Some Russia related securities were sold through the nine months ended September 30, 2022 resulting in a realized loss of \$89,619,608. Total statutory surplus decreased by \$325,171,264.

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

NOTES TO FINANCIAL STATEMENTS

- e. State transferrable tax credits - No change
- f. Subprime mortgage related risk exposure:
- (1) No change
 - (2) No change
 - (3) Direct exposure through other investments:

Alt-A:	Nine Months Ended September 30, 2022			
	Actual Cost	Carrying Value	Fair Value	OTTI
a. Residential mortgage-backed securities	\$ 162,379,315	\$ 189,812,582	\$ 193,472,021	\$ 1,633,008
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>\$ 176,094,989</u>	<u>\$ 205,271,825</u>	<u>\$ 208,703,127</u>	<u>\$ 1,714,775</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 November 14, 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

NOTES TO FINANCIAL STATEMENTS

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: \$ 3,151,696,094
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
Prior Year-End
Book/Adjusted
Carrying Value | 2
Current Quarter
Book/Adjusted
Carrying Value |
|---|--|---|
| 14.21 Bonds | \$ 6,548,332,993 | \$ 7,430,572,904 |
| 14.22 Preferred Stock | \$ | \$ |
| 14.23 Common Stock | \$ 24,287,466,580 | \$ 24,457,067,611 |
| 14.24 Short-Term Investments | \$ | \$ |
| 14.25 Mortgage Loans on Real Estate | \$ | \$ |
| 14.26 All Other | \$ 6,361,773,586 | \$ 5,606,867,686 |
| 14.27 Total Investment in Parent, Subsidiaries and Affiliates (Subtotal Lines 14.21 to 14.26) | \$ 37,197,573,159 | \$ 37,494,508,202 |
| 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. \$

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
Citibank, N.A.	London Canada SQ Service CTR Citigroup CTR 25 Canada Sq London E14 5LB UK

- 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	2	3	4	5
Central Registration Depository Number	Name of Firm or Individual	Legal Entity Identifier (LEI)	Registered With	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 SEPTEMBER 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 9/30/2022, 126 issues for 97 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 \$2,060,768,700 or 1.29% 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 | \$ 4,248,363,311 |
| 1.13 Commercial Mortgages | \$ 20,404,581,287 |
| 1.14 Total Mortgages in Good Standing | \$ 24,652,944,598 |
| 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 | \$ |
| 1.44 Total Mortgages in Process of Foreclosure | \$ |
| 1.5 Total Mortgage Loans (Lines 1.14 + 1.21 + 1.34 + 1.44) (Page 2, Column 3, Lines 3.1 + 3.2) | \$ 24,652,944,598 |
| 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 SEPTEMBER 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
.00000	98-1620702	03/11/2022	MARTELLO RE LIMITED (MR22)	BMJ	COFW/I	IA	Unauthorized		
.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	08/20/2022	GENERAL RE LIFE CORPORATION (GRUN)	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 (GRX2)	CT	YRT/I	OL	Authorized		
.86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRX3)	CT	CO/I	OL	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 (GRX4)	CT	YRT/I	OL	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 (GRX6)	CT	CO/I	OL	Authorized		
.86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRX6)	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 (GRX8)	CT	CO/I	OL	Authorized		
.86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRX8)	CT	YRT/I	OL	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 (GRX9)	CT	YRT/I	OL	Authorized		
.86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRXA)	CT	YRT/I	OL	Authorized		
.86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRXB)	CT	CO/I	OL	Authorized		
.86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRXC)	CT	CO/I	OL	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 (GRXE)	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 (GRXG)	CT	CO/I	OL	Authorized		
.86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRXH)	CT	CO/I	OL	Authorized		
.86258	13-2572994	06/25/2022	GENERAL RE LIFE CORPORATION (GRXI)	CT	CO/I	OL	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	AA-5420050	08/20/2022	KOREAN REINSURANCE COMPANY (KRUN)	KOR	YRT/I	OL	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	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 (MUX3)	GA	CO/I	OL	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 (MUX4)	GA	YRT/I	OL	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 (MUX6)	GA	CO/I	OL	Authorized		
.66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX6)	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		

STATEMENT AS OF SEPTEMBER 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
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX8)	GA	CO/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUX8)	GA	YRT/I	OL	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 (MUX9)	GA	YRT/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUA)	GA	YRT/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUXB)	GA	CO/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUXC)	GA	CO/I	OL	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 (MUXE)	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 (MUXG)	GA	CO/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUXH)	GA	CO/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUXI)	GA	CO/I	OL	Authorized		
66346	58-0828824	06/25/2022	MUNICH AMERICAN REASSURANCE COMPANY (MUXJ)	GA	YRT/I	OL	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 (PRX2)	AR	YRT/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX3)	AR	CO/I	OL	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 (PRX4)	AR	YRT/I	OL	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 (PRX6)	AR	CO/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX6)	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 (PRX8)	AR	CO/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRX8)	AR	YRT/I	OL	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 (PRX9)	AR	YRT/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRXA)	AR	CO/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRXB)	AR	CO/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRXC)	AR	CO/I	OL	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 (PRXE)	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 (PRXG)	AR	CO/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRXH)	AR	CO/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRXI)	AR	CO/I	OL	Authorized		
74900	63-0483783	06/25/2022	PARTNERRE LIFE REINSURANCE COMPANY OF AMERICA (PRXJ)	AR	YRT/I	OL	Authorized		
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	08/20/2022	RGA REINSURANCE COMPANY (GAUN)	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 (GAX2)	MO	YRT/I	OL	Authorized		

STATEMENT AS OF SEPTEMBER 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	06/25/2022	... RGA REINSURANCE COMPANY (GAX3)	MO	CO/I	OL	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 (GAX4)	MO	YRT/I	OL	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 (GAX6)	MO	CO/I	OL	Authorized		
93572	43-1235868	06/25/2022	... RGA REINSURANCE COMPANY (GAX6)	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 (GAX8)	MO	CO/I	OL	Authorized		
93572	43-1235868	06/25/2022	... RGA REINSURANCE COMPANY (GAX8)	MO	YRT/I	OL	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 (GAX9)	MO	YRT/I	OL	Authorized		
93572	43-1235868	06/25/2022	... RGA REINSURANCE COMPANY (GAXA)	MO	YRT/I	OL	Authorized		
93572	43-1235868	06/25/2022	... RGA REINSURANCE COMPANY (GAXB)	MO	CO/I	OL	Authorized		
93572	43-1235868	06/25/2022	... RGA REINSURANCE COMPANY (GAXC)	MO	CO/I	OL	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 (GAXE)	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 (GAXG)	MO	CO/I	OL	Authorized		
93572	43-1235868	06/25/2022	... RGA REINSURANCE COMPANY (GAXH)	MO	CO/I	OL	Authorized		
93572	43-1235868	06/25/2022	... RGA REINSURANCE COMPANY (GAXI)	MO	CO/I	OL	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	08/20/2022	... SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUUN)	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 (SUX2)	DE	YRT/I	OL	Authorized		
97071	13-3126819	06/25/2022	... SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX3)	DE	CO/I	OL	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 (SUX4)	DE	YRT/I	OL	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 (SUX6)	DE	CO/I	OL	Authorized		
97071	13-3126819	06/25/2022	... SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX6)	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 (SUX8)	DE	CO/I	OL	Authorized		
97071	13-3126819	06/25/2022	... SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUX8)	DE	YRT/I	OL	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 (SUX9)	DE	YRT/I	OL	Authorized		
97071	13-3126819	06/25/2022	... SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUXA)	DE	YRT/I	OL	Authorized		
97071	13-3126819	06/25/2022	... SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUXB)	DE	CO/I	OL	Authorized		
97071	13-3126819	06/25/2022	... SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUXC)	DE	CO/I	OL	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 (SUXE)	DE	CO/I	OL	Authorized		
97071	13-3126819	06/25/2022	... SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUXF)	DE	CO/I	OL	Authorized		

STATEMENT AS OF SEPTEMBER 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
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUXG)	DE	CO/I	OL	Authorized		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUXH)	DE	CO/I	OL	Authorized		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUXI)	DE	CO/I	OL	Authorized		
97071	13-3126819	06/25/2022	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (SUXJ)	DE	YRT/I	OL	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	08/20/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRUN)	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. (SRX2)	MO	YRT/I	OL	Authorized		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX3)	MO	CO/I	OL	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. (SRX4)	MO	YRT/I	OL	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. (SRX6)	MO	CO/I	OL	Authorized		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX6)	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	OL	Authorized		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRX8)	MO	YRT/I	OL	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. (SRX9)	MO	YRT/I	OL	Authorized		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRXA)	MO	YRT/I	OL	Authorized		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRXB)	MO	CO/I	OL	Authorized		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRXC)	MO	CO/I	OL	Authorized		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRXD)	MO	CO/I	OL	Authorized		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRXE)	MO	CO/I	OL	Authorized		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRXF)	MO	CO/I	OL	Authorized		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRXG)	MO	CO/I	OL	Authorized		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRXH)	MO	CO/I	OL	Authorized		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRXI)	MO	CO/I	OL	Authorized		
82627	06-0839705	06/25/2022	SWISS RE LIFE & HEALTH AMERICA INC. (SRXJ)	MO	YRT/I	OL	Authorized		

STATEMENT AS OF SEPTEMBER 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		
								Life Insurance Premiums
Active Status (a)						Deposit-Type Contracts		
1. Alabama	AL	L	58,873,175	61,613,029	5,645,076	43,770,868	169,902,148	28,113,199
2. Alaska	AK	L	2,616,147	12,569,186	12,569,186	819,450	16,345,242	1,935,307
3. Arizona	AZ	L	70,431,738	327,329,102	8,538,475	13,961,090	420,260,405	114,105,378
4. Arkansas	AR	L	19,026,539	40,882,622	2,117,673	1,396,978	63,423,812	7,047,657
5. California	CA	L	812,590,639	806,337,056	47,884,166	838,969,056	2,505,780,917	141,308,644
6. Colorado	CO	L	81,803,636	190,728,856	8,814,586	5,083,041	286,430,119	20,069,421
7. Connecticut	CT	L	165,357,378	145,689,291	14,014,680	133,090,373	458,151,722	14,940,197
8. Delaware	DE	L	30,038,257	23,283,251	1,759,517	8,840,732	63,921,757	1,255,489,299
9. District of Columbia	DC	L	16,483,990	12,566,967	2,950,236	999,835,628	1,031,836,821	41,865,499
10. Florida	FL	L	473,196,727	600,852,006	27,950,460	146,879,042	1,248,878,235	158,938,937
11. Georgia	GA	L	173,593,258	194,872,489	18,810,384	109,701,101	496,977,232	52,552,122
12. Hawaii	HI	L	66,227,297	20,656,444	2,317,879	5,922,402	95,124,022	4,733,089
13. Idaho	ID	L	22,817,356	45,297,754	1,351,142	17,734,662	87,200,914	8,484,910
14. Illinois	IL	L	340,658,492	249,147,717	18,150,573	427,834,816	1,035,791,598	45,847,298
15. Indiana	IN	L	112,710,991	87,220,453	7,488,808	45,288,060	252,708,312	26,832,934
16. Iowa	IA	L	48,632,629	90,398,787	2,820,242	140,793,140	282,644,798	11,803,392
17. Kansas	KS	L	40,463,547	34,064,361	4,033,665	31,672,257	110,233,830	3,365,483
18. Kentucky	KY	L	33,996,038	61,878,482	4,015,010	19,440,026	119,329,556	14,570,901
19. Louisiana	LA	L	50,185,858	104,684,716	5,202,117	26,909,176	186,981,867	21,135,543
20. Maine	ME	L	22,865,418	35,354,370	1,927,031	4,950,265	65,097,084	9,356,724
21. Maryland	MD	L	107,216,397	121,540,126	19,749,614	119,753,306	368,259,443	61,962,294
22. Massachusetts	MA	L	237,016,948	416,294,610	24,632,586	1,762,245,760	2,440,189,904	734,001,805
23. Michigan	MI	L	94,956,472	245,720,926	10,669,834	252,103,862	603,450,914	36,558,033
24. Minnesota	MN	L	61,874,569	150,155,050	6,331,332	198,698,163	417,059,114	188,699,326
25. Mississippi	MS	L	57,071,008	47,861,406	7,678,930	8,629,631	121,240,975	11,220,291
26. Missouri	MO	L	62,026,523	96,995,935	7,873,333	71,097,616	237,993,407	39,337,304
27. Montana	MT	L	9,765,669	18,706,796	1,144,414	1,957,352	31,574,231	3,362,506
28. Nebraska	NE	L	160,980,663	46,786,225	4,452,348	169,939,446	382,158,682	11,158,760
29. Nevada	NV	L	28,812,139	53,398,419	2,791,818	44,651,854	129,654,230	11,224,388
30. New Hampshire	NH	L	30,772,555	72,727,606	3,384,386	13,875,642	120,760,189	11,387,754
31. New Jersey	NJ	L	373,457,718	373,567,780	27,885,391	418,034,744	1,192,945,633	63,249,181
32. New Mexico	NM	L	14,332,505	31,193,244	2,009,942	1,394,010	48,929,701	3,732,873
33. New York	NY	L	1,089,672,288	722,680,347	62,775,810	458,448,714	2,333,577,159	114,804,006
34. North Carolina	NC	L	141,699,224	220,007,418	22,447,848	80,292,925	464,447,415	72,719,376
35. North Dakota	ND	L	40,434,811	21,916,617	629,286	9,350,955	72,331,669	13,873,801
36. Ohio	OH	L	128,677,014	259,352,325	13,064,449	169,750,840	570,844,628	56,116,668
37. Oklahoma	OK	L	84,143,265	47,594,672	5,972,455	58,465,832	176,176,224	15,070,873
38. Oregon	OR	L	28,327,202	85,004,705	4,144,080	30,969,708	148,445,695	15,032,965
39. Pennsylvania	PA	L	334,880,727	541,844,012	30,690,122	191,999,229	1,099,414,090	15,962,375
40. Rhode Island	RI	L	34,248,005	40,163,052	2,205,835	37,871,805	114,488,697	4,570,626
41. South Carolina	SC	L	71,348,840	120,255,346	11,965,429	20,224,115	223,793,730	30,651,009
42. South Dakota	SD	L	7,987,052	12,330,924	521,494	775,420	21,614,890	3,586,053
43. Tennessee	TN	L	138,029,674	122,182,209	15,279,178	142,779,466	418,270,527	28,227,073
44. Texas	TX	L	404,958,938	640,386,580	36,991,956	192,649,678	1,274,987,152	115,091,299
45. Utah	UT	L	82,916,600	74,077,614	3,156,878	5,652,782	165,803,874	15,777,093
46. Vermont	VT	L	20,410,071	82,827,654	1,133,344	10,910,644	115,281,713	1,656,545
47. Virginia	VA	L	146,245,716	199,404,456	23,000,105	127,318,420	495,968,697	72,525,084
48. Washington	WA	L	68,407,234	156,549,585	8,741,897	40,316,435	274,015,151	48,322,552
49. West Virginia	WV	L	18,686,519	17,528,727	1,200,876	33,829,148	71,245,270	18,117,160
50. Wisconsin	WI	L	49,597,329	213,055,807	4,717,622	34,121,544	301,492,302	10,425,077
51. Wyoming	WY	L	8,410,127	13,561,384	468,082	316,339	22,755,932	3,151,180
52. American Samoa	AS	N						
53. Guam	GU	N	889		11,847		12,736	30,533
54. Puerto Rico	PR	L	61,665,689	38,546,615	7,318,848	6,233,732	113,764,884	509,007
55. U.S. Virgin Islands	VI	N	30,793		16,161		46,954	14,652
56. Northern Mariana Islands	MP	N						
57. Canada	CAN	N	1,305,345	1,511,758	81,050		2,898,153	53,733
58. Aggregate Other Aliens	OT	XXX	14,653,780	900	404,341	91,288,904	106,347,925	16,859,052
59. Subtotal	XXX		6,837,589,408	8,451,157,769	561,675,100	7,828,840,004	23,679,262,281	3,831,538,241
90. Reporting entity contributions for employee benefits plans	XXX							
91. Dividends or refunds applied to purchase paid-up additions and annuities	XXX		1,075,499,170	542,871			1,076,042,041	
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		20,898,471		8,147,459		29,045,930	
94. Aggregate or other amounts not allocable by State	XXX		203,312,314				203,312,314	
95. Totals (Direct Business)	XXX		8,137,299,363	8,451,700,640	569,822,559	7,828,840,004	24,987,662,566	3,831,538,241
96. Plus Reinsurance Assumed	XXX		32,762,857	152,548,649		597,938,551	783,250,057	703,468,350
97. Totals (All Business)	XXX		8,170,062,220	8,604,249,289	569,822,559	8,426,778,555	25,770,912,623	4,535,006,591
98. Less Reinsurance Ceded	XXX		928,758,225	3,604,270,784	78,864,222	5,462,051,031	10,073,944,262	
99. Totals (All Business) less Reinsurance Ceded	XXX		7,241,303,995	4,999,978,505	490,958,337	2,964,727,524	15,696,968,360	4,535,006,591
DETAILS OF WRITE-INS								
58001. HKG Hong Kong	XXX		135,373				135,373	
58002. ZZZ Other Alien	XXX		14,518,407	900	404,341	91,288,904	106,212,552	16,859,052
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		14,653,780	900	404,341	91,288,904	106,347,925	16,859,052
9401. Reinvested Net Nonforfeiture Option Proceeds	XXX		203,312,314				203,312,314	
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		203,312,314				203,312,314	

(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>
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	04-1590850	65935	Massachusetts
Direct & Indirect Owned Subsidiaries:			
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
MassMutual Ventures Europe/APAC I GP, 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
MassMutual Ventures US IV, GP, LLC	None		Delaware
MassMutual Ventures US IV, L.P.	None		Delaware
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

*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</u>
JCP Direct Lending CLO 2022 LLC	None		Delaware
JFAM GP LLC	None		Delaware
JFAM GP LP	None		Delaware
Jefferies Direct Lending Fund C LP	None		Delaware
Jefferies DLF C Holdings LLC	None		Delaware
Jefferies Direct Lending Fund C SPE LLC	None		Delaware
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
Jefferies Credit Partners BDC Inc	None		Maryland
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

*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 Revolver SPE1 2022 LLC	None		Delaware
JFIN Revolver SPE3 2022 LLC	None		Delaware
JFIN Revolver SPE4 2022 LLC	None		Delaware
SFL Parkway Funding 2022 LLC	None		Delaware
Apex Credit Holdings LLC	None		Delaware
JFIN CLO 2012 Ltd.	None		Cayman Islands
JFIN CLO 2013 Ltd.	None		Cayman Islands
JFIN CLO 2014 Ltd.	None		Cayman Islands
JFIN CLO 2014-II Ltd.	None		Cayman Islands
JFIN CLO 2015 Ltd.	None		Cayman Islands
JFIN CLO 2015-II Ltd.	None		Cayman Islands
JFIN CLO 2016 Ltd.	None		Cayman Islands
JFIN CLO 2017 Ltd.	None		Cayman Islands
JFIN CLO 2017 II Ltd.	None		Cayman Islands
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 Investment 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

*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>
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
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
Fern Street LLC	37-1732913		Delaware
Low Carbon Energy Holding	None		United Kingdom
Sleepers Street LLC	None		Delaware
Haven Life Insurance Agency, LLC	46-2252944		Delaware
Aland Royalty Holdings LP	None		Delaware
GASL Holdings LLC	None		Delaware
Barings Asset-Based Income Fund (US) LP	None		Delaware
Babson Capital Global Special Situation Credit Fund 2*	98-1206017		Delaware
Barings Global Real Assets Fund LP	82-3867745		Delaware
Barings Global Special Situations Credit Fund 3	None		Ireland
Barings North American Private Loan Fund LP	38-4010344		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

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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 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 Mortgages Limited	None		United Kingdom
Rothesay Life Plc	None		United Kingdom
Rothesay MA No.1 Limited	None		United Kingdom
Rothesay MA No.3 Limited	None		United Kingdom
Rothesay MA No.4 Limited	None		United Kingdom
LT Mortgage Finance Limited	None		United Kingdom
Rothesay Property Partnership 1 LLP	None		United Kingdom
Rothesay Foundation	None		United Kingdom
Rothesay Pensions Management Limited	None		United Kingdom
Rothesay Asset Management UK Limited	None		United Kingdom
Rothesay Asset Management Australia Pty Ltd	None		Australia
Rothesay Asset Management US LLC	None		Delaware
MML Investors Services, LLC	04-1590850		Massachusetts
MML Insurance Agency, LLC	04-1590850		Massachusetts
MMLISI Financial Alliances, LLC	41-2011634		Delaware
LifeScore Labs, LLC	47-1466022		Massachusetts
MM Asset Management Holding LLC	45-4000072		Delaware
Barings LLC	51-0504477		Delaware
Baring Asset Management (Asia) Holdings Limited	98-0524271		Hong Kong, Special Administrative Region of China
Baring International Fund Managers (Bermuda) Limited	98-0457465		Bermuda
Baring Asset Management (Asia) Limited	98-0457463		Hong Kong, Special Administrative Region of China
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 Real Estate Holdings Pty Ltd	None		Australia
Barings Australia Real Estate Pty Ltd	14-0045656		Australia
Altis Property Partners Holdings 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

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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 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
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
Chassis Acquisition Holding LLC	81-2244465		Delaware
EIP Holdings I, 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

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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>
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
Barings Infiniti Fund Management LLC	None		Delaware
Barings Hotel Opportunity Venture I GP, LLC	None		Delaware
Barings Investment Series LLC	None		Delaware
Barings Emerging Generation Fund GP, LLC	None		Delaware
Barings 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 Centre Street CLO Equity Partnership GP, LLC	None		Delaware
Barings Centre Street CLO Equity Partnership LP	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 II Management, LLC	None		Delaware
Barings North American Private Loan Fund III Management, LLC	None		Delaware
Barings Global Special Situations Credit Fund 4 GP (Delaware) LLC	None		Delaware
Barings - MM Revolver Fund GP LLC	None		Delaware
BMT RE Debt Fund GP 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

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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>
Great Lakes III GP, LLC	04-1590850		Delaware
Lake Jackson LLC	None		Delaware
Loan Strategies Management LLC	04-1590850		Delaware
Mezzco III LLC	41-2280126		Delaware
Mezzco IV LLC	80-0920285		Delaware
Mezzco Australia II LLC	None		Delaware
RECSA-NY GP LLC	None		Delaware
SBNP SIA II LLC	None		Delaware
SBNP SIA III LLC	None		Delaware
Somerset Special Opportunities Management LLC	04-1590850		Delaware
Amherst Long Term Holdings, LLC	None		Delaware
MassMutual International LLC	04-3313782		Delaware
MassMutual Solutions LLC	None		Delaware
Haven Technologies Asia Limited	None		Hong Kong
Yunfeng Financial Group Limited	None		Hong Kong
MassMutual Asia Limited (SPV)	None		Hong Kong
MML Mezzanine Investor II, LLC	04-1590850		Delaware
MML Mezzanine Investor III, LLC	04-1590850		Delaware
MassMutual External Benefits Group LLC	27-3576835		Delaware
Other Affiliates & Funds:			
100 w. 3 rd 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 Emerging Markets Corporate Bond Fund*	None		Ireland
Barings European Real Estate Debt Income Fund	None		Luxembourg
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

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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 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
Barings CLO 2022-I	98-1624360		Cayman Island
Barings CLO 2022-II	None		Cayman Island
Babson Euro CLO 2014-I BV	None		Netherlands
Babson Euro CLO 2014-II BV	None		Netherlands
Babson Euro CLO 2015-I BV	None		Netherlands
Barings Euro CLO 2019-I	3603726OH		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 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 Europe Select Fund	None		Ireland
Barings Hotel Opportunity Venture	87-0977058		Connecticut
Barings Innovations & Growth Real Estate Fund*	86-3661023		Delaware
Barings Middle Market CLO 2017-I Ltd & LLC	None		Cayman Islands
Barings Middle Market CLO 2018-I	None		Cayman Islands
Barings Middle Market CLO 2019-I	None		Cayman Islands
Barings Middle Market CLO Ltd 2021-I	98-1612604		Cayman Islands
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

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

PART 1 – ORGANIZATIONAL CHART

12.9

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Benchmark 2018-B2 Mortgage Trust	38-4059932		New York
Benchmark 2018-B4	None		New York
Benchmark 2018-B8	38-4096530		New York
Barings Core Property Fund LP	20-5578089		Delaware
Cornerstone Real Estate Fund X LP	46-5432619		Delaware
Gateway Mezzanine Partners II LP*	90-0991195		Delaware
Great Lakes III, L.P.	37-1708623		Delaware
GIA EU Holdings - Emerson JV Sarl	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
KKR-MM Vector LP	82-1512591		Delaware
Marco Hotel LLC	46-4255307		Delaware
Martello Re	None		Bermuda
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
MM Direct Private Investment Holding	04-1590850		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
Barings Affiliates & Funds:			
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	HU7DQ1.00015.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
Barings Real Estate Affiliates & Funds:			
Barings California Mortgage Fund IV	None		California

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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 Umbrella Fund LUX SCSp SICAV RAIF*	None		Luxembourg
Calgary Railway Holding LLC*	82-2285211		Delaware
Cornbrook PRS Holdings LLC	82-3307907		Delaware
Cornerstone California Mortgage Fund I LLC	95-4207717		California
Cornerstone California Mortgage Fund II LLC	95-4207717		California
Cornerstone California Mortgage Fund III LLC	95-4207717		California
Cornerstone Fort Pierce Development LLC*	56-2630592		Delaware
Cornerstone Permanent Mortgage Fund	45-2632610		Massachusetts
Cornerstone Permanent Mortgage Fund II	61-1750537		Massachusetts
Cornerstone Permanent Mortgage Fund III	35-2531693		Massachusetts
Cornerstone Permanent Mortgage Fund IV	61-1793735		Massachusetts
CREA/PPC Venture LLC	20-0348173		Delaware
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
STOA Holding LLC	None		Delaware
Three PW Office Holding LLC	81-5273574		Delaware
Trailside MM Member II LLC	04-1590850		Delaware
Unna, Dortmund Holding LLC	82-3250684		Delaware
Washington Gateway Apartments Venture LLC*	45-5401109		Delaware
West 37th Street Hotel LLC*	88-3861481		Delaware
MassMutual Premier Funds:			
MassMutual Premier Main Street Fund	51-0529328		Massachusetts
MassMutual Premier Strategic Emerging Markets Fund	26-3229251		Massachusetts
MassMutual Select Funds:			
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

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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 2010 Fund	82-3355639		Massachusetts
MassMutual Select T. Rowe Price Retirement 2015 Fund	82-3382389		Massachusetts
MassMutual Select T. Rowe Price Retirement 2020 Fund	82-3396442		Massachusetts
MassMutual Select T. Rowe Price Retirement 2025 Fund	82-3417420		Massachusetts
MassMutual Select T. Rowe Price Retirement 2030 Fund	82-3430358		Massachusetts
MassMutual Select T. Rowe Price Retirement 2035 Fund	82-3439837		Massachusetts
MassMutual Select T. Rowe Price Retirement 2040 Fund	82-3451779		Massachusetts
MassMutual Select T. Rowe Price Retirement 2045 Fund	82-3472295		Massachusetts
MassMutual Select T. Rowe Price Retirement 2050 Fund	82-3481715		Massachusetts
MassMutual Select T. Rowe Price Retirement 2055 Fund	82-3502011		Massachusetts
MassMutual Select T. Rowe Price Retirement 2060 Fund	82-3525148		Massachusetts
MassMutual Select T. Rowe Price Retirement Balanced Fund	82-3533944		Massachusetts
MML Series Investment Funds:			
MML Series International Equity Fund	46-4257056		Massachusetts
MML Series Investment Funds II:			
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
MassMutual RetireSMART Funds:			
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 SEPTEMBER 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							MassMutual Ventures Europe/APAC I GP, 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							Massmutual Ventures US IV, GP, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Massmutual Ventures US IV, L.P.	DE	NIA	Massmutual Ventures US IV, GP, LLC	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		

STATEMENT AS OF SEPTEMBER 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			27-0105644				JFIN Parent LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000							Jefferies Finance LLC	DE	NIA	JFIN Parent LLC	Ownership	50.000	MLLIC		1
.0000			86-2294635				Glidepath Holdings Inc.	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0435	Massachusetts Mut Life Ins Co	63312	13-1935920				Great American Life Insurance Company	OH	DS	Glidepath Holdings Inc.	Ownership	100.000	MLLIC		
.0000			31-1422717				AAG Insurance Agency, LLC	KY	DS	Great American Life Insurance Company	Ownership	100.000	MLLIC		
.0435	Massachusetts Mut Life Ins Co	93661	31-1021738				Annuity Investors Life Insurance Company	OH	DS	Great American Life Insurance Company	Ownership	100.000	MLLIC		
.0000			31-1395344				Great American Advisors, LLC	OH	DS	Great American Life Insurance Company	Ownership	100.000	MLLIC		
.0000			26-3260520				Manhattan National Holding, LLC	OH	DS	Great American Life Insurance Company	Ownership	100.000	MLLIC		
.0435	Massachusetts Mut Life Ins Co	67083	45-0252531				Manhattan National Life Insurance Company	OH	DS	Manhattan National Holding LLC	Ownership	100.000	MLLIC		
.0000							MassMutual Mortgage Lending LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000							Jefferies Private Credit BDC Inc.	MD	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN GP Adviser LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Fund III LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Credit Partners LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							Apex Credit Partners LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Credit Management LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MLLIC		
.0000							JCP Direct Lending CLO 2022 LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	9.900	MLLIC		
.0000							JFAM GP LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MLLIC		
.0000							JFAM GP LP	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Direct Lending Fund C LP	DE	NIA	JFAM GP LP	Ownership	100.000	MLLIC		
.0000							Jefferies DLF C Holdings LLC	DE	NIA	Jefferies Direct Lending Fund C LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Direct Lending Fund C SPE LLC	DE	NIA	Jefferies DLF C Holdings LLC	Ownership	100.000	MLLIC		
.0000							JDLF II GP LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MLLIC		
.0000							JDLF II GP LP	DE	NIA	JDLF II GP LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Direct Lending Fund II C LP	DE	NIA	JDLF II GP LP	Ownership	100.000	MLLIC		
.0000							Jefferies DLF II C Holdings LLC	DE	NIA	Jefferies Direct Lending Fund II C LP	Ownership	100.000	MLLIC		
.0000							Jefferies Direct Lending Fund II C SPE LLC	DE	NIA	Jefferies DLF II C Holdings LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Senior Lending LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Senior Lending LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Credit Partners BDC Inc	MD	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Revolver Holdings LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Revolver Holdings II LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Revolver Holdings IV LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Co-Issuer Corporation	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Europe GP, S.a.r.l.	LUX	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							Jefferies Finance Europe, S.L.P.	LUX	NIA	JFIN Europe GP, S.a.r.l.	Ownership	100.000	MLLIC		
.0000							Jefferies Finance Europe, SCSp	LUX	NIA	JFIN Europe GP, S.a.r.l.	Ownership	100.000	MLLIC		
.0000							Jefferies Finance Business Credit LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Business Credit Fund I LLC	DE	NIA	Jefferies Finance Business Credit LLC	Ownership	100.000	MLLIC		
.0000							JFIN Funding 2021 LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN High Yield Investments LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN LC Fund LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Revolver CLO 2017 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Revolver CLO 2017-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Revolver CLO 2017-III Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Revolver CLO 2018 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Revolver CLO 2019 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Revolver CLO 2019-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Revolver CLO 2020 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Revolver CLO 2021-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		
.0000							JFIN Revolver CLO 2021-V Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MLLIC		

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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							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		
.0000							JFIN Revolver SPE1 2022 LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver SPE3 2022 LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver SPE4 2022 LLC	.DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							SFL Parkway Funding 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		

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

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.0000			04-3356880				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		
.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							Steeper 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 Mortgages Limited	GBR	DS	Rothesay Limited	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		

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SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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.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		
.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				Baring Asset Management (Asia) Holdings Limited	HKG	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0457465				Baring International Fund Managers (Bermuda) Limited	BMU	DS	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0457463				Baring Asset Management (Asia) Limited	HKG	DS	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Baring Asset Management Korea Limited	KOR	DS	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
.0000							Barings Investment Management (Shanghai) Limited	HKG	DS	Baring 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				Baring SICE (Taiwan) Limited	TWN	DS	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Singapore Pte. Ltd.	SGP	DS	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0236449				Barings Japan Limited	JPN	DS	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Australia Real Estate Holdings Pty Ltd	AUS	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			14-0045656				Barings Australia Real Estate Pty Ltd	AUS	DS	Barings Australia Real Estate Holdings Pty Ltd	Ownership	100.000	MMLIC		
.0000			98-0457456				Altis Property Partners Holdings Pty Ltd	AUS	DS	Barings Australia Real Estate 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	SWI	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				Baring Asset Management Limited	GBR	DS	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings European Direct Lending 1 GP LLP	GBR	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-1012393				Barings Global Advisors Limited	GBR	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457328				Baring International Investment Limited	GBR	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		

STATEMENT AS OF SEPTEMBER 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			98-0457587				Baring International Investment Management Holdings	.GBR	.DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457576				Baring Asset Management UK Holdings Limited	.GBR	.DS	Baring International Investment Management Holdings	Ownership	100.000	MMLIC		
.0000			98-0524272				Baring International Fund Managers (Ireland) Limited	.IRL	.DS	Baring Asset Management UK Holdings Limited	Ownership	100.000	MMLIC		
.0000							Baring Asset Management Switzerland Sarl	.CHE	.DS	Baring Asset Management UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0497550				Baring France SAS	.FRA	.DS	Baring Asset Management UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0457586				Baring Fund Managers Limited	.GBR	.DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							BCGSS 2 GP LLP	.GBR	.DS	Baring Fund Managers Limited	Ownership	100.000	MMLIC		
.0000			98-0457578				Baring Investment Services Limited	.GBR	.DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.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 Sarl	.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	MassMutual Holding LLC	Ownership/Influence	26.700	MMLIC		
.0000			83-0560183				Aland Royalty Holdings LP	.DE	.NIA	Barings LLC	Management		MMLIC		
.0000			82-2932156				GASL Holdings LLC	.DE	.NIA	MassMutual Holding LLC	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		

STATEMENT AS OF SEPTEMBER 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							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							Barings 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		
.0000							Barings Infiniti Fund Management LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.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			04-1590850				Barings Global Investment Funds (U.S.) Management LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							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			84-3784245				Barings Emerging Generation Fund LP	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	39.300	MMLIC		
.0000			84-3784245				Barings Emerging Generation Fund LP	DE	DS	Barings LLC	Management		MMLIC		
.0000							Barings Global Energy Infrastructure Advisors, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Centre Street CLO Equity Partnership GP, 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 II Management, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings North American Private Loan Fund III Management, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Global Special Situations Credit Fund 4 GP (Delaware) LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings - MM Revolver Fund GP LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							BMT RE Debt Fund GP 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			84-5063008				Barings Small Business Fund LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	33.600	MMLIC		
.0000			84-5063008				Barings Small Business Fund LLC	DE	DS	Barings LLC	Management		MMLIC		
.0000			98-0536233				Benton Street Advisors, Inc.	CYM	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							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							CREF 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		

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STATEMENT AS OF SEPTEMBER 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							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					DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Amherst Long Term Holdings, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	24.500	MMLIC		
.0000								DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-3313782				MassMutual International LLC	DE	DS	MassMutual International LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Solutions LLC	DE	DS	MassMutual Solutions LLC	Ownership	100.000	MMLIC		
.0000							Haven Technologies Asia Limited	HKG	DS	MassMutual International LLC	Ownership	24.900	MMLIC		
.0000							Yunfeng Financial Group Limited	HKG	DS	MassMutual International LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Asia Limited (SPV)	HKG	DS	MassMutual International LLC	Ownership	100.000	MMLIC		
.0000			04-1590850					DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MML Mezzanine Investor II, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	11.100	MMLIC		
.0000			04-1590850					DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MML Mezzanine Investor III, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000								DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			27-3576835				MassMutual External Benefits Group LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000								DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				100 w. 3rd Street LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	5.000	MMLIC		
.0000								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	100.000	MMLIC		
.0000								DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			82-2432216				300 South Tryon Hotel LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	72.900	MMLIC		
.0000								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/Influence	72.900	MMLIC		
.0000								GBR	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC		
.0000							Almack Mezzanine Fund II Unleveraged LP	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								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								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								DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	99.900	MMLIC		
.0000							Barings Affordable Housing Mortgage Fund II LLC	DE	NIA	Barings LLC	Management		MMLIC		
.0000								DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	11.200	MMLIC		
.0000			85-3036663				Barings Affordable Housing Mortgage Fund III LLC	DE	NIA	Barings LLC	Management		MMLIC		
.0000								DE	NIA	C.M. Life Insurance Company	Ownership/Influence	1.100	MMLIC		
.0000			85-3036663				Barings Asset-Based Income Fund (US) LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000			36-4868350					DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	50.700	MMLIC		
.0000							Barings Asset-Based Income Fund (US) LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000			36-4868350					DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	16.400	MMLIC		
.0000							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		MMLIC		
.0000								IRL	NIA	Barings LLC	Ownership		MMLIC		
.0000							Barings Emerging Markets Corporate Bond Fund	IRL	NIA	Barings LLC	Ownership		MMLIC		

STATEMENT AS OF SEPTEMBER 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							Barings European Real Estate Debt Income Fund	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	70.200	MLLIC		
.0000							Barings European Real Estate Debt Income Fund	LUX	NIA	Barings LLC	Influence		MLLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	DE	NIA	MassMutual Holding LLC	Ownership/Influence	28.500	MLLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	DE	NIA	C.M. Life Insurance Company	Ownership	1.500	MLLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	DE	NIA	Barings LLC	Management		MLLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	75.700	MLLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	3.800	MLLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	Barings LLC	Management		MLLIC		
.0000							Barings US High Yield Bond Fund	JRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	54.400	MLLIC		
.0000							Barings US High Yield Bond Fund	JRL	NIA	Barings LLC	Management		MLLIC		
.0000							Babson CLO Ltd. 2013-I	CYM	NIA	Barings LLC	Influence		MLLIC		2
.0000							Babson CLO Ltd. 2015-I	CYM	NIA	Barings LLC	Influence		MLLIC		3
.0000							Babson CLO Ltd. 2015-II	CYM	NIA	Barings LLC	Influence		MLLIC		4
.0000							Babson CLO Ltd. 2016-I	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Babson CLO Ltd. 2016-II	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings CLO Ltd. 2017-I	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings CLO 2018-III	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings CLO 2018-IV	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000			98-1473665				Barings CLO 2019-II	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings CLO 2019-III	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings CLO 2019-IV	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings CLO 2020-I	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings CLO 2020-II	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings CLO 2020-III	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings CLO 2020-IV	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings CLO 2021-I	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings CLO 2021-II	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings CLO 2021-III	CYM	NIA	Barings LLC	Influence		MLLIC		
.0000			98-1624360				Barings CLO 2022-I	CYM	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	6.400	MLLIC		
.0000							Barings CLO 2022-II	CYM	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	21.900	MLLIC		
.0000							Babson Euro CLO 2014-I BV	NLD	NIA	Barings LLC	Influence		MLLIC		
.0000							Babson Euro CLO 2014-II BV	NLD	NIA	Barings LLC	Influence		MLLIC		
.0000			36-037260H				Babson Euro CLO 2015-I BV	NLD	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings Euro CLO 2019-I BV	JRL	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings Euro CLO 2019-II BV	JRL	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings Euro CLO 2020-I DAC	JRL	NIA	Barings LLC	Influence		MLLIC		
.0000			37-15576VH				Barings Euro CLO 2021-I DAC	JRL	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings Euro CLO 2021-II DAC	JRL	NIA	Barings LLC	Influence		MLLIC		
.0000							Barings Euro CLO 2021-III DAC	JRL	NIA	Barings LLC	Influence		MLLIC		
.0000			81-0841854				Barings CLO Investment Partners LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	95.200	MLLIC		
.0000			81-0841854				Barings CLO Investment Partners LP	DE	NIA	Barings LLC	Management		MLLIC		
.0000			88-3792609				Barings Centre Street CLO Equity Partnership LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	27.600	MLLIC		

STATEMENT AS OF SEPTEMBER 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 Euro Value Add II (BREEVA II)	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	29.900	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	44.200	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							Barings Real Estate Debt Income Fund LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	82.800	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							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 LLC	Management		MMLIC		
.0000							Barings Global Dividends Champion Fund	IRL	NIA	Barings LLC	Management		MMLIC		
.0000							Barings LLC	IRL	NIA	Barings LLC	Management		MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence	26.200	MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	DE	NIA	C.M. Life Insurance Company	Ownership	7.000	MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Special Situations Credit Fund 3	IRL	NIA	MassMutual Holding LLC	Ownership/Influence	18.700	MMLIC		
.0000							Barings Global Special Situations Credit 4 Delaware	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	69.600	MMLIC		
.0000							Barings Global Special Situations Credit 4 Delaware	DE	NIA	C.M. Life Insurance Company	Ownership	3.700	MMLIC		
.0000							Barings Global Special Situations Credit 4 Delaware	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Special Situations Credit 4 LUX	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	15.700	MMLIC		
.0000							Barings Global Special Situations Credit 4 LUX	LUX	NIA	C.M. Life Insurance Company	Ownership	0.900	MMLIC		
.0000							Barings Global Special Situations Credit 4 LUX	LUX	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Special Situations Credit Fund 3	IRL	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Technology Equity Fund	IRL	NIA	Barings LLC	Ownership/Influence	73.700	MMLIC		
.0000			87-0977058				Barings Hotel Opportunity Venture	CT	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	54.500	MMLIC		
.0000			87-0977058				Barings Hotel Opportunity Venture	CT	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Innovations & Growth Real Estate Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	34.800	MMLIC		
.0000			86-3661023				Barings Innovations & Growth Real Estate Fund	DE	NIA	C.M. Life Insurance Company	Ownership	0.500	MMLIC		
.0000							Barings Middle Market CLO 2017-I Ltd & LLC	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Middle Market CLO 2018-I	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Middle Market CLO 2019-I	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000			98-1612604				Barings Middle Market CLO Ltd 2021-I	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000			38-4010344				Barings North American Private Loan Fund LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence	37.300	MMLIC		
.0000			38-4010344				Barings North American Private Loan Fund LP	DE	NIA	Barings Asset Management Limited	Management		MMLIC		

STATEMENT AS OF SEPTEMBER 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	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percentage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
.0000			98-1332384				Barings RE Credit Strategies VII LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	33.100	MMLIC		
.0000			98-1332384				Barings RE Credit Strategies VII LP	DE	NIA	Barings Asset Management Limited	Management		MMLIC		
.0000			98-1567942				Barings Target Yield Infrastructure Debt Fund	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	32.700	MMLIC		
.0000			98-1567942				Barings Target Yield Infrastructure Debt Fund	LUX	NIA	Barings Asset Management Limited	Management		MMLIC		
.0000			87-1262754				Barings Transportation Fund LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence	11.300	MMLIC		
.0000			87-1262754				Barings Transportation Fund LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	8.200	MMLIC		
.0000							Braemar Energy Ventures I, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	89.000	MMLIC		
.0000							Braemar Energy Ventures I, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	1.300	MMLIC		
.0000							Braemar Energy Ventures I, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings European Core Property Fund SCSp	LUX	NIA	MassMutual Holding LLC	Ownership/Influence	8.800	MMLIC		
.0000							Barings European Core Property Fund SCSp	LUX	NIA	C.M. Life Insurance Company	Ownership	0.600	MMLIC		
.0000							Barings European Core Property Fund SCSp	LUX	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000			46-5001122				Barings European Private Loan Fund III A	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	44.500	MMLIC		
.0000			38-4059932				Benchmark 2018-B2 Mortgage Trust	NY	NIA	Barings LLC	Influence		MMLIC		
.0000							Benchmark 2018-B4	NY	NIA	Barings LLC	Influence		MMLIC		
.0000			38-4096530				Benchmark 2018-B8	NY	NIA	Barings LLC	Influence		MMLIC		
.0000			20-5578089				Barings Core Property Fund LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence	22.700	MMLIC		
.0000			20-5578089				Barings Core Property Fund LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	27.600	MMLIC		
.0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NIA	C.M. Life Insurance Company	Ownership	3.100	MMLIC		
.0000			46-5432619				Cornerstone Real Estate Fund X LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
.0000			35-2531693				Cornerstone Permanent Mortgage Fund III LLC	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC		
.0000			61-1793735				Cornerstone Permanent Mortgage Fund IV LLC	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	34.800	MMLIC		
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	C.M. Life Insurance Company	Ownership	5.200	MMLIC		
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000			37-1708623				Great Lakes III, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	41.400	MMLIC		
.0000			37-1708623				Great Lakes III, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
.0000							GIA EU Holdings - Emerson JV Sarl	LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	68.200	MMLIC		
.0000							GIA EU Holdings - Emerson JV Sarl	LUX	NIA	Barings LLC	Management		MMLIC		
.0000			38-4041011				JPMCC Commercial Mortgage Securities Trust 2017-JP7	NY	NIA	Barings LLC	Influence		MMLIC		
.0000			38-4032059				JPMDB Commercial Mortgage Securities Trust 2017-C5	NY	NIA	Barings LLC	Influence		MMLIC		
.0000			82-1512591				KKR-MM Vector LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	19.700	MMLIC		
.0000			46-4255307				Marco Hotel LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Martello Re	BMJ	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	27.450	MMLIC		
.0000			04-1590850				Miami Douglas One GP LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		

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STATEMENT AS OF SEPTEMBER 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				Miami Douglas One GP LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.500	MMLIC		
.0000			04-1590850				Miami Douglas Two GP LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			04-1590850				Miami Douglas Two GP LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			04-1590850				Miami Douglas One LP	DE	NIA	C.M. Life Insurance Company	Ownership	90.000	MMLIC		
.0000			04-1590850				Miami Douglas One LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	10.000	MMLIC		
.0000			04-1590850				Miami Douglas Two LP	DE	NIA	C.M. Life Insurance Company	Ownership	90.000	MMLIC		
.0000			04-1590850				Miami Douglas Two LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	10.000	MMLIC		
.0000			04-1590850				Miami Douglas Three MM LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			87-4021641				MM BIG Peninsula Co-Invest Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	27.000	MMLIC		
.0000			87-4021641				MM BIG Peninsula Co-Invest Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.800	MMLIC		
.0000			85-3886824				NYDIG Digital Assets Fund II LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			45-3623262				HB Naples Golf Owner LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM CM Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MM Direct Private Investment Holding	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			81-3000420				MM Debt Participations LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC		
.0000			81-3000420				MM Debt Participations LLC	DE	NIA	Barings LLC	Management		MMLIC		
.0000			82-4411267				RB Apartments LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			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	16.900	MMLIC		
.0000			41-2280129				Tower Square Capital Partners IIIA, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	96.100	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			04-1590850				Trailside MM Member II LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	47.100	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			88-3861481				West 37th Street Hotel LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	93.800	MMLIC		
.0000			88-3861481				West 37th Street Hotel LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.300	MMLIC		
.0000							Babson Capital Loan Strategies Master Fund LP	CYM	NIA	Barings LLC	Management		MMLIC		

STATEMENT AS OF SEPTEMBER 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							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	12.000	MMLIC		
.0000			47-3790192				Barings Global High Yield Fund	.MA	NIA	Barings LLC	Management		MMLIC		
.0000							CCIC Fund	.CHN	NIA	Barings LLC	Ownership/Influence	71.400	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							Barings California Mortgage Fund IV	.CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Barings Umbrella Fund LUX SCSp SICAV RAIF	.LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	50.000	MMLIC		
.0000							Barings Umbrella Fund LUX SCSp SICAV RAIF	.LUX	NIA	C.M. Life Insurance Company	Ownership	2.300	MMLIC		
.0000			82-2285211				Calgary Railway Holding LLC	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MMLIC		
.0000			82-2285211				Calgary Railway Holding LLC	.DE	NIA	C.M. Life Insurance Company	Ownership	10.000	MMLIC		
.0000			82-3307907				Cornbrook PRS Holdings LLC	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			95-4207717				Cornerstone California Mortgage Fund I LLC	.CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			95-4207717				Cornerstone California Mortgage Fund II LLC	.CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			95-4207717				Cornerstone California Mortgage Fund III LLC	.CA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			56-2630592				Cornerstone Fort Pierce Development LLC	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MMLIC		
.0000			56-2630592				Cornerstone Fort Pierce Development LLC	.DE	NIA	C.M. Life Insurance Company	Ownership	5.900	MMLIC		
.0000			45-2632610				Cornerstone Permanent Mortgage Fund	.MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			45-2632610				Cornerstone Permanent Mortgage Fund	.MA	NIA	Barings LLC	Management		MMLIC		
.0000			61-1750537				Cornerstone Permanent Mortgage Fund II	.MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			61-1750537				Cornerstone Permanent Mortgage Fund II	.MA	NIA	Barings LLC	Management		MMLIC		
.0000			61-1793735				Cornerstone Permanent Mortgage Fund IV	.MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			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		

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STATEMENT AS OF SEPTEMBER 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	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percentage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
.0000			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							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			82-3250684				Unna, Dortmund Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.700	MMLIC		
.0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	C.M. Life Insurance Company	Ownership	4.800	MMLIC		
.0000			51-0529328		0000927972	OQ	MassMutual Premier Main Street Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.300	MMLIC		
.0000			26-3229251		0000927972	OQ	MassMutual Premier Strategic Emerging Markets Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	27.200	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	27.800	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		

STATEMENT AS OF SEPTEMBER 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			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	95.900	MMLIC		
.0000			47-3559064				MML Series II Special Situations Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	97.500	MMLIC		
.0000			27-1933389		0000916053	OQ	MassMutual RetireSMART 2035 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	2.800	MMLIC		
.0000			27-1932769		0000916053	OQ	MassMutual RetireSMART 2045 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	6.200	MMLIC		
.0000			46-3289207		0000916053	OQ	MassMutual RetireSMART 2055 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	22.700	MMLIC		
.0000			47-5326235		0000916053	OQ	MassMutual RetireSMART 2060 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	51.300	MMLIC		
.0000			45-1618155		0000916053	OQ	MassMutual 20/80 Allocation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			45-1618222		0000916053	OQ	MassMutual 80/20 Allocation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	59.000	MMLIC		
.0000			03-0532464		0000916053	OQ	MassMutual RetireSMART In Retirement Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	2.100	MMLIC		
.0000			45-1618262		0000916053	OQ	MassMutual 40/60 Allocation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Influence	0.000	MMLIC		
.0000			45-1618046		0000916053	OQ	MassMutual 60/40 Allocation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	82.500	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.

13.14

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.	N/A

AUGUST FILING

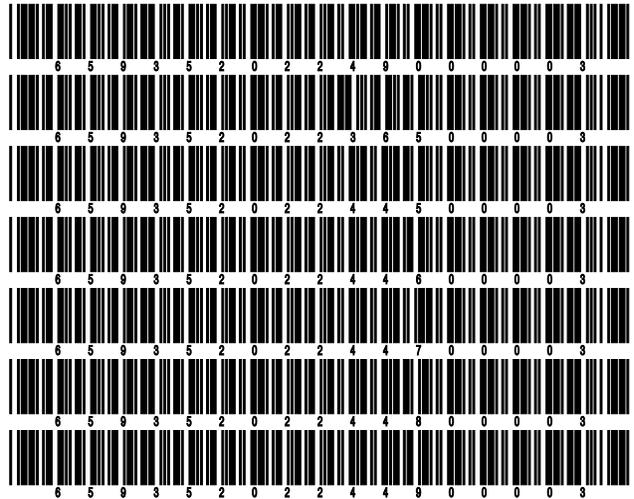
9. Will the regulator-only (non-public) Communication of Internal Control Related Matters Noted in Audit be filed with the state of domicile and electronically with the NAIC (as a regulator-only non-public document) by August 1? The response for 1st and 3rd quarters should be N/A. A NO response resulting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

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]



STATEMENT AS OF SEPTEMBER 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	19,129,934		19,129,934	26,075,375
2505. Pension plan asset	667,224,174	667,224,174		
2506. Cash advances to agents	258,381,855	258,381,855		
2507. Commissions and expenses on long-term lease	65,236,725	65,236,725		
2508. Intangible assets	44,887,647	44,887,647		
2597. Summary of remaining write-ins for Line 25 from overflow page	1,054,860,335	1,035,730,401	19,129,934	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	568,964,382	479,609,709
2505. Deferred income liability	27,151,660	11,826,045
2597. Summary of remaining write-ins for Line 25 from overflow page	596,116,042	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. Change in corporate owned life insurance	(75,008,962)	211,823,407	266,870,737
08.305. Miscellaneous income	(8,375,671)	(172,441,490)	(141,804,556)
08.397. Summary of remaining write-ins for Line 8.3 from overflow page	(83,384,633)	39,381,916	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	(99,367,122)	90,390,483	(70,479,015)
2705. Change in liability for employee/agent benefit plans	(90,682,241)	52,890,437	67,382,464
2706. Market value adjustment transfer	(637,440)		
2797. Summary of remaining write-ins for Line 27 from overflow page	(190,686,803)	143,280,920	(3,096,551)

STATEMENT AS OF SEPTEMBER 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	25,559,092	173,218,441
3. Current year change in encumbrances		864,000
4. Total gain (loss) on disposals	127,364,440	29,787,026
5. Deduct amounts received on disposals	227,277,500	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	65,067,323	90,539,160
9. Book/adjusted carrying value at the end of current period (Lines 1+2+3+4-5+6-7-8)	255,476,452	394,897,743
10. Deduct total nonadmitted amounts		
11. Statement value at end of current period (Line 9 minus Line 10)	255,476,452	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	1,877,131,688	4,758,341,329
2.2 Additional investment made after acquisition	294,462,754	412,065,332
3. Capitalized deferred interest and other	22,238,964	47,984,765
4. Accrual of discount	14,634,287	46,337,557
5. Unrealized valuation increase (decrease)		
6. Total gain (loss) on disposals	(32,725,275)	9,889,840
7. Deduct amounts received on disposals	3,399,179,218	4,919,160,141
8. Deduct amortization of premium and mortgage interest points and commitment fees	(8,858,250)	(7,437,157)
9. Total foreign exchange change in book value/recorded investment excluding accrued interest	(469,941,693)	(79,546,248)
10. Deduct current year's other than temporary impairment recognized	7,380,721	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)	24,652,944,598	26,344,845,562
12. Total valuation allowance		
13. Subtotal (Line 11 plus Line 12)	24,652,944,598	26,344,845,562
14. Deduct total nonadmitted amounts		
15. Statement value at end of current period (Line 13 minus Line 14)	24,652,944,598	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	677,968,617	1,890,897,016
2.2 Additional investment made after acquisition	1,792,784,988	2,153,234,112
3. Capitalized deferred interest and other		
4. Accrual of discount		
5. Unrealized valuation increase (decrease)	60,743,606	1,725,570,864
6. Total gain (loss) on disposals	8,048,055	70,537,450
7. Deduct amounts received on disposals	2,414,510,288	2,773,584,895
8. Deduct amortization of premium and depreciation	865,641	1,137,105
9. Total foreign exchange change in book/adjusted carrying value	(95,522,200)	(47,550,286)
10. Deduct current year's other than temporary impairment recognized	18,978,972	2,557,612
11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	12,611,427,522	12,601,759,357
12. Deduct total nonadmitted amounts	46,960,259	56,271,383
13. Statement value at end of current period (Line 11 minus Line 12)	12,564,467,263	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	34,197,457,560	53,871,504,467
3. Accrual of discount	204,027,284	331,197,415
4. Unrealized valuation increase (decrease)	(730,458,896)	860,127,014
5. Total gain (loss) on disposals	(254,697,802)	457,112,821
6. Deduct consideration for bonds and stocks disposed of	21,932,847,510	40,062,121,850
7. Deduct amortization of premium	104,524,152	184,805,816
8. Total foreign exchange change in book/adjusted carrying value	(2,939,466,242)	(732,683,760)
9. Deduct current year's other than temporary impairment recognized	404,233,705	92,277,254
10. Total investment income recognized as a result of prepayment penalties and/or acceleration fees	29,763,305	69,039,274
11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9+10)	158,823,501,787	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)	158,823,317,979	150,758,298,137

STATEMENT AS OF SEPTEMBER 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
BONDS								
1. NAIC 1 (a)	68,110,621,963	8,452,352,104	5,294,709,171	(65,928,322)	64,548,754,915	68,110,621,963	71,202,336,574	64,725,098,639
2. NAIC 2 (a)	52,725,686,568	45,600,820,166	43,267,510,389	(1,890,046,323)	53,181,897,395	52,725,686,568	53,168,950,022	51,428,180,081
3. NAIC 3 (a)	5,325,318,031	296,191,058	1,677,574,298	1,413,021,626	5,583,818,927	5,325,318,031	5,356,956,417	5,434,694,827
4. NAIC 4 (a)	3,139,391,268	832,125,500	202,244,245	(808,769,650)	3,352,170,613	3,139,391,268	2,960,502,873	3,411,697,369
5. NAIC 5 (a)	2,498,260,812	36,175,727	279,435,809	211,638,980	2,510,266,058	2,498,260,812	2,466,639,710	2,513,182,187
6. NAIC 6 (a)	749,589,622	10,721,506	7,831,633	25,885,406	776,712,895	749,589,622	778,364,901	817,844,599
7. Total Bonds	132,548,868,265	55,228,386,061	50,729,305,545	(1,114,198,283)	129,953,620,803	132,548,868,265	135,933,750,498	128,330,697,702
PREFERRED STOCK								
8. NAIC 1	282,392,154		83,500,000		284,795,397	282,392,154	198,892,154	284,795,397
9. NAIC 2	67,922,745	29,500,000	15,693,000	73,118	79,563,016	67,922,745	81,802,863	76,152,686
10. NAIC 3	149,396,357			(518,670)	150,590,767	149,396,357	148,877,687	152,693,064
11. NAIC 4	5,192,519				4,366,000	5,192,519	5,192,519	4,366,000
12. NAIC 5	12,445,696			143,586	12,192,685	12,445,696	12,589,282	21,337,275
13. NAIC 6	5,457,017	4,799,998		399,070	13,842,181	5,457,017	10,656,085	15,320,585
14. Total Preferred Stock	522,806,488	34,299,998	99,193,000	97,104	545,350,046	522,806,488	458,010,590	554,665,007
15. Total Bonds and Preferred Stock	133,071,674,753	55,262,686,059	50,828,498,545	(1,114,101,179)	130,498,970,849	133,071,674,753	136,391,761,088	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 \$ 880,811,113 ; NAIC 2 \$ 2,508,377,873 ; NAIC 3 \$ 2,000,000 ; NAIC 4 \$ 944,576 ; NAIC 5 \$; NAIC 6 \$ 690,107

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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	869,848,982	xxx	869,684,635	2,012,496	336,446

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	1,175,142,239	6,293,088,230
3. Accrual of discount	2,183,566	6,137,295
4. Unrealized valuation increase (decrease)		
5. Total gain (loss) on disposals	3,110,115	275,735
6. Deduct consideration received on disposals	3,025,971,848	5,793,438,744
7. Deduct amortization of premium		
8. Total foreign exchange change in book/adjusted carrying value	(65,548)	
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)	869,848,982	2,715,450,459
11. Deduct total nonadmitted amounts		
12. Statement value at end of current period (Line 10 minus Line 11)	869,848,982	2,715,450,459

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

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	89,423,582
3. Unrealized Valuation increase/(decrease)	4,966,137,899
4. SSAP No. 108 adjustments	
5. Total gain (loss) on termination recognized	358,491,720
6. Considerations received/(paid) on terminations	564,947,706
7. Amortization	222,079
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)	10,317,972,834
11. Deduct nonadmitted assets	
12. Statement value at end of current period (Line 10 minus Line 11)	10,317,972,834

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	(171,238,334)
3.14 Section 1, Column 18, prior year	33,162,834 (204,401,168) (204,401,168)
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	(171,238,334)
3.24 Section 1, Column 19, prior year plus	33,162,834
3.25 SSAP No. 108 adjustments	(204,401,168) (204,401,168)
3.3 Subtotal (Line 3.1 minus Line 3.2)	
4.1 Cumulative variation margin on terminated contracts during the year	(645,897,252)
4.2 Less:	
4.21 Amount used to adjust basis of hedged item	
4.22 Amount recognized	(679,060,086)
4.23 SSAP No. 108 adjustments	(679,060,086)
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	171,238,336
6. Book/Adjusted carrying value at end of current period (Lines 1+2+3.3-4.3-5.1-5.2)	(171,238,336)
7. Deduct total nonadmitted amounts	
8. Statement value at end of current period (Line 6 minus Line 7)	(171,238,336)

STATEMENT AS OF SEPTEMBER 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	13,991,938	06/03/2021	06/03/2051	Interest Rate Swap	(12,236,888)		42086P-AC-7	Kingsland Ltd-SERIES 18-8A CLASS A	1	27,000,000	26,228,826
57629*FX4	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	1	12,099,653	11,830,000	11,830,000	06/03/2021	06/03/2051	Interest Rate Swap			320808-AD-0	FIRST MARYLAND CAP I-LIMITED GUARANTEE NOTE	2	12,099,653	11,830,000
57629*FX4	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	1	10,000,000	10,000,000	9,415,420	06/03/2021	06/03/2051	Interest Rate Swap			09629L-AE-5	BLUEMOUNTAIN CLO XXIII L-BLUEM 2018-23A B	1	10,000,000	9,415,420
57629*FX4	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	1	19,064,837	17,512,320	17,512,320	06/03/2021	06/03/2051	Interest Rate Swap			03328Y-AG-9	Anchorage Capital CLO Lt-ANCHC 2018-18A C	1	19,064,837	17,512,320
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	264,000,000	9,000,000	(32,328,559)	11/29/2012	11/29/2042	Interest Rate Swap	(41,328,559)		12499F-MM-8	CCOF Onshore Co-Borrower Revolving Loan	1	9,000,000	9,000,000
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	3,661,410	3,581,010	3,581,010	11/29/2012	11/29/2042	Interest Rate Swap			83149F-AD-6	SLM Student Loan Trust 2006-6	1	3,661,410	3,581,010
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	22,871,259	22,497,542	22,497,542	11/29/2012	11/29/2042	Interest Rate Swap			375415-AA-4	GILBERT PARK CLO LTD-SERIES 17-1A CLASS A	1	22,871,259	22,497,542
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	13,100,000	12,637,452	12,637,452	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	12,637,452
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	8,000,000	7,629,440	7,629,440	11/29/2012	11/29/2042	Interest Rate Swap			38137H-BW-7	Goldentree Loan Opportun-SERIES 2015-11A CLASS BR2	1	8,000,000	7,629,440
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	10,157,051	9,294,710	9,294,710	11/29/2012	11/29/2042	Interest Rate Swap			58845N-AE-0	Signal Peak CLO 8 Ltd-SPEAK 2020-8A C	1	10,157,051	9,294,710
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	10,000,000	9,215,300	9,215,300	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	9,215,300
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	11,050,000	10,443,830	10,443,830	11/29/2012	11/29/2042	Interest Rate Swap			03331J-AJ-1	Anchorage Capital CLO Lt-ANCHC 2018-10A B	1	11,050,000	10,443,830
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	15,000,000	14,421,615	14,421,615	11/29/2012	11/29/2042	Interest Rate Swap			38137M-AK-3	Goldentree Loan Opportun-GLD12 2016-12A AJR	1	15,000,000	14,421,615
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	4,500,000	4,149,482	4,149,482	11/29/2012	11/29/2042	Interest Rate Swap			03767M-AJ-7	Apidos CLO-APID 2018-29A B	1	4,500,000	4,149,482
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	19,600,000	19,075,132	19,075,132	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	19,075,132
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	12,000,000	11,392,380	11,392,380	11/29/2012	11/29/2042	Interest Rate Swap			04017J-AE-1	ARES CLO Ltd-ARES 2018-49A B	1	12,000,000	11,392,380
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	60,000,000	57,433,620	57,433,620	11/29/2012	11/29/2042	Interest Rate Swap			29002H-AL-3	Elmwood CLO III Ltd-ELMW3 2019-3A AR	1	60,000,000	57,433,620
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	1,425,000	1,331,339	1,331,339	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	1,331,339
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	1,220,000	1,069,393	1,069,393	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	1,069,393
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	196,970	184,405	184,405	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	184,405
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	10,800,000	10,599,725	10,599,725	11/29/2012	11/29/2042	Interest Rate Swap			26146D-AA-9	Dragonfly Energy Corp-FIRST LIEN .. Landmark Equity Partners XVI-D, LLC	1	10,800,000	10,599,725
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	103,000,000	103,000,000	103,000,000	11/29/2012	11/29/2042	Interest Rate Swap			515095-MM-6	'00P CLO Ltd-SEREIS 18-15A CLASS A3	1	103,000,000	103,000,000
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	12,000,000	(1,744,921)	12/27/2012	12/27/2042	Interest Rate Swap	(13,073,065)		67112K-AC-3	Babson CLO Ltd 2015-I-BABSN 2015-1A AR	1	12,000,000	11,328,144
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	12,575,000	12,249,961	12,249,961	12/27/2012	12/27/2042	Interest Rate Swap			056162-AN-0	Anchorage Capital CLO 3-ANCHC	1	12,575,000	12,249,961
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	3,200,000	3,048,448	3,048,448	12/27/2012	12/27/2042	Interest Rate Swap			03330A-AC-6	2014-3RA B	1	3,200,000	3,048,448
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	65,000,000	62,446,735	62,446,735	12/27/2012	12/27/2042	Interest Rate Swap			87271L-AJ-1	TIAA CLO I Ltd-TIA 2016-1A AR	1	65,000,000	62,446,735
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	5,900,000	5,589,076	5,589,076	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	5,589,076
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	1,928,459	1,923,703	1,923,703	12/27/2012	12/27/2042	Interest Rate Swap			429827-AR-9	JPMorgan Chase & Co-SENIOR UNSECURED	1	1,928,459	1,923,703
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	8,608,357	7,775,212	7,775,212	12/27/2012	12/27/2042	Interest Rate Swap			46647P-AR-7	ARES CLO-ARES 2022-66A B	1	8,608,357	7,775,212
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	10,000,000	10,012,690	10,012,690	12/27/2012	12/27/2042	Interest Rate Swap			04019R-AG-6	WACHOVIA STUDENT LOAN TR-WSLT 2005-1 B	1	10,000,000	10,012,690
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	6,919,157	(7,432,258)	12/27/2012	12/27/2042	Interest Rate Swap	(13,073,065)		92977H-AG-3		1	6,919,157	5,640,807

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STATEMENT AS OF SEPTEMBER 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*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,030,537	19,333,860	12/27/2012	12/27/2042	Interest Rate Swap				94950G-AN-7	Wellfleet CLO 2017-1 Ltd-WELF 2017-1A A2R	1	20,030,537	19,333,860
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,000,000	28,982,820	12/27/2012	12/27/2042	Interest Rate Swap				83004L-AC-9	610 Funding CLO-SIX10 2021-2RA A1R2	1	30,000,000	28,982,820
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,000,000	22,594,993	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	22,594,993
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,500,000	9,046,052	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	9,046,052
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,700,000	6,503,067	12/27/2012	12/27/2042	Interest Rate Swap				06760B-AC-6	BABSON CLO LTD-SERIES 17-1A CLASS A2	1	6,700,000	6,503,067
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,250,000	2,917,184	12/27/2012	12/27/2042	Interest Rate Swap				087598-AE-8	BETHPAGE PARK CLO LTD-BETHP 2021-1A	1	3,250,000	2,917,184
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,818,120	1,738,326	12/27/2012	12/27/2042	Interest Rate Swap				784424-AE-3	SLC STUDENT LOAN TRUST 2-SERIES 07-1 CLASS B	1	1,818,120	1,738,326
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,596,072	6,203,007	12/27/2012	12/27/2042	Interest Rate Swap				62983P-AB-1	Nakilat Inc-SECURED 144A Cliffwater Corporate Lending Fund-Senior Secured Revolving Credit Facility	1	6,596,072	6,203,007
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,000,000	12,000,000	12/27/2012	12/27/2042	Interest Rate Swap				186858-AC-6	GoldenTree Loan Management-GLM 2018-3A B1	1	12,000,000	12,000,000
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	6,000,000	(7,234,091)	12/28/2012	12/28/2042	Interest Rate Swap		(12,961,067)		38138B-AG-5	Signal Peak CLO 8 Ltd-SPEAK 2020-8A	1	6,000,000	5,726,976
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,314,688	18,870,080	12/28/2012	12/28/2042	Interest Rate Swap				56845N-AC-4	Magnetite XIX Ltd-SERIES 2017-19A CLASS B1R	1	20,314,688	18,870,080
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,750,000	12,836,244	12/28/2012	12/28/2042	Interest Rate Swap				55954K-AN-5	Canyon CLO 2020-2 Ltd-CANYC 2020-2A	1	13,750,000	12,836,244
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		34,745,000	33,199,195	12/28/2012	12/28/2042	Interest Rate Swap				13876N-AL-7	AR Voya CLO 2019-1 Ltd-VOYA 2019-1A AR	1	34,745,000	33,199,195
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,906,669	13,288,301	12/28/2012	12/28/2042	Interest Rate Swap				92917N-AJ-7	NELNET STUDENT LOAN TRUS-SERIES 2015-3A CLASS B	1	12,906,669	13,288,301
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,045,772	2,075,796	12/28/2012	12/28/2042	Interest Rate Swap				64033T-AB-9	TICP CLO VI 2016-5 LTD-TICP 2016-5A A2R	1	2,045,772	2,075,796
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,000,000	2,876,064	12/28/2012	12/28/2042	Interest Rate Swap				87248K-AS-3	Wellfleet CLO Ltd-SERIES 18-1A CLASS A	1	3,000,000	2,876,064
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	969,127	12/28/2012	12/28/2042	Interest Rate Swap				94950J-AA-9	HPS LOAN MANAGEMENT 13-2-HLM 13A-18 A2	1	1,000,000	969,127
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,000,000	3,804,464	12/28/2012	12/28/2042	Interest Rate Swap				40437L-AE-2	Voya CLO Ltd-SERIES 18-1A CLASS B	1	4,000,000	3,804,464
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,060,000	4,578,566	12/28/2012	12/28/2042	Interest Rate Swap				92917A-AE-6	Symphony CLO XXIX Ltd-SYMP 2021-29A	1	5,060,000	4,578,566
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,150,000	2,911,299	12/28/2012	12/28/2042	Interest Rate Swap				87168G-AG-4	ASSURANT CLO I LTD-MORGN 2017-1A CR	1	3,150,000	2,911,299
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	2,849,197	12/28/2012	12/28/2042	Interest Rate Swap				33836J-AG-4	Morgan Stanley Eaton Van-MSEV 2022-18A B	1	3,200,000	2,849,197
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	10,000,000	12/28/2012	12/28/2042	Interest Rate Swap				617924-AE-5	Wellfleet CLO Ltd-SERIES 18-1A CLASS A	1	10,000,000	10,000,000
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	59,000,000	44,217,426	12/28/2012	12/28/2042	Interest Rate Swap		(12,961,067)		94950J-AA-9	BABSON CLO LTD 2015-1I-SERIES 15-2A CLASS AR	1	59,000,000	57,178,493
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,200,000	13,915,858	12/28/2012	12/28/2042	Interest Rate Swap				06759F-AB-2	Ares XXXIR CLO Ltd-SERIES 14-31RA CLASS B	1	14,200,000	13,915,858
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	18,926,720	12/28/2012	12/28/2042	Interest Rate Swap				04017T-AE-9	TICP CLO VI 2016-2 Ltd-TICP 2016-6A CR2	1	20,000,000	18,926,720
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,600,000	1,446,763	12/28/2012	12/28/2042	Interest Rate Swap				87246M-AW-2	CIFC Funding 2018-1 Ltd-SERIES 18-1A CLASS C	1	1,600,000	1,446,763
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,200,000	3,891,560	12/28/2012	12/28/2042	Interest Rate Swap				12551R-AE-8	Benefit Street Partners -BSP 2018-15A A2A	1	4,200,000	3,891,560
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,100,000	1,040,463	12/28/2012	12/28/2042	Interest Rate Swap				08179M-AC-3	CenterPoint Properties T Senior Note Ser	1	1,100,000	1,040,463
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,575,000	7,898,038	12/28/2012	12/28/2042	Interest Rate Swap				151895-DE-5	Babson CLO Ltd/Cayman Is-BABSN LP-3A B	1	8,575,000	7,898,038
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,000,000	8,917,551	12/28/2012	12/28/2042	Interest Rate Swap				06762Q-AC-1	BlueMountain CLO 2015-4 -SERIES 15-4A CLASS A2R	1	9,000,000	8,917,551
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	20,000,000	6,077,473	12/28/2012	12/28/2042	Interest Rate Swap		(12,961,067)		09628N-AQ-5		1	20,000,000	19,038,540

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STATEMENT AS OF SEPTEMBER 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*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,050,000	11,680,801	12/28/2012	12/28/2042	Interest Rate Swap				64031D-AB-6	NetNet Student Loan Trus-SERIES 19-3A CLASS B	1	12,050,000	11,680,801
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,968,076	1,780,420	12/28/2012	12/28/2042	Interest Rate Swap				63939F-AC-4	Navient Student Loan Tru-SERIES 15-1 CLASS B	1	1,968,076	1,780,420
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,659,535	12/28/2012	12/28/2042	Interest Rate Swap				12550G-AE-3	CIFC Funding Ltd-CIFC 2018-5A B	1	5,000,000	4,659,535
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,750,000	6,359,418	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	6,359,418
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,600,000	3,352,820	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	3,352,820
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	3,043,402	12/28/2012	12/28/2042	Interest Rate Swap				48250R-BN-5	KKR CLO 12 Ltd-KKR 12 BR2	1	3,200,000	3,043,402
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,250,000	3,982,424	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	3,982,424
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,200,000	4,942,096	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	4,942,096
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		38,600,000	36,708,793	12/28/2012	12/28/2042	Interest Rate Swap				06762L-AM-0	Barings CLO Ltd 2020-I-BABS 2020-1A AR	1	38,600,000	36,708,793
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,812,935	6,434,472	12/28/2012	12/28/2042	Interest Rate Swap				032095-AH-4	Amphenol Corp-SENIOR UNSECURED	1	6,812,935	6,434,472
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,000,000	12,000,000	12/28/2012	12/28/2042	Interest Rate Swap				186858-AC-6	Cliffwater Corporate Lending Fund-Senior Secured Revolving Credit Facility	1	12,000,000	12,000,000
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	9,550,000	2,629,115	12/28/2012	12/28/2042	Interest Rate Swap		(6,480,535)		04965F-AG-6	Atrium XV-SERIES 15A CLASS B	1	9,550,000	9,109,650
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,598,353	16,798,306	12/28/2012	12/28/2042	Interest Rate Swap				66704J-CB-2	NORTHSTAR EDUCATION FINA-SERIES 07-1 CLASS B	1	18,598,353	16,798,306
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,600,000	5,366,398	12/28/2012	12/28/2042	Interest Rate Swap				64034N-AB-1	NSLT 2019-2A B	1	5,600,000	5,366,398
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,600,000	6,403,975	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	6,403,975
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,000,000	5,609,430	12/28/2012	12/28/2042	Interest Rate Swap				06762L-AN-8	Barings CLO Ltd 2020-I-BABS 2020-1A BR	1	6,000,000	5,609,430
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,100,000	1,040,463	12/28/2012	12/28/2042	Interest Rate Swap				08179M-AC-3	Benefit Street Partners -BSP 2018-15A A2A	1	1,100,000	1,040,463
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,500,000	2,383,438	12/28/2012	12/28/2042	Interest Rate Swap				13876J-AE-2	Canyon Capital CLO Ltd-CANVC 2012-1RA B	1	2,500,000	2,383,438
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,400,000	6,053,267	12/28/2012	12/28/2042	Interest Rate Swap				77342K-AC-4	Rockford Tower CLO 2018-2 Ltd	1	6,400,000	6,053,267
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,050,000	7,402,241	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	7,402,241
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	10,000,000	3,022,585	12/28/2012	12/28/2042	Interest Rate Swap		(6,480,535)		24380L-AE-3	DEER CREEK CLO LTD 2017--SERIES 17-1A CLASS B	1	10,000,000	9,503,120
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,500,000	23,433,613	12/28/2012	12/28/2042	Interest Rate Swap				05683E-AN-2	Bain Capital Credit CLO -BCC 2020-2A AR	1	24,500,000	23,433,613
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,570,000	12,995,216	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	12,995,216
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,000,000	3,747,432	12/28/2012	12/28/2042	Interest Rate Swap				05874X-AC-3	Ballyrock CDO Ltd-BALLY 2020-14A A2	1	4,000,000	3,747,432
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,400,000	3,054,152	12/28/2012	12/28/2042	Interest Rate Swap				75009P-AE-7	Rad CLO 12 Ltd-RAD 2021-12A C	1	3,400,000	3,054,152
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,098,855	5,984,843	12/28/2012	12/28/2042	Interest Rate Swap				46149M-AA-4	Invesco CLO Ltd-INVCO 2021-2A A	1	6,098,855	5,984,843
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	4,343,367	(2,167,641)	12/28/2012	12/28/2042	Interest Rate Swap		(6,480,535)		50188Q-AJ-0	LCM XVIII LP-LCM 19A AR	1	4,343,367	4,312,894
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,900,000	3,610,554	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	3,610,554
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,643,041	2,352,994	12/28/2012	12/28/2042	Interest Rate Swap				784170-ZZ-8	SFR FTTH SAS Term Loan	2	2,643,041	2,352,994
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,500,000	21,939,236	12/28/2012	12/28/2042	Interest Rate Swap				06760W-AG-1	Barings Middle Market CL-BMM 2021-1A B	1	24,500,000	21,939,236
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,750,000	9,060,236	12/28/2012	12/28/2042	Interest Rate Swap				92918Q-AE-0	Voya CLO Ltd-VOYA 2021-1A B	1	9,750,000	9,060,236

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STATEMENT AS OF SEPTEMBER 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*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,100,000	1,040,463	12/28/2012	12/28/2042	Interest Rate Swap				08179M-AC-3	Benefit Street Partners -BSP 2018-15A A2A	1	1,100,000	1,040,463
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,600,000	4,190,968	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	4,190,968
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,375,000	6,304,415	12/28/2012	12/28/2042	Interest Rate Swap				680033-AC-1	Old National Bancorp/IN-SENIOR UNSECURED NOTE	1	6,375,000	6,304,415
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,999,375	12/28/2012	12/28/2042	Interest Rate Swap				55819F-AE-1	Madison Park Funding Ltd-MDPK 2022-55A B1	1	5,000,000	4,999,375
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		50,000,000	5,400,000	12/28/2012	12/28/2042	Interest Rate Swap		(6,480,535)		12548J-AE-2	CIFC FUNDING LTD-SERIES 17-3A CLASS A2	1	5,400,000	5,179,961
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,900,000	11,317,031	12/28/2012	12/28/2042	Interest Rate Swap				74988L-AC-8	ALM XIV Ltd-SERIES 14-14A CLASS A2R2	1	11,900,000	11,317,031
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,864,562	5,460,298	12/28/2012	12/28/2042	Interest Rate Swap				66704J-AJ-7	Northstar Education Fina-REVENUE BONDS	1	5,864,562	5,460,298
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,608,744	12/28/2012	12/28/2042	Interest Rate Swap				39808P-AN-6	Greywolf CLO V Ltd-GWOLF 2015-1A A2R	1	8,000,000	7,608,744
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,200,000	10,560,054	12/28/2012	12/28/2042	Interest Rate Swap				08181B-AS-8	Benefit Street Partners -SERIES 16-9A CLASS BR	1	11,200,000	10,560,054
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,565,400	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	7,565,400
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,006,475	8,807,309	12/28/2012	12/28/2042	Interest Rate Swap				05389L-AB-9	Avolon Aerospace Leasing Secured Note B7	1	10,006,475	8,807,309
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		350,000,000	40,000,000	06/10/2021	06/10/2051	Interest Rate Swap		(92,346,450)		36248M-AJ-6	GT Loan Financing I Ltd -SERIES 2013-1A CLASS AR	1	40,000,000	38,974,760
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		296,443,713	296,443,713	06/10/2021	06/10/2051	Interest Rate Swap				49232F-MM-2	KREOCS LENDING I LLC - Senior Secured Term Facility	1	296,443,713	296,443,713
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		34,829,125	33,785,430	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	33,785,430
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,000,000	22,102,471	06/10/2021	06/10/2051	Interest Rate Swap				67332F-AG-8	RRPF Engine Leasing Ltd Senior Secured	2	23,000,000	22,102,471
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,188,079	5,666,472	06/10/2021	06/10/2051	Interest Rate Swap				78443G-AJ-4	SLM STUDENT LOAN TRUST 2-SERIES 06-7 CLASS B	1	6,188,079	5,666,472
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,477,457	14,167,980	06/10/2021	06/10/2051	Interest Rate Swap				25763F-AF-7	Donaldson Co Inc Senior Unsecured Notes	1	15,477,457	14,167,980
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,808,000	13,693,106	06/10/2021	06/10/2051	Interest Rate Swap				392709-A#-8	Green Brick Partners, In Senior Unsecured Notes	1	14,808,000	13,693,106
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,000,000	19,000,000	06/10/2021	06/10/2051	Interest Rate Swap				18685B-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	19,000,000	19,000,000
57629*GG0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		225,000,000	75,000,000	06/10/2021	06/10/2051	Interest Rate Swap		(60,291,645)		88165Z-MM-7	Tetragon Financial Group (Delaware) LLC - Revolver	1	75,000,000	75,000,000
57629*GF2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		126,040,000	126,040,000	06/10/2021	06/10/2051	Interest Rate Swap				32008Z-MM-6	FIRST EAGLE DIRECT LENDING V-B, LLC - Secured Revolving Loan Facility	1	126,040,000	126,040,000
57629*GF2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		65,720,000	65,720,000	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	65,720,000	65,720,000
57629*GF2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,000,000	23,880,150	06/10/2021	06/10/2051	Interest Rate Swap				67104L-AF-4	OHA Loan Funding 2013-2 -OHALF 2013-2A BR	1	25,000,000	23,880,150
57629*GF2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,850,000	13,257,996	06/10/2021	06/10/2051	Interest Rate Swap				38137P-AJ-4	Goldentree Loan Opportun-SERIES 2015-10A CLASS BR	1	13,850,000	13,257,996
57629*GF2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	985,428	06/10/2021	06/10/2051	Interest Rate Swap				94184B-D#-9	Waters Corporation Gtd Senior Note Series H	2	1,000,000	985,428
57629*GF2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,800,000	3,517,489	06/10/2021	06/10/2051	Interest Rate Swap				74988L-AJ-3	ALM XIV Ltd-SERIES 14-14A CLASS BR2	1	3,800,000	3,517,489
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		300,000,000	15,000,000	06/10/2021	06/10/2051	Interest Rate Swap		(78,495,561)		48250W-AJ-4	KKR CLO 14 Ltd-KKR 14 BR	1	15,000,000	14,204,550
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,793,440	06/10/2021	06/10/2051	Interest Rate Swap				87248K-AS-3	TICP CLO VI 2016-5 LTD-TICP 2016-5A A2R	1	5,000,000	4,793,440
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,035,830	937,063	06/10/2021	06/10/2051	Interest Rate Swap				63939F-AC-4	Navient Student Loan Tru-SERIES 15-1 CLASS B	1	1,035,830	937,063
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,982,178	6,954,948	06/10/2021	06/10/2051	Interest Rate Swap				78448Q-AD-0	SMB PRIVATE EDUCATION LO-SMB 2015-B A3	1	6,982,178	6,954,948

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STATEMENT AS OF SEPTEMBER 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*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,350,000	7,476,891	06/10/2021	06/10/2051	Interest Rate Swap				973151-AG-7	THL Credit Wind River 20-WINDR 2017-1A CR	1	8,350,000	7,476,891
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	252,000,000	246,440,376	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	246,440,376
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,475,000	15,985,412	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	15,985,412
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,168,973	15,746,165	06/10/2021	06/10/2051	Interest Rate Swap				13877P-AA-5	Canyon CLO 2021-4 Ltd-CANYC 2021-4A	1	16,168,973	15,746,165
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,200,000	15,617,966	06/10/2021	06/10/2051	Interest Rate Swap				06760J-AE-5	Barings CLO Ltd 2018-III-SERIES 2018-2A CLAS A1B	1	16,200,000	15,617,966
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,000,000	15,340,400	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	15,340,400
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,318,750	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	9,318,750
57629*GE5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,000,000	27,000,000	06/10/2021	06/10/2051	Interest Rate Swap				186858-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	27,000,000	27,000,000
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	8,800,000	(58,536,729)	06/11/2021	06/11/2051	Interest Rate Swap		(67,014,253)		38137P-AS-9	Goldentree Loan Opportun-SERIES 2015-2A CLAS AJR	1	8,800,000	8,477,524
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		85,702,589	85,702,589	06/11/2021	06/11/2051	Interest Rate Swap				96269#-MM-9	X WH REDF2-TSE SELLER, LLC - Term Loan Facility	1	85,702,589	85,702,589
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	6,919,778	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	6,919,778
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,900,000	13,162,313	06/11/2021	06/11/2051	Interest Rate Swap				03328Y-AE-4	Anchorage Capital CLO Lt-ANCHC 2018-1RA B	1	13,900,000	13,162,313
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,801	7,034,729	06/11/2021	06/11/2051	Interest Rate Swap				64034C-AB-5	Nelnet Student Loan Trus-NSLT 2019-1A B	1	7,500,801	7,034,729
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		50,000,000	47,869,900	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	47,869,900
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,350,000	4,976,185	06/11/2021	06/11/2051	Interest Rate Swap				36320T-AX-1	Galaxy XXI CLO Ltd-GALXY 2016-22A BRR	1	5,350,000	4,976,185
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		60,020,000	57,511,464	06/11/2021	06/11/2051	Interest Rate Swap				03768M-AJ-6	Apidos CLO XXXIII-APID 2020-33A AR	1	60,020,000	57,511,464
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		35,131,605	34,313,010	06/11/2021	06/11/2051	Interest Rate Swap				282523-AH-2	1828 CLO Ltd-GUGG4 2016-1A A1S1	1	35,131,605	34,313,010
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,460,500	11,231,374	06/11/2021	06/11/2051	Interest Rate Swap				06760Q-AU-3	Barings Middle Market CL-BMM 2017-1A CR	2	12,460,500	11,231,374
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,800,000	11,201,395	06/11/2021	06/11/2051	Interest Rate Swap				06762T-AG-6	Babson CLO Ltd/Cayman Islands VCP RRL ABS II Ltd-VCRRL 2022-1A B	2	12,800,000	11,201,395
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,316,174	2,191,441	06/11/2021	06/11/2051	Interest Rate Swap				91824X-AE-0	Sound Point CLO II Ltd-SNDPT 2013-1A A2R	1	2,316,174	2,191,441
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,400,000	2,110,541	06/11/2021	06/11/2051	Interest Rate Swap				05683E-AU-6	Bain Capital Credit CLO -BCC 2020-2A DR	2	2,400,000	2,110,541
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,250,000	2,020,946	06/11/2021	06/11/2051	Interest Rate Swap				29002H-AS-8	Elmwood CLO III Ltd-ELMW3 2019-3A DR	2	2,250,000	2,020,946
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,250,000	2,009,943	06/11/2021	06/11/2051	Interest Rate Swap				278300-AQ-1	Eaton Vance CLO 2020-1 L-EATON 2020-1A DR	2	2,250,000	2,009,943
57629*GD7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,000,000	22,000,000	06/11/2021	06/11/2051	Interest Rate Swap				186858-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	22,000,000	22,000,000
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	325,000,000	8,300,000	(80,507,611)	06/11/2021	06/11/2051	Interest Rate Swap		(88,261,189)		05684D-AG-8	Bain Capital Credit CLO-BCC 2020-1A B FLOATING	1	8,300,000	7,753,578
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,448,424	06/11/2021	06/11/2051	Interest Rate Swap				83608G-AQ-9	Sound Point CLO II Ltd-SNDPT 2013-1A A2R	1	8,000,000	7,448,424
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,286,195	06/11/2021	06/11/2051	Interest Rate Swap				05682V-AC-9	Bain Capital Credit CLO -SERIES 18-2A CLASS A2	1	15,000,000	14,286,195
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,910,000	6,661,067	06/11/2021	06/11/2051	Interest Rate Swap				50188Q-AE-1	LOM XIX LTD PARTNERSHIP DEF MEZZ NT CL C	1	6,910,000	6,661,067
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		120,160,192	120,160,192	06/11/2021	06/11/2051	Interest Rate Swap				901399-MQ-5	Twinbrook Capital Funding VII DSPV, LLC - Term Loan	1	120,160,192	120,160,192

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STATEMENT AS OF SEPTEMBER 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*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		119,372,929	119,372,929	06/11/2021	06/11/2051	Interest Rate Swap			69324#-MM-7	PCRED LENDING III LLC, PCRED LENDING III SPE I LLC and PCRED LENDING III OFFSHORE LTD.-Term Loan 2020-2	1	119,372,929	119,372,929
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,100,000	1,040,463	06/11/2021	06/11/2051	Interest Rate Swap			08179M-AC-3	Benefit Street Partners -BSP 2018-15A A2A	1	1,100,000	1,040,463
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,800,000	5,282,762	06/11/2021	06/11/2051	Interest Rate Swap			01749B-AC-3	Allegro CLO VI Ltd-ALLEG 2017-2A C	1	5,800,000	5,282,762
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	2,884,883	06/11/2021	06/11/2051	Interest Rate Swap			06762J-AE-3	Babson CLO Ltd/Cayman Is-BABSN 2021-2A C	1	3,200,000	2,884,883
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		32,916,290	26,783,087	06/11/2021	06/11/2051	Interest Rate Swap			341081-FR-3	Florida Power & Light Co-SECURED Barings Middle Market CL-BMM 2018-1A B	1	32,916,290	26,783,087
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,929,870	21,666,643	06/11/2021	06/11/2051	Interest Rate Swap			06761M-AC-1	Canyon Capital CLO 2019-CANVC 2019-2A CR	1	21,929,870	21,666,643
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,600,000	4,994,786	06/11/2021	06/11/2051	Interest Rate Swap			13887W-AN-0	Hayfin Kingsland XI Ltd-HAYFN 2019-2A BR	1	5,600,000	4,994,786
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,330,000	5,095,906	06/11/2021	06/11/2051	Interest Rate Swap			42086N-AJ-7	Bain Capital Credit CLO -BCC 2020-3A A1R	1	5,330,000	5,095,906
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,811,985	4,722,493	06/11/2021	06/11/2051	Interest Rate Swap			05684C-AL-9	OHA Credit Funding 4 Ltd-OAKC 2019-4A CR	1	4,811,985	4,722,493
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,100,000	4,589,108	06/11/2021	06/11/2051	Interest Rate Swap			67098D-AW-3	Signal Peak CLO 9 Ltd-SPEAK 2021-9A C	1	5,100,000	4,589,108
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,963,895	4,598,555	06/11/2021	06/11/2051	Interest Rate Swap			82670Q-AG-4	Elmwood CLO VII Ltd-ELMW7 2020-4A A	1	4,963,895	4,598,555
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,683,014	4,611,200	06/11/2021	06/11/2051	Interest Rate Swap			29002Q-AA-7		1	4,683,014	4,611,200
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,300,000	3,869,518	06/11/2021	06/11/2051	Interest Rate Swap			67707L-AJ-7	Oak Hill Credit Partners KVK CLO 2016-1 Ltd-KVK 2016-1A CR2	1	4,300,000	3,869,518
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,200,000	3,810,101	06/11/2021	06/11/2051	Interest Rate Swap			97314D-AG-3	Bain Capital Credit CLO -BCC 2021-5A C	1	4,200,000	3,810,101
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,300,000	3,812,406	06/11/2021	06/11/2051	Interest Rate Swap			05682E-AG-8	Neuberger Berman CLO XX -NEUB 2015-20A BRR	1	4,300,000	3,812,406
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,525,000	3,305,185	06/11/2021	06/11/2051	Interest Rate Swap			64130T-BC-8	Landmark Equity Partners XVI-D, LLC	1	3,525,000	3,305,185
57629*GC9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		40,000,000	40,000,000	06/11/2021	06/11/2051	Interest Rate Swap			515095-MM-6	OCP CLO 2019-16 Ltd-SERIES 19-16A CLASS CR	1	40,000,000	40,000,000
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		325,000,000	(84,195,354)	06/11/2021	06/11/2051	Interest Rate Swap		(89,429,413)	67570Q-AP-6	Voya CLO 2018-2 Ltd-VOYA 2018-2A B1	1	5,800,000	5,234,059
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,000,000	11,217,564	06/11/2021	06/11/2051	Interest Rate Swap			92917J-AE-7		1	12,000,000	11,217,564
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	PCRED LENDING III LLC, PCRED LENDING III SPE I LLC and PCRED 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	56,653,140	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	56,653,140
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		57,814,271	55,814,582	06/11/2021	06/11/2051	Interest Rate Swap			67115L-AA-2	Oak Hill Credit Partners-OAKC 2021-16A A	1	57,814,271	55,814,582
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		54,100,000	52,925,327	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	52,925,327
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		50,000,000	48,230,500	06/11/2021	06/11/2051	Interest Rate Swap			17275G-AA-4	CIRUS-2018-1A A	1	50,000,000	48,230,500
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		50,000,000	46,935,200	06/11/2021	06/11/2051	Interest Rate Swap			25255A-AA-4	DCF 2019-1A A	1	50,000,000	46,935,200
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,100,000	12,275,945	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	12,275,945
57629*GB1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		28,000,000	28,000,000	06/11/2021	06/11/2051	Interest Rate Swap			18685@-AC-6	Cliffwater Corporate Lending Fund -Senior Secured Revolving Credit Facility	1	28,000,000	28,000,000
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		55,000,000	15,455,093	04/09/2013	04/09/2043	Interest Rate Swap		(6,533,199)	92558V-AC-8	Vibrant CLO Ltd-SERIES 18-9A CLASS A2	1	23,500,000	21,988,292
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,480,754	6,047,500	04/09/2013	04/09/2043	Interest Rate Swap			78442G-PL-4	SLM STUDENT LOAN TRUST-SERIES 2005-4 CLASS B	1	6,480,754	6,047,500

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STATEMENT AS OF SEPTEMBER 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*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,400,000	6,025,645	04/09/2013	04/09/2043	Interest Rate Swap			01749B-AB-5	Alllegro CLO VI Ltd-ALLEG 2017-2A B	1	6,400,000	6,025,645
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,255,762	3,479,863	04/09/2013	04/09/2043	Interest Rate Swap			12481X-AS-9	CBAM 2018-6 Ltd-CBAM 2018-6A B1R	1	3,255,762	3,479,863
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,090,343	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	7,090,343
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,900,000	6,584,615	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	6,584,615
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		496,718	474,424	04/09/2013	04/09/2043	Interest Rate Swap			06759F-AD-8	BABSON CLO LTD 2015-11--SERIES 15-2A CLASS B2R	1	496,718	474,424
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,621,818	11,528,568	04/09/2013	04/09/2043	Interest Rate Swap			38137W-AQ-8	Goldentree Loan Manage-GLM 2019-6A AR	1	11,621,818	11,528,568
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	60,000,000	25,435,049	15,516,685	04/09/2013	04/09/2043	Interest Rate Swap		(7,127,127)	784170-ZZ-8	SFR FTTH SAS Term Loan	2	25,435,049	22,643,812
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,500,000	17,498,521	04/09/2013	04/09/2043	Interest Rate Swap			50188G-AX-1	LCM XVIII LP-LCM 18A A2R	1	18,500,000	17,498,521
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,122,045	04/09/2013	04/09/2043	Interest Rate Swap			33882G-AG-3	Flatiron Clo 17 Ltd-FLAT 2017-1A BR	1	7,500,000	7,122,045
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,700,000	4,253,749	04/09/2013	04/09/2043	Interest Rate Swap			67707C-AU-2	Oak Hill Credit Partners-OAKC 2014-10RA CR	1	4,700,000	4,253,749
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,000,000	1,918,390	04/09/2013	04/09/2043	Interest Rate Swap			62848F-AC-6	MYERS PARK CLO LTD-MYERS 2018-1A A2	1	2,000,000	1,918,390
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,291,254	6,370,417	04/09/2013	04/09/2043	Interest Rate Swap			25654#-AA-0	Dodger Tickets LLC Senior Secured	1	6,291,254	6,370,417
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	8,000,000	04/09/2013	04/09/2043	Interest Rate Swap			75009J-AB-7	Rad CLO 17 Ltd-RAD 2022-17A B1	1	8,000,000	8,000,000
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	55,000,000	26,000,000	18,375,212	04/09/2013	04/09/2043	Interest Rate Swap		(6,985,890)	83609Y-AC-0	Sounds Point CLO IV-R LT-SERIES 13-3RA CLASS A	1	26,000,000	25,361,102
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,779,576	1,650,223	04/09/2013	04/09/2043	Interest Rate Swap			78442G-QA-7	SLM STUDENT LOAN TRUST-SERIES 2005-6 CLASS B	1	1,779,576	1,650,223
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,343,631	19,871,049	04/09/2013	04/09/2043	Interest Rate Swap			29002G-AB-7	Elmwood CLO IV Ltd-ELMW4 2020-1A A	1	20,343,631	19,871,049
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,111,115	04/09/2013	04/09/2043	Interest Rate Swap			29001L-AN-1	Elmwood CLO II Ltd-ELMW2 2019-2A BR	1	15,000,000	14,111,115
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,900,000	5,518,288	04/09/2013	04/09/2043	Interest Rate Swap			40436X-AG-2	HIGHBRIDGE LOAN MANAGEM-18-47A CLASS BR	1	5,900,000	5,518,288
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	55,000,000	25,900,000	17,733,718	04/09/2013	04/09/2043	Interest Rate Swap		(6,985,890)	04016V-AC-9	ARES XLVII CLO Ltd-SERIES 18-47A CLASS A2	1	25,900,000	24,719,608
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,568,580	04/09/2013	04/09/2043	Interest Rate Swap			03329Z-AS-2	ANCHORAGE CAPITAL CLO 20-SERIES 13-1A CLASS A2R	1	10,000,000	9,568,580
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,900,000	10,056,645	04/09/2013	04/09/2043	Interest Rate Swap			38138D-AS-5	Goldentree Loan Manage-GLM 2019-5A CR	1	10,900,000	10,056,645
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,630,980	04/09/2013	04/09/2043	Interest Rate Swap			29001L-AQ-4	Elmwood CLO II Ltd-ELMW2 2019-2A CR	1	5,000,000	4,630,980
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,575,000	2,369,582	04/09/2013	04/09/2043	Interest Rate Swap			08179H-AC-4	Benefit Street Partners -BSP 2017-12A B	1	2,575,000	2,369,582
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	953,375	04/09/2013	04/09/2043	Interest Rate Swap			13876J-AE-2	Canyon Capital CLO Ltd-CANYC 2012-1RA B	1	1,000,000	953,375
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,498,195	6,090,781	04/09/2013	04/09/2043	Interest Rate Swap			512807-AU-2	Lam Research Corp-SENIOR UNSECURED	1	6,498,195	6,090,781
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,999,375	04/09/2013	04/09/2043	Interest Rate Swap			55819F-AE-1	Madison Park Funding Ltd-MDPK 2022-55A B1	1	5,000,000	4,999,375
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	55,000,000	11,621,818	4,579,333	04/09/2013	04/09/2043	Interest Rate Swap		(6,949,235)	38137W-AQ-8	Goldentree Loan Manage-GLM 2019-6A AR	1	11,621,818	11,528,568
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		26,125,551	26,310,628	04/09/2013	04/09/2043	Interest Rate Swap			65023T-AJ-1	Newark BSL CLO 1 Ltd-NBCLO 2016-1A A1R	1	26,125,551	26,310,628
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,715,012	13,090,478	04/09/2013	04/09/2043	Interest Rate Swap			05875H-AC-7	BALLYROCK CLO 2018-1 LTD-SERIES 2018-1A CLASS A2	1	13,715,012	13,090,478
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	959,195	04/09/2013	04/09/2043	Interest Rate Swap			62848F-AC-6	MYERS PARK CLO LTD-MYERS 2018-1A A2	1	1,000,000	959,195
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,500,000	5,326,442	04/09/2013	04/09/2043	Interest Rate Swap			48661N-AE-8	KAYNE CLO-SERIES 19-6A CLASS B1	1	5,500,000	5,326,442

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STATEMENT AS OF SEPTEMBER 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*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,925,922	7,171,757	04/09/2013	04/09/2043	Interest Rate Swap				25654#-AB-8	Dodger Tickets LLC Senior Secured Marble Point CLO XI Ltd-1P11 2017-2A A	1	6,925,922	7,171,757
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	60,000,000	21,900,000	13,531,448	04/09/2013	04/09/2043	Interest Rate Swap	(7,580,984)			56607F-AA-3	NORTHSTAR EDUCATION FINA-SERIES 04-2 CLASS B	1	21,900,000	21,112,432
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,842,597	11,432,244	04/09/2013	04/09/2043	Interest Rate Swap				66704J-BD-9	NORTHSTAR EDUCATION FINA-SERIES 05-1 CLASS B	1	12,842,597	11,432,244
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,226,053	10,280,178	04/09/2013	04/09/2043	Interest Rate Swap				66704J-BK-3	Wellfleet CLO Ltd-SERIES 18-1A CLASS B	1	11,226,053	10,280,178
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,500,000	3,304,637	04/09/2013	04/09/2043	Interest Rate Swap				94950J-AC-5	Crestline Denali CLO Ltd-SERIES 2018-1A CLASS C	1	3,500,000	3,304,637
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	2,879,827	04/09/2013	04/09/2043	Interest Rate Swap				22615E-AE-0	MYERS PARK CLO LTD-MYERS 2018-1A A2	1	3,200,000	2,879,827
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,000,000	1,918,390	04/09/2013	04/09/2043	Interest Rate Swap				62848F-AC-6	Highbridge Loan Managem-SERIES 4A-2014 CLASS A2R	1	2,000,000	1,918,390
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,900,000	11,252,176	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	11,252,176
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,456,250	8,107,387	04/09/2013	04/09/2043	Interest Rate Swap				404250-AA-3	Allegro CLO VII Ltd-ALLEG 2018-1A A	1	8,456,250	8,107,387
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	225,000,000	34,500,000	(27,937,873)	06/11/2021	06/11/2051	Interest Rate Swap	(61,287,057)			01750C-AA-1	KKR CLO 14 Ltd-KKR 14 AR	1	34,500,000	33,349,184
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	971,269	06/11/2021	06/11/2051	Interest Rate Swap				48250W-AG-0	Waters Corporation Gtd Senior Note Series H	1	1,000,000	971,269
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,100,000	6,996,539	06/11/2021	06/11/2051	Interest Rate Swap				941848-D8-9	Carlisle Global Market St-CGMS 2014-2RA A2	2	7,100,000	6,996,539
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,724,150	06/11/2021	06/11/2051	Interest Rate Swap				14314L-AE-5	NetNet Student Loan Trus-NSLT 2020-5A B	1	5,000,000	4,724,150
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,500,000	2,499,957	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	2,499,957
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		95,230,000	95,230,000	06/11/2021	06/11/2051	Interest Rate Swap				91831Z-MM-5	PIONEERS GATE LLC 2021-1 CFCC	1	95,230,000	95,230,000
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		36,470,157	35,893,929	06/11/2021	06/11/2051	Interest Rate Swap				72403Z-NS-9	Benefit Street Partners -SERIES 18-14A CLASS A2	1	36,470,157	35,893,929
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,400,000	12,667,757	06/11/2021	06/11/2051	Interest Rate Swap				08179L-AC-5	QHA Credit Funding 1 LTD-SERIES 18-1A CLASS B	1	13,400,000	12,667,757
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,619,952	06/11/2021	06/11/2051	Interest Rate Swap				67115W-AG-5	Diameter Capital CLO 1 L-DQLO 2021-1A A2	1	8,000,000	7,619,952
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,100,000	6,562,700	06/11/2021	06/11/2051	Interest Rate Swap				25255D-AE-0	Mesa Air Group, Inc. Class A Notes	1	7,100,000	6,562,700
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		26,216,748	24,211,210	06/11/2021	06/11/2051	Interest Rate Swap				590488-AA-6	Landmark Equity Partners XVI-D, LLC	1	26,216,748	24,211,210
57629*GA3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		56,000,000	56,000,000	06/11/2021	06/11/2051	Interest Rate Swap				515095-MM-6	MADISON PARK FUNDING XXI-MDPK 2018-29A A2	1	56,000,000	56,000,000
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	14,000,000	(54,159,769)	06/11/2021	06/11/2051	Interest Rate Swap	(67,694,745)			55820C-AE-5	DRYDEN 64 CLO LTD-DRSLF 2018-64A A	1	14,000,000	13,534,976
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,850,000	22,193,954	06/11/2021	06/11/2051	Interest Rate Swap				26251L-AC-8	Regatta X Funding Ltd-SERIES 2017-3A CLASS B	1	22,850,000	22,193,954
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,100,000	12,175,402	06/11/2021	06/11/2051	Interest Rate Swap				75884B-AC-2	Atlas Senior Loan Fund X-ATCLO 2018-10A B	1	13,100,000	12,175,402
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,700,000	4,382,900	06/11/2021	06/11/2051	Interest Rate Swap				04942J-AE-1	Wellfleet CLO Ltd-WELF 2021-1A C	1	4,700,000	4,382,900
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,294,239	06/11/2021	06/11/2051	Interest Rate Swap				94950C-AG-1	Invesco CMI Investments MM, LLC - Senior Secured Notes - Term Loan Series 2020-1	1	7,000,000	6,294,239
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		182,963,320	182,963,320	06/11/2021	06/11/2051	Interest Rate Swap				46143#-MM-6	Barings Middle Market CL-BMM 2021-1A A2	1	182,963,320	182,963,320
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		31,600,000	28,730,752	06/11/2021	06/11/2051	Interest Rate Swap				06760W-AE-6	Nakilat Inc-SECURED BOND	1	31,600,000	28,730,752
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,585,380	28,939,180	06/11/2021	06/11/2051	Interest Rate Swap				62983P-AA-3	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	30,585,380	28,939,180
57629*FZ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	20,000,000	06/11/2021	06/11/2051	Interest Rate Swap				186858-AC-6		1	20,000,000	20,000,000

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STATEMENT AS OF SEPTEMBER 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*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	15,000,000	10,436,572	03/05/2014	03/05/2034	Interest Rate Swap		(3,862,553)	55818R-BA-3	Madison Park Funding XIV-MDPK 2014-14A BRR	1	15,000,000	14,299,125
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,920,000	4,618,532	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	4,618,532
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,244,644	18,918,832	03/05/2014	03/05/2034	Interest Rate Swap			48249V-AN-1	KKR FINANCIAL CLO LTD-SERIES 13-1A CLASS A1R	1	19,244,644	18,918,832
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,700,000	12,757,604	03/05/2014	03/05/2034	Interest Rate Swap			05682L-AL-1	Bain Capital Credit CLO -BCC 2019-2A BR	1	13,700,000	12,757,604
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,050,000	7,538,801	03/05/2014	03/05/2034	Interest Rate Swap			48252R-AQ-7	KKR CLO 24 Ltd-KKR 24 BR	1	8,050,000	7,538,801
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,798,883	03/05/2014	03/05/2034	Interest Rate Swap			48250W-AG-0	KKR CLO 14 Ltd-KKR 14 AR	1	7,000,000	6,798,883
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,800,000	19,705,118	03/05/2014	03/05/2034	Interest Rate Swap			Q3958B-AC-0	GAIF Bond Issuer Pty Ltd Gtd Senior Note	1	19,800,000	19,705,118
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,400,000	6,072,544	03/05/2014	03/05/2034	Interest Rate Swap			05684K-AN-7	Bain Capital Credit CLO -BCC 2020-4A B	1	6,400,000	6,072,544
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,000,000	2,809,008	03/05/2014	03/05/2034	Interest Rate Swap			09630Q-AN-1	BlueMountain CLO XXX Ltd-BLUEM 2020-30A BR	1	3,000,000	2,809,008
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,650,000	1,435,761	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	1,435,761
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,350,000	12,343,714	03/05/2014	03/05/2034	Interest Rate Swap			55817H-AE-9	Madison Park Funding Ltd-MDPK 2022-62A B	1	12,350,000	12,343,714
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	19,707,600	14,169,969	03/05/2014	03/05/2034	Interest Rate Swap		(3,844,049)	346845-AC-4	Fort Benning Family Comm-UNSECURED	1	19,707,600	18,014,018
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,613,947	20,872,747	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	21,613,947	20,872,747
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,300,000	17,554,202	03/05/2014	03/05/2034	Interest Rate Swap			83012Q-AA-2	THL Credit Wind River 20-SERIES 18-2A CLASS A2	1	18,300,000	17,554,202
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,400,000	8,960,813	03/05/2014	03/05/2034	Interest Rate Swap			88434H-AE-3	BlueMountain CLO XXX Ltd-BLUEM 2020-30A BR	1	9,400,000	8,960,813
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,700,000	3,464,443	03/05/2014	03/05/2034	Interest Rate Swap			09630Q-AN-1	ARES XXXI IR CLO LTD-SERIES 14-32RA CLASS A1B	1	3,700,000	3,464,443
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,625,000	13,069,563	03/05/2014	03/05/2034	Interest Rate Swap			04017E-AE-2	ACCESS GROUP INC-SERIES 2015-1 CLASS B	1	13,625,000	13,069,563
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,977,552	1,973,198	03/05/2014	03/05/2034	Interest Rate Swap			00435T-AB-7	CIFC Funding 2021-I Ltd-CIFC 2021-1A B	1	1,977,552	1,973,198
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,600,000	5,294,537	03/05/2014	03/05/2034	Interest Rate Swap			12563E-AC-7	KAYNE CLO I Ltd-KAYNE 2018-1A CR	1	5,600,000	5,294,537
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,500,000	5,090,102	03/05/2014	03/05/2034	Interest Rate Swap			48661A-AN-6	US Bancorp-SENIOR UNSECURED Barings Loan Partners CL-BABSN 2022-3A B	1	5,500,000	5,090,102
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,175,497	2,990,884	03/05/2014	03/05/2034	Interest Rate Swap			91159H-HR-4	Rockford Tower CLO 2018--SERIES 18-1A CLASS A	1	3,175,497	2,990,884
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,900,000	6,842,357	03/05/2014	03/05/2034	Interest Rate Swap			06762V-AC-0	Neuberger Berman CLO Ltd-NEUB 2018-28A B	1	6,900,000	6,842,357
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	56,067,493	46,920,766	05/19/2014	05/19/2034	Interest Rate Swap		(7,627,853)	77342J-AA-1	Canyon Capital CLO Ltd-CANYC 2021-1A B	1	56,067,493	54,548,619
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,664,581	05/19/2014	05/19/2034	Interest Rate Swap			64130P-AE-3	Greywolf CLO V Ltd-GWOLF 2015-1A A1R	1	7,000,000	6,664,581
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	13,866,960	05/19/2014	05/19/2034	Interest Rate Swap			13877E-AE-2	ARES CLO Ltd-SERIES 18-28RA CLASS B	1	15,000,000	13,866,960
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,900,000	19,499,035	05/19/2014	05/19/2034	Interest Rate Swap			39808P-AL-0	BETHPAGE PARK CLO LTD-BETHP 2021-1A B	1	19,900,000	19,499,035
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,000,000	15,167,952	05/19/2014	05/19/2034	Interest Rate Swap			04017Q-AE-5	Kayne CLO 4 Ltd-SERIES 19-4A CLASS B1	1	16,000,000	15,167,952
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,750,000	6,303,758	05/19/2014	05/19/2034	Interest Rate Swap			087598-AC-2	Magna International Inc-SR UNSECURED	1	6,750,000	6,303,758
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,771,397	4,631,290	05/19/2014	05/19/2034	Interest Rate Swap			48661Y-AA-2	Symphony CLO 35 Ltd-SYMP 2022-35A B1	1	4,771,397	4,631,290
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,122,436	10,756,268	05/19/2014	05/19/2034	Interest Rate Swap			559222-AR-5	UNSECURED	1	11,122,436	10,756,268
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,726,545	3,703,436	05/19/2014	05/19/2034	Interest Rate Swap			871980-AE-8	Symphony CLO 35 Ltd-SYMP 2022-35A B1	1	3,726,545	3,703,436

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STATEMENT AS OF SEPTEMBER 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*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	85,000,000	23,487,000	18,521,882	05/09/2014	05/09/2034	Interest Rate Swap	(4,319,343)		12551R-AA-6	CIFC Funding 2018-I Ltd-CIFC 2018-1A A	1	23,487,000	22,841,225
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,335,215	05/09/2014	05/09/2034	Interest Rate Swap			03765W-BC-1	Apollo Credit Funding IV-SERIES 4A CLASS A1BR	1	15,000,000	14,335,215
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,650,000	5,385,478	05/09/2014	05/09/2034	Interest Rate Swap			50184N-AN-2	LCM LTD PARTNERSHIP-SERIES 15A CLASS BR	1	5,650,000	5,385,478
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,606,889	5,412,120	05/09/2014	05/09/2034	Interest Rate Swap			04009G-AE-7	ARES L CLO Ltd-SERIES 19-53A CLASS B	1	5,606,889	5,412,120
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,400,000	5,986,867	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	5,986,867
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	19,392,060	05/09/2014	05/09/2034	Interest Rate Swap			77342K-AA-8	ROCKFORD TOWER CLO 2018--ROCKT 2018-2A A	1	20,000,000	19,392,060
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,900,000	3,506,728	05/09/2014	05/09/2034	Interest Rate Swap			05683L-AG-1	Bain Capital Credit CLO -SERIES 1A CLASS C	1	3,900,000	3,506,728
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,863,603	8,781,173	05/09/2014	05/09/2034	Interest Rate Swap			784170-ZZ-8	SFR FTTH SAS Term Loan	2	9,863,603	8,781,173
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,999,375	05/09/2014	05/09/2034	Interest Rate Swap			55819F-AE-1	Madison Park Funding Ltd-MDPK 2022-55A B1	1	5,000,000	4,999,375
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	55,000,000	10,000,000	5,315,791	10/06/2014	10/06/2034	Interest Rate Swap	(4,268,419)		55819B-AN-0	Madison Park Funding XVI-MDPK 2015-18A BR	1	10,000,000	9,584,210
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,100,000	18,923,909	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	18,923,909
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,031,935	23,703,271	10/06/2014	10/06/2034	Interest Rate Swap			77341D-AA-5	Rockford Tower CLO 2017--ROCKT 2017-3A A	1	24,031,935	23,703,271
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,100,000	2,893,444	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	2,893,444
57629*CG4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,523,858	6,879,362	10/06/2014	10/06/2034	Interest Rate Swap			172967-LW-9	Citigroup Inc-SENIOR UNSECURED ORANGE GROVE ENERGY, L.P DELAYED DRAW TE	1	7,523,858	6,879,362
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	12,755,613	(16,060,757)	06/16/2021	06/16/2051	Interest Rate Swap	(28,136,624)		66776M-ZZ-9	EAIV Delta MSN 1513	2	12,755,613	12,075,867
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		403,996	402,400	06/16/2021	06/16/2051	Interest Rate Swap			247358-BB-9	EAIV Delta MSN 15161	1	403,996	402,400
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		384,670	381,879	06/16/2021	06/16/2051	Interest Rate Swap			247358-DD-3	EAIV Delta MSN 15161	1	384,670	381,879
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		310,869	309,984	06/16/2021	06/16/2051	Interest Rate Swap			247358-PP-3	Delta Air Lines Inc. - MSN 15147	1	310,869	309,984
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		406,075	386,376	06/16/2021	06/16/2051	Interest Rate Swap			247358-RR-7	EAIV 2017 Delta MSN 15146	1	406,075	386,376
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		384,670	381,879	06/16/2021	06/16/2051	Interest Rate Swap			247358-RW-6	EAIV Delta MSN 15162	1	384,670	381,879
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,595,373	4,981,338	06/16/2021	06/16/2051	Interest Rate Swap			784170-ZZ-8	SFR FTTH SAS Term Loan	2	5,595,373	4,981,338
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,095,824	4,036,372	06/16/2021	06/16/2051	Interest Rate Swap			429827-AS-7	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS B2	1	4,095,824	4,036,372
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,200,000	9,567,478	06/16/2021	06/16/2051	Interest Rate Swap			00889B-AB-7	Aimco CDO-AIMCO 2021-15A B	1	10,200,000	9,567,478
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,378,678	20,189,669	06/16/2021	06/16/2051	Interest Rate Swap			55818Y-BN-0	Madison Park Funding XVI-MDPK 2015-17A BR2	1	20,378,678	20,189,669
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,500,000	19,604,622	06/16/2021	06/16/2051	Interest Rate Swap			449272-AA-1	ICG US CLO Ltd-ICG 2021-4A A1	1	20,500,000	19,604,622
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,440,442	18,944,180	06/16/2021	06/16/2051	Interest Rate Swap			75009R-AA-1	Rad CLO 14 Ltd-RAD 2021-14A A	1	19,440,442	18,944,180
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	18,713,520	06/16/2021	06/16/2051	Interest Rate Swap			67707C-AS-7	Oak Hill Credit Partners-OAKC 2014-10RA BR	1	20,000,000	18,713,520
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,700,000	8,058,793	06/16/2021	06/16/2051	Interest Rate Swap			33836J-AE-9	ASSURANT CLO I LTD-MORGN 2017-1A BR	1	8,700,000	8,058,793
57629*FY2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,000,000	12,000,000	06/16/2021	06/16/2051	Interest Rate Swap			186858-AC-6	Cliffwater Corporate Lending Fund -Senior Secured Revolving Credit Facility	1	12,000,000	12,000,000
57629*GH8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	17,544,464	(52,246,827)	06/16/2021	06/16/2051	Interest Rate Swap	(68,832,010)		29002H-AN-9	Elmwood CLO III Ltd-ELMW3 2019-3A BR	1	17,544,464	16,585,183
57629*GH8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		49,957,258	48,766,850	06/16/2021	06/16/2051	Interest Rate Swap			05682V-AA-3	BAIN CAPITAL CREDIT CLO -SERIES 18-2A CLASS A1	1	49,957,258	48,766,850

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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*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				500798-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	11,759,974	06/16/2021	06/16/2051	Interest Rate Swap				124166-AE-9	Buttermilk Park CLO Ltd-BMILK 2018-1A B1	1	12,400,000	11,759,974
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,600,000	7,144,410	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	7,144,410
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,650,000	5,302,723	06/16/2021	06/16/2051	Interest Rate Swap				78108Y-AQ-5	RR 1 LLC-RRAM 2017-1A A2B	1	5,650,000	5,302,723
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,500,000	10,030,524	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	10,030,524
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,500,000	9,883,902	06/16/2021	06/16/2051	Interest Rate Swap				12564D-AC-8	CIFC Funding Ltd-CIFC 2021-3A B	1	10,500,000	9,883,902
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,381,970	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	9,381,970
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		31,012,800	29,260,902	06/16/2021	06/16/2051	Interest Rate Swap				06760Q-AQ-2	Barings Middle Market CL-BMM 2017-1A A2R	1	31,012,800	29,260,902
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,221,753	22,822,440	06/16/2021	06/16/2051	Interest Rate Swap				01750W-AC-3	Allegro CLO XIII Ltd-ALLEG 2021-1A A	1	23,221,753	22,822,440
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,998,000	22,286,554	06/16/2021	06/16/2051	Interest Rate Swap				06760Q-AS-8	Barings Middle Market CL-BMM 2017-1A BR	1	23,998,000	22,286,554
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,600,000	22,477,584	06/16/2021	06/16/2051	Interest Rate Swap				30259A-AA-0	FDF I Ltd-SERIES 17-3A CLASS A1	1	23,600,000	22,477,584
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,200,000	7,621,506	06/16/2021	06/16/2051	Interest Rate Swap				08186P-AN-3	Benefit Street Partners -BSP 2019-18A BR	1	8,200,000	7,621,506
57629*GHB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,000,000	21,000,000	06/16/2021	06/16/2051	Interest Rate Swap				186858-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	21,000,000	21,000,000
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	170,100,000	101,290,862	06/16/2021	06/16/2051	Interest Rate Swap		(68,809,138)		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	9,885,262	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	9,885,262
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,564,380	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	9,564,380
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,077,518	06/16/2021	06/16/2051	Interest Rate Swap				64132D-AL-2	Neuberger Berman Loan Advisers CLO 32 Ltd	1	7,500,000	7,077,518
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,800,000	4,449,394	06/16/2021	06/16/2051	Interest Rate Swap				64131J-AQ-9	Neuberger Berman Loan Advisers CLO 25 Ltd	1	4,800,000	4,449,394
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		846,852	846,852	06/16/2021	06/16/2051	Interest Rate Swap				500798-MQ-9	KREF Lending VII LLC	1	846,852	846,852
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,600,000	17,138,651	06/16/2021	06/16/2051	Interest Rate Swap				55955A-AA-4	Magnetite XX Ltd	1	17,600,000	17,138,651
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,000,000	15,371,056	06/16/2021	06/16/2051	Interest Rate Swap				85816L-AA-6	Steele Creek Clo 2018-2 Ltd	1	16,000,000	15,371,056
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,039,344	11,945,437	06/16/2021	06/16/2051	Interest Rate Swap				87289B-AA-2	TCP DLF VIII 2018 CLO, LLC	1	12,039,344	11,945,437
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,700,000	19,047,300	06/16/2021	06/16/2051	Interest Rate Swap				Q39588-AJ-5	GAIF Bond Issuer Pty Ltd Gtd Senior Note	1	19,700,000	19,047,300
57629*GS4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		55,000,000	55,000,000	06/16/2021	06/16/2051	Interest Rate Swap				515095-MM-6	Landmark Equity Partners XVI-D, LLC	1	55,000,000	55,000,000
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	16,600,000	(51,563,315)	06/17/2021	06/17/2051	Interest Rate Swap		(67,431,720)		92915P-AK-1	Voya CLO 2014-1 Ltd-INGIII 2014-1A ABR2	1	16,600,000	15,868,405
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,568,666	2,564,520	06/17/2021	06/17/2051	Interest Rate Swap				05363U-AW-3	AVERY POINT IV CLO LTD-SERIES 14-1A CLASS CR	1	2,568,666	2,564,520
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,999,914	06/17/2021	06/17/2051	Interest Rate Swap				64032V-AB-5	Nelnet Student Loan Trus-NSLT 2020-5A B	1	5,000,000	4,999,914
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,000,000	12,200,734	06/17/2021	06/17/2051	Interest Rate Swap				67332F-AH-6	RRPF Engine Leasing Ltd Senior Secured	2	13,000,000	12,200,734
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,311,990	06/17/2021	06/17/2051	Interest Rate Swap				04941Y-AJ-8	Atlas Senior Loan Fund X-ATOLO 2018-11A B	1	10,000,000	9,311,990
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		26,815,000	25,704,510	06/17/2021	06/17/2051	Interest Rate Swap				55954Y-AJ-4	Magnetite XXVI Ltd-MAGNE 2020-26A A1R	1	26,815,000	25,704,510
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,900,000	11,124,822	06/17/2021	06/17/2051	Interest Rate Swap				402566-AC-5	Gulf Stream Meridian-GSM 2021-6A A2	1	11,900,000	11,124,822

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STATEMENT AS OF SEPTEMBER 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			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		68,313,143	68,313,143
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			59,280,186	59,280,186	06/17/2021	06/17/2051	Interest Rate Swap				59576#-MM-5	Middle Market Credit Fund II SPV, LLC-Class A-1 Senior Secured Notes (Carlyle BDC Direct Lending)		59,280,186	59,280,186
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			7,500,000	7,076,273	06/17/2021	06/17/2051	Interest Rate Swap				94951D-AJ-2	Wellfleet CLO 2018-3 Ltd-SERIES 18-3A CLASS A2		7,500,000	7,076,273
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			48,000,000	48,000,000	06/17/2021	06/17/2051	Interest Rate Swap				70163#-AA-0	Parliament Funding I LLC-Variation Funding Notes		48,000,000	48,000,000
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			20,000,000	19,492,100	06/17/2021	06/17/2051	Interest Rate Swap				03331J-AA-0	Anchorage Capital CLO Lt-ANCHC 2018-10A A1A		20,000,000	19,492,100
57629*GR6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			38,254,451	36,649,141	06/17/2021	06/17/2051	Interest Rate Swap				82340*-AB-3	Shepherds Flat Funding T Trust A-1-6 Cer		38,254,451	36,649,141
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds		125,000,000	25,000,000	13,846,097	05/04/2017	11/04/2044	Interest Rate Swap		(9,941,453)		48253H-AN-5	KKR CLO 26 Ltd-KKR 26 AR		25,000,000	23,787,550
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			55,138,220	52,718,928	05/04/2017	11/04/2044	Interest Rate Swap				05683H-AN-5	Bain Capital Credit CLO -BCC 2017-2A AR2		55,138,220	52,718,928
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			11,980,000	11,498,680	05/04/2017	11/04/2044	Interest Rate Swap				149420-AE-1	CATSKILL PARK CLO LTD.-SERIES 17-1A CLASS A2		11,980,000	11,498,680
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			5,000,000	4,766,390	05/04/2017	11/04/2044	Interest Rate Swap				88434H-AE-3	THL Credit Wind River 20-SERIES 18-2A CLASS A2		5,000,000	4,766,390
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			23,069,941	22,378,951	05/04/2017	11/04/2044	Interest Rate Swap				24824T-AQ-3	Denali Capital CLO XII L-DEN12 2016-1A A1R		23,069,941	22,378,951
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			10,250,000	9,888,882	05/04/2017	11/04/2044	Interest Rate Swap				44330Q-AB-7	Highbridge Loan Managem-SERIES 12A-18 CLASS A1B		10,250,000	9,888,882
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			9,200,000	9,384,000	05/04/2017	11/04/2044	Interest Rate Swap				064227-AC-5	Bank of NT Butterfield &-SUBORDINATED		9,200,000	9,384,000
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			3,726,545	3,703,436	05/04/2017	11/04/2044	Interest Rate Swap				871980-AE-8	Symphony CLO 35 Ltd-SYMP 2022-35A B1		3,726,545	3,703,436
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds		250,000,000	36,000,000	(32,498,598)	06/17/2021	06/17/2051	Interest Rate Swap		(67,454,598)		39808C-AA-3	Gridiron Fdg LLC Sr Secd Nt	2	36,000,000	34,956,000
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			25,900,000	24,936,779	06/17/2021	06/17/2051	Interest Rate Swap				14307P-AE-5	Carlyle Global Market St-SERIES C17A CLASS A1BR		25,900,000	24,936,779
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			11,600,000	10,908,199	06/17/2021	06/17/2051	Interest Rate Swap				88434H-AE-8	THL Credit Wind River 20-WINDR 2018-2A B		11,600,000	10,908,199
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			11,400,000	10,774,699	06/17/2021	06/17/2051	Interest Rate Swap				67097Q-AE-5	CCP CLO 2017-14 Ltd-SERIES 17-14A CLASS A2		11,400,000	10,774,699
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			10,500,000	10,374,187	06/17/2021	06/17/2051	Interest Rate Swap				64034W-AD-7	Navient Student Loan Tru-NSLT 2019-7A B		10,500,000	10,374,187
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			15,000,000	14,097,915	06/17/2021	06/17/2051	Interest Rate Swap				05875M-AQ-5	Ballyrook CLO 2019-2 Ltd-SERIES 19-2A CLASS A2R		15,000,000	14,097,915
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			846,852	846,852	06/17/2021	06/17/2051	Interest Rate Swap				500798-MQ-9	KREF Lending VII 2018-5 Term Loan		846,852	846,852
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			24,000,000	23,324,160	06/17/2021	06/17/2051	Interest Rate Swap				92917A-AA-4	VOYA 2018-1A A1		24,000,000	23,324,160
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			5,000,000	4,717,337	06/17/2021	06/17/2051	Interest Rate Swap				64034B-AB-7	Nelnet Student Loan Tru-NSLT 2018-5A B		5,000,000	4,717,337
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			45,000,000	43,620,750	06/17/2021	06/17/2051	Interest Rate Swap				94949J-AA-3	Wellfleet CLO 2018-2 Ltd-WELF 2018-2A A1		45,000,000	43,620,750
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			6,125,000	5,674,022	06/17/2021	06/17/2051	Interest Rate Swap				94950C-AE-6	Wellfleet CLO Ltd-WELF 2021-1A B		6,125,000	5,674,022
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			8,790,000	8,395,338	06/17/2021	06/17/2051	Interest Rate Swap				55951P-BC-0	Magnetite VII Ltd-MAGNE 2012-7A A2R2		8,790,000	8,395,338
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			11,100,000	10,436,908	06/17/2021	06/17/2051	Interest Rate Swap				12481Q-AE-5	Obam 2018-5 Ltd-SERIES 18-5A CLASS B1		11,100,000	10,436,908
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			2,700,000	2,457,589	06/17/2021	06/17/2051	Interest Rate Swap				14316W-AE-9	Carlyle Global Market St-CGMS 2021-7A B		2,700,000	2,457,589
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			31,302,247	30,610,949	06/17/2021	06/17/2051	Interest Rate Swap				Q3534#-AB-5	Australian Gas Networks Senior Note Ser		31,302,247	30,610,949
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			15,032,995	13,870,172	06/17/2021	06/17/2051	Interest Rate Swap				61744Y-AP-3	Morgan Stanley-SENIOR UNSECURED Landmark Equity Partners XVII-D, LLC		15,032,995	13,870,172
57629*G08	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds			70,000,000	70,000,000	06/17/2021	06/17/2051	Interest Rate Swap				515095-MM-6			70,000,000	70,000,000

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STATEMENT AS OF SEPTEMBER 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*GP0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	250,000,000	304,111,690	235,814,232	06/18/2021	06/18/2051	Interest Rate Swap	(68,297,458)		57542Z-A7-2	MM Investment Holding Revolver Floating Line	2	304,111,690	304,111,690
57629*GP0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		3,600,000	3,199,496	06/18/2021	06/18/2051	Interest Rate Swap			61773K-AE-2	Morgan Stanley Eaton Van-MSEV 2021-1A C	1	3,600,000	3,199,496
57629*GP0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		16,000,000	16,000,000	06/18/2021	06/18/2051	Interest Rate Swap			18685E-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	16,000,000	16,000,000
57629*GN5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	350,000,000	271,261,063	175,516,504	06/18/2021	06/18/2051	Interest Rate Swap	(95,744,559)		67098F-MM-7	QHA Credit Solutions Master Fund I SPV, L.P. - Fund I Revolver	1	271,261,063	271,261,063
57629*GN5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,720,910	06/18/2021	06/18/2051	Interest Rate Swap			94950J-AC-5	Wellfleet CLO Ltd-SERIES 18-1A CLASS B	1	5,000,000	4,720,910
57629*GN5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,150,000	9,448,818	06/18/2021	06/18/2051	Interest Rate Swap			48662N-AC-1	KAYNE CLO-KAYNE 2021-11A B	1	10,150,000	9,448,818
57629*GN5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,400,000	10,056,654	06/18/2021	06/18/2051	Interest Rate Swap			67115W-AE-0	QHA Credit Funding 1 LTD-SERIES 18-1A CLASS A2	1	10,400,000	10,056,654
57629*GN5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,000,000	21,387,036	06/18/2021	06/18/2051	Interest Rate Swap			26245R-AA-8	Dryden 58 Clo Ltd-DRSLF 2018-58A A1	1	22,000,000	21,387,036
57629*GN5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		72,000,000	70,310,520	06/18/2021	06/18/2051	Interest Rate Swap			48661W-AA-6	KAYNE CLO-SERIES 19-3A CLASS A	1	72,000,000	70,310,520
57629*GN5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,227,910	06/18/2021	06/18/2051	Interest Rate Swap			55817A-AU-8	Madison Park Funding XXX-MDPK 2018-32A CR	1	10,000,000	9,227,910
57629*GN5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,750,000	2,534,342	06/18/2021	06/18/2051	Interest Rate Swap			04015U-AK-4	Ares XXXVIII CLO Ltd-SERIES 2015-38A CLASS CR	1	2,750,000	2,534,342
57629*GN5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		48,000,000	48,000,000	06/18/2021	06/18/2051	Interest Rate Swap			51509S-MM-6	Landmark Equity Partners XVI-D, LLC	1	48,000,000	48,000,000
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	400,000,000	173,487,276	64,138,133	06/18/2021	06/18/2051	Interest Rate Swap	(109,349,143)		46143F-MM-4	Invesco CMI Investments MM, LLC - Senior Secured Notes - Term Loan Series 2020-2	1	173,487,276	173,487,276
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		79,404,651	79,404,651	06/18/2021	06/18/2051	Interest Rate Swap			901399-MR-3	Twinbrook Capital Funding VIII DSPV, LLC - Term Loan	1	79,404,651	79,404,651
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,185,245	06/18/2021	06/18/2051	Interest Rate Swap			77341E-AC-9	Rockford Tower CLO 2020--ROCKT 2020-1A B	1	15,000,000	14,185,245
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,500,000	12,999,177	06/18/2021	06/18/2051	Interest Rate Swap			06760B-AE-2	BABSON CLO LTD-SERIES 17-1A CLASS B1	1	13,500,000	12,999,177
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,600,000	9,620,141	06/18/2021	06/18/2051	Interest Rate Swap			63941R-AC-4	NAVSL 2019-2A B	1	9,600,000	9,620,141
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,700,000	12,152,833	06/18/2021	06/18/2051	Interest Rate Swap			40436X-AE-7	HIGHBRIDGE LOAN MANAGEMEN-SERIES 2014 CLAS A2R	1	12,700,000	12,152,833
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,900,000	13,048,861	06/18/2021	06/18/2051	Interest Rate Swap			09628J-AN-1	BlueMountain CLO 2015-3 -BLUEM 2015-3A A2R	1	13,900,000	13,048,861
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,516,909	10,253,046	06/18/2021	06/18/2051	Interest Rate Swap			784170-ZZ-8	SFR FTTH SAS Term Loan	2	11,516,909	10,253,046
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,400,000	7,061,110	06/18/2021	06/18/2051	Interest Rate Swap			55821T-AC-1	Madison Park Funding Ltd-SERIES 18-30A CLASS B	1	7,400,000	7,061,110
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,750,000	12,144,171	06/18/2021	06/18/2051	Interest Rate Swap			67706X-AG-8	QHA Credit Partners XIV -OAKC 2017-14A B FLOATING COUP	1	12,750,000	12,144,171
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		28,400,000	27,283,511	06/18/2021	06/18/2051	Interest Rate Swap			04017T-AC-3	Ares XXXIR CLO Ltd-SERIES 14-31RA CLASS A2	1	28,400,000	27,283,511
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		65,000,000	65,000,000	06/18/2021	06/18/2051	Interest Rate Swap			51509S-MM-6	Landmark Equity Partners XVI-D, LLC	1	65,000,000	65,000,000
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,457,320	06/18/2021	06/18/2051	Interest Rate Swap			86271P-AE-5	Strata CLO II Ltd-STRTA 2021-1A B	1	10,000,000	9,457,320
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,400,000	16,446,776	06/18/2021	06/18/2051	Interest Rate Swap			06763B-AC-3	Babson CLO Ltd/Cayman Is-BABSN LP-2A B	1	17,400,000	16,446,776
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,400,000	16,155,082	06/18/2021	06/18/2051	Interest Rate Swap			06762T-AC-5	Babson CLO Ltd/Cayman Islands	1	17,400,000	16,155,082
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,948,705	14,414,222	06/18/2021	06/18/2051	Interest Rate Swap			91824X-AC-4	VCP RRL ABS II Ltd-VCPRL 2022-1A A	1	14,948,705	14,414,222
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,702,549	14,483,550	06/18/2021	06/18/2051	Interest Rate Swap			48661C-AA-0	Rad CLO 7 Ltd-RAD 2020-7A A1	1	14,702,549	14,483,550
57629*GM7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,300,000	4,022,310	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	4,022,310

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STATEMENT AS OF SEPTEMBER 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*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	9,470,000	(45,652,098)	06/18/2021	06/18/2051	Interest Rate Swap	(54,601,362)		74989H-AE-2	RR 12 Ltd-RRAM 2020-12A A2R2	1	9,470,000	8,949,264
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,350,000	8,827,485	06/18/2021	06/18/2051	Interest Rate Swap			87166R-DG-9	SYMP 2019-21A BR	1	9,350,000	8,827,485
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,200,000	8,675,002	06/18/2021	06/18/2051	Interest Rate Swap			65357L-AL-9	Niagara Park Clo Ltd-NIAPK 2019-1A BR	1	9,200,000	8,675,002
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,100,000	8,530,841	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	8,530,841
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,100,000	8,615,034	06/18/2021	06/18/2051	Interest Rate Swap			42087D-AC-3	Hayfin US XII Ltd-HAYFN 2020-12A B1	1	9,100,000	8,615,034
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,000,000	8,450,631	06/18/2021	06/18/2051	Interest Rate Swap			38138L-AN-8	Goldentree Loan Managem-SERIES 2020-7A CLASS BR	1	9,000,000	8,450,631
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		74,184,385	72,692,325	06/18/2021	06/18/2051	Interest Rate Swap			316502-AA-1	Fidus Re Ltd-UNSECURED	1	74,184,385	72,692,325
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,849,545	8,780,519	06/18/2021	06/18/2051	Interest Rate Swap			87289B-AA-2	TOP DLF VIII 2018 CLO, LLC - Class A-1 Secured Floating Rate Note	1	8,849,545	8,780,519
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,026,830	14,361,156	06/18/2021	06/18/2051	Interest Rate Swap			66704J-AY-4	NORTHSTAR EDUCATION FINA-SERIES 2004-1 CLASS B1	1	17,026,830	14,361,156
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,000,000	25,969,572	06/18/2021	06/18/2051	Interest Rate Swap			75887X-AA-5	Regatta Funding Ltd.-REG11 2018-1A	1	27,000,000	25,969,572
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,900,000	11,552,413	06/18/2021	06/18/2051	Interest Rate Swap			449258-AA-0	105 US CLO 2018-1 LTD-SERIES 2018-1A CLASS A1	1	11,900,000	11,552,413
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	3,102,194	06/18/2021	06/18/2051	Interest Rate Swap			63942N-AC-2	Navient Student Loan Tru-NAVSL 2021-1A B	1	3,200,000	3,102,194
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,200,000	10,677,083	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	10,677,083
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,200,000	15,414,381	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	15,414,381
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,889,660	7,609,542	06/18/2021	06/18/2051	Interest Rate Swap			05890M-AA-1	BANCO DE CREDITO E INVER-SENIOR UNSECURED	1	7,889,660	7,609,542
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,830,000	12,598,706	06/18/2021	06/18/2051	Interest Rate Swap			53636C-AA-2	LiquiGlide Inc-SECURED	1	13,830,000	12,598,706
57629*GL9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,000,000	21,000,000	06/18/2021	06/18/2051	Interest Rate Swap			186858-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	21,000,000	21,000,000
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	13,600,000	(12,365,750)	02/05/2015	02/05/2045	Interest Rate Swap	(25,165,635)		67690A-AG-6	QHA Credit Funding 9 Ltd-OAKC 2021-9A B	1	13,600,000	12,799,885
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,750,000	12,063,234	02/05/2015	02/05/2045	Interest Rate Swap			40436D-AN-2	HPS Loan Management 9-20-HLM 9A-2016 A2R	1	12,750,000	12,063,234
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,000,000	24,416,550	02/05/2015	02/05/2045	Interest Rate Swap			87249Q-AA-8	TICP CLO Ltd-TICP 2018-11A A	1	25,000,000	24,416,550
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,238,012	15,017,777	02/05/2015	02/05/2045	Interest Rate Swap			06760E-AA-4	Babson CLO Ltd 2013-I-SERIES 2013-1A CLASS AR	1	15,238,012	15,017,777
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,200,000	14,530,744	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	14,530,744
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,000,000	28,742,790	02/05/2015	02/05/2045	Interest Rate Swap			00119V-AN-9	AGL CLO 6 LTD-AGL 2020-6A AR	1	30,000,000	28,742,790
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,400,000	10,767,995	02/05/2015	02/05/2045	Interest Rate Swap			38138D-AQ-9	Goldentree Loan Managem-GLM 2019-5A BR	1	11,400,000	10,767,995
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,000,000	18,000,000	02/05/2015	02/05/2045	Interest Rate Swap			186858-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	18,000,000	18,000,000
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,135,567	15,124,479	02/05/2015	02/05/2045	Interest Rate Swap			74340X-BL-4	Prologis LP-SENIOR UNSECURED	1	16,135,567	15,124,479
57629*GK1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	300,000,000	6,381,925	(80,101,657)	06/21/2021	06/21/2051	Interest Rate Swap	(86,474,124)		78449F-AC-5	SMB PRIVATE ED LN TR 201-SMB PRIVATE ED LN TR 2016-A NT	1	6,381,925	6,372,467
57629*GK1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,985,065	21,036,525	06/21/2021	06/21/2051	Interest Rate Swap			63940F-AC-1	NAVIENT STUDENT LOAN TRU-SERIES 16-2 CLASS A3	1	20,985,065	21,036,525
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	59,568,635	06/21/2021	06/21/2051	Interest Rate Swap			48661W-AA-6	KAYNE CLO-SERIES 19-3A CLASS A	1	61,000,000	59,568,635

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STATEMENT AS OF SEPTEMBER 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*GK1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,654,000	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	9,654,000
57629*GK1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,200,000	3,827,166	06/21/2021	06/21/2051	Interest Rate Swap			08180X-AU-6	Benefit Street Partners -BSP 2015-8A BR	1	4,200,000	3,827,166
57629*GK1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,691,130	06/21/2021	06/21/2051	Interest Rate Swap			04965L-AE-8	ATRIUM XIV LLC-ATRM 14A A2A	1	10,000,000	9,691,130
57629*GK1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,050,000	8,651,275	06/21/2021	06/21/2051	Interest Rate Swap			06760E-AE-6	Babson CLO Ltd 2013-I-SERIES 2013-1A CLASS CR	1	9,050,000	8,651,275
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	3,255,897	(56,802,641)	06/22/2021	06/22/2051	Interest Rate Swap		(59,731,735)	MXP001-TT-1	AEROVIAS DE MEXICO SA USD TERM LN TICP CLO XIII Ltd-TICP 2019-13A BR	2	3,255,897	2,929,094
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,539,408	06/22/2021	06/22/2051	Interest Rate Swap			87250A-AL-5	BlueMountain Fuji US Clo-SERIES 2017-3A CLASS B	1	8,000,000	7,539,408
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,493,704	06/22/2021	06/22/2051	Interest Rate Swap			09628F-AE-9	Steele Creek CLO 2016-1-SERIES 2016-1A CLASS AR	1	8,000,000	7,493,704
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		67,200,000	64,551,715	06/22/2021	06/22/2051	Interest Rate Swap			858102-AX-4	Steele Creek CLO 2014-1-SERIES 14-1RA CLASS A	1	67,200,000	64,551,715
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,712,589	8,500,734	06/22/2021	06/22/2051	Interest Rate Swap			85816W-AC-8	ATRIUM XIV LLC-ATRM 14A A2A	1	8,712,589	8,500,734
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,691,130	06/22/2021	06/22/2051	Interest Rate Swap			04965L-AE-8	T01-Flatiron Clo 2018-1-TFLAT	1	10,000,000	9,691,130
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,338,990	06/22/2021	06/22/2051	Interest Rate Swap			87232A-AN-4	Rockford Tower CLO 2019-SERIES 2019-1A CLASS B1R	1	10,000,000	9,338,990
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,230,070	06/22/2021	06/22/2051	Interest Rate Swap			77342M-AQ-9	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS A10	1	10,000,000	9,230,070
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,630,538	1,680,254	06/22/2021	06/22/2051	Interest Rate Swap			429827-AK-4	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS A14	1	1,630,538	1,680,254
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,251,523	1,251,577	06/22/2021	06/22/2051	Interest Rate Swap			429827-AP-3	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS A2	1	1,251,523	1,251,577
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,174,589	1,174,601	06/22/2021	06/22/2051	Interest Rate Swap			429827-AB-4	SOUTH CAROLINA STUDENT L-SR UNSECURED	1	1,174,589	1,174,601
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,293,737	1,276,918	06/22/2021	06/22/2051	Interest Rate Swap			83715A-AJ-8	MELNET STUDENT LOAN TRUS-SERIES 2015-2A CLASS B	1	1,293,737	1,276,918
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,796,542	1,723,673	06/22/2021	06/22/2051	Interest Rate Swap			64033Q-AC-3	PENNSYLVANIA ST HGR EDU -SERIES 2006 CL B	1	1,796,542	1,723,673
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		498,473	480,605	06/22/2021	06/22/2051	Interest Rate Swap			709163-GJ-2	CIT EDUCATION LOAN TRUST-SERIES 2007-1 CLASS B	1	498,473	480,605
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		711,983	676,302	06/22/2021	06/22/2051	Interest Rate Swap			17284L-AB-0	Babson CLO Ltd 2015-I-BABSN 2015-1A CR	1	711,983	676,302
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,275,000	7,688,137	06/22/2021	06/22/2051	Interest Rate Swap			056162-AS-9	CULLEN/FROST CAP TR II-SUBORDINATED	1	8,275,000	7,688,137
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,479,308	21,921,444	06/22/2021	06/22/2051	Interest Rate Swap			230000-AB-7	NOTE Regatta Funding Ltd.-REG11 2018-1A B	2	22,479,308	21,921,444
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,000,000	12,103,065	06/22/2021	06/22/2051	Interest Rate Swap			75887X-AC-1	Harbor Park CLO, Ltd-HARB 2018-1A C	1	13,000,000	12,103,065
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,000,000	3,630,164	06/22/2021	06/22/2051	Interest Rate Swap			41154X-AL-9	Point Au Roche Park CLO -PARPK	1	4,000,000	3,630,164
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,934,859	6,795,349	06/22/2021	06/22/2051	Interest Rate Swap			73052V-AC-9	2021-1A B1	1	6,934,859	6,795,349
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,777,003	6,701,604	06/22/2021	06/22/2051	Interest Rate Swap			27829P-AL-0	Eaton Vance CLO 2020-2 L-EATON	1	6,777,003	6,701,604
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,499,150	06/22/2021	06/22/2051	Interest Rate Swap			13887W-AL-4	Canyon Capital CLO 2019-CANVC	1	7,000,000	6,499,150
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,000,000	5,329,440	06/22/2021	06/22/2051	Interest Rate Swap			92919D-AE-8	Voya CLO Ltd-VOYA 2021-3A C	1	6,000,000	5,329,440
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,379,000	5,349,207	06/22/2021	06/22/2051	Interest Rate Swap			64132D-AJ-7	Neuberger Berman Loan Ad-NEUB 2019-32A AR	1	5,379,000	5,349,207
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,800,000	5,175,798	06/22/2021	06/22/2051	Interest Rate Swap			06762T-AE-1	Babson CLO Ltd/Cayman Islands	1	5,800,000	5,175,798
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,600,000	5,160,719	06/22/2021	06/22/2051	Interest Rate Swap			40437W-AS-7	HPS Loan Management 14-2-HLM 14A-19 BR	1	5,600,000	5,160,719
57629*GIW5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,600,000	4,811,873	06/22/2021	06/22/2051	Interest Rate Swap			83616A-AL-3	Sound Point CLO Ltd-SNDPT 2021-4A C	1	5,600,000	4,811,873

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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*GI5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,460,000	3,155,250	06/22/2021	06/22/2051	Interest Rate Swap				55822A-AQ-0	Madison Park Funding XLV-MDPK 2020-46A CR	1	3,460,000	3,155,250
57629*GI5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,450,000	3,104,576	06/22/2021	06/22/2051	Interest Rate Swap				38138T-AG-6	Goldentree Loan Managem-GLM 2021-10A C	1	3,450,000	3,104,576
57629*GI5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		37,000,000	37,000,000	06/22/2021	06/22/2051	Interest Rate Swap				515095-MM-6	Landmark Equity Partners XVI-D, LLC	1	37,000,000	37,000,000
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	300,000,000	8,829,560	(78,363,061)	06/28/2021	06/28/2051	Interest Rate Swap		(86,306,373)		MXP001-TT-1	AEROVIAS DE MEXICO SA USD TERM LN	2	8,829,560	7,943,312
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,050,661	1,051,987	06/28/2021	06/28/2051	Interest Rate Swap				78448R-AD-8	SMB PRIVATE ED LN TR 2015-C LN BOK NT CL A-3	1	1,050,661	1,051,987
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		740,950	740,515	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	740,950	740,515
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,600,000	11,042,690	06/28/2021	06/28/2051	Interest Rate Swap				08179C-AQ-4	Benefit Street Partners -BSP 2017-11A A2R FLOATING	1	11,600,000	11,042,690
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,526,171	1,495,245	06/28/2021	06/28/2051	Interest Rate Swap				00432C-CI-9	ACCESS GROUP INC-SERIES 2005-B CLASS A3	1	1,526,171	1,495,245
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,936,433	9,105,586	06/28/2021	06/28/2051	Interest Rate Swap				28148W-AC-7	EDUCATIONAL FUNDING OF T-SERIES 2011-1 CLASS B	1	8,936,433	9,105,586
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,584,665	7,584,665	06/28/2021	06/28/2051	Interest Rate Swap				03113J-MM-3	AMF Levered II, LLC - Revolver	1	7,584,665	7,584,665
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,173,176	4,797,149	06/28/2021	06/28/2051	Interest Rate Swap				78442G-OA-7	SLM STUDENT LOAN TRUST-SERIES 2005-6 CLASS B	1	5,173,176	4,797,149
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,734,294	1,734,508	06/28/2021	06/28/2051	Interest Rate Swap				38021F-AB-7	GOAL CAPITAL FUNDING TRU-SERIES 2015-1 CLASS B	2	1,734,294	1,734,508
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,743,149	1,713,076	06/28/2021	06/28/2051	Interest Rate Swap				28138J-AB-0	EDUCATIONAL SERVICES OF -SERIES 15-2 CLASS B	1	1,743,149	1,713,076
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,508,397	1,423,187	06/28/2021	06/28/2051	Interest Rate Swap				78442G-GH-2	SLM STUDENT LOAN TRUST 2003-4 LN BKD OTF CL B	2	1,508,397	1,423,187
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,418,610	1,341,557	06/28/2021	06/28/2051	Interest Rate Swap				28090A-AB-5	EDUCATIONAL SERVICES OF -2014-4 SERIES B	1	1,418,610	1,341,557
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,200,000	6,900,718	06/28/2021	06/28/2051	Interest Rate Swap				03767M-AE-8	Apidos CLO-SERIES 18-29A CLASS A1B	1	7,200,000	6,900,718
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,800,000	8,282,542	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	8,282,542
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,500,000	10,010,438	06/28/2021	06/28/2051	Interest Rate Swap				13876J-AE-2	Canyon Capital CLO Ltd-CANVC 2012-1RA B	1	10,500,000	10,010,438
57629*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,191,716	6,911,991	06/28/2021	06/28/2051	Interest Rate Swap				03768R-AG-1	Apidos CLO Series 19-32A-APID 2019-32A B1	1	7,191,716	6,911,991
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*GV7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,000,000	19,000,000	06/28/2021	06/28/2051	Interest Rate Swap				18685e-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	19,000,000	19,000,000
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	7,650,000	(50,319,679)	06/28/2021	06/28/2051	Interest Rate Swap		(57,519,270)		281397-AP-4	EDUCATION LOAN ASSET-BAC-SERIES 2003-2 CLASS 2A1	1	7,650,000	7,199,591
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,910,000	10,714,560	06/28/2021	06/28/2051	Interest Rate Swap				MXP001-TT-1	AEROVIAS DE MEXICO SA USD TERM LN	2	11,910,000	10,714,560
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,350,000	4,093,885	06/28/2021	06/28/2051	Interest Rate Swap				281397-AB-5	EDUCATION LOAN ASSET-BAC-SERIES 2003-1 CLASS A2	1	4,350,000	4,093,885
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,796,053	2,534,169	06/28/2021	06/28/2051	Interest Rate Swap				64031Q-CK-5	WELNET STUDENT LOAN TRUS-SERIES 2005-4 CLASS A4R1	2	2,796,053	2,534,169
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,462,545	5,096,484	06/28/2021	06/28/2051	Interest Rate Swap				28108Q-AB-0	EDLINC STUDENT LOAN FUND-SERIES 2012-1 CLASS B	1	5,462,545	5,096,484
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,950,000	2,776,313	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	2,776,313
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,061,352	1,054,543	06/28/2021	06/28/2051	Interest Rate Swap				38021E-AA-2	GOAL CAPITAL FUNDING TR 2010-1 STUDENT LN BKD NT	1	1,061,352	1,054,543
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,472,349	2,719,014	06/28/2021	06/28/2051	Interest Rate Swap				64031Q-CM-1	WenNet Student Loan Trus-SERIES 2005-4 CLASS A4R2	2	2,472,349	2,719,014
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,859,861	9,359,346	06/28/2021	06/28/2051	Interest Rate Swap				83149E-AG-2	SLM STUDENT LN TR 2006-5-NOTE CL B	1	9,859,861	9,359,346
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,900,000	13,133,999	06/28/2021	06/28/2051	Interest Rate Swap				26251L-AE-4	Dryden 64 CLO Ltd-DRSLF 2018-64A B	1	13,900,000	13,133,999

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STATEMENT AS OF SEPTEMBER 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		28,000,000	26,747,636	06/28/2021	06/28/2051	Interest Rate Swap				64033E-AB-2	NSLT 2013-2A B	1	28,000,000	26,747,636
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,274,013	21,110,051	06/28/2021	06/28/2051	Interest Rate Swap				66704J-AF-5	Northstar Education Fina-REVENUE BONDS	1	22,274,013	21,110,051
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,844,658	12,065,286	06/28/2021	06/28/2051	Interest Rate Swap				78442G-KP-0	SLM Student Loan Trust 2-SLMA 2003-14 B	1	12,844,658	12,065,286
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,600,000	12,528,368	06/28/2021	06/28/2051	Interest Rate Swap				64034X-AB-9	NetNet Student Loan Trus-NSLT 2021-1A B	1	13,600,000	12,528,368
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,100,000	9,467,006	06/28/2021	06/28/2051	Interest Rate Swap				64034G-AB-6	NetNet Student Loan Trus-NSLT 2020-1A B	1	10,100,000	9,467,006
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,621,605	6,237,714	06/28/2021	06/28/2051	Interest Rate Swap				64031C-AB-8	NELNET STUDENT LOAN TRUS-SERIES 2012-2A CLASS B	1	6,621,605	6,237,714
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,852,467	3,598,196	06/28/2021	06/28/2051	Interest Rate Swap				78442G-PS-9	SLM STUDENT LOAN TRUST-SERIES 2005-5 CLASS B	1	3,852,467	3,598,196
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,275,000	15,803,139	06/28/2021	06/28/2051	Interest Rate Swap				04623T-AA-3	ASSURANT CLO I LTD-ASRNT 2018-1A A	1	16,275,000	15,803,139
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,100,000	12,424,918	06/28/2021	06/28/2051	Interest Rate Swap				67707B-AB-6	OHA Credit Partners XV L-SERIES 17-15A CLASS B	1	13,100,000	12,424,918
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,350,000	6,950,858	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	6,950,858
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,000,000	12,320,256	06/28/2021	06/28/2051	Interest Rate Swap				21623P-AC-1	COOK PARK CLO LTD-COOK 2018-1A A2	1	13,000,000	12,320,256
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,000,000	3,877,742	06/28/2021	06/28/2051	Interest Rate Swap				63942N-AC-2	Navient Student Loan Tru-NAVSL 2021-1A B	1	4,000,000	3,877,742
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,400,000	7,943,494	06/28/2021	06/28/2051	Interest Rate Swap				48252Y-AE-9	KKR CLO 23 Ltd-KKR 23 B	1	8,400,000	7,943,494
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	OHA Credit Solutions Master Fund I SPV, L.P. - Fund I Revolver	1	26,948,000	26,948,000
57629*GU9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,000,000	22,000,000	06/28/2021	06/28/2051	Interest Rate Swap				186858-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	22,000,000	22,000,000
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	10,917,500	(9,591,518)	12/06/2016	12/06/2046	Interest Rate Swap		(19,413,198)		MXP001-TT-1	AEROVIAS DE MEXICO SA USD TERM LN SOUTH CAROLINA STUDENT L-SERIES 2014-1 CLASS B	2	10,917,500	9,821,680
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,794,777	12,345,981	12/06/2016	12/06/2046	Interest Rate Swap				83715R-AG-7	SLC STUDENT LOAN TRUST-SERIES 2005-1 CLASS B	1	12,794,777	12,345,981
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,204,767	4,262,525	12/06/2016	12/06/2046	Interest Rate Swap				78442G-OT-6	SLM STUDENT LOAN TRUST-SERIES 2005-8 CLASS B	1	4,204,767	4,262,525
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,754,491	2,618,328	12/06/2016	12/06/2046	Interest Rate Swap				78442G-OT-6	Cedar Funding IX CLO Ltd-SERIES 18-9A CLASS A2	1	2,754,491	2,618,328
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,300,000	18,475,562	12/06/2016	12/06/2046	Interest Rate Swap				15033E-AC-2	NAVIENT STUDENT LOAN TRU-SERIES 2014-1 CLASS B	1	19,300,000	18,475,562
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,645,000	2,445,453	12/06/2016	12/06/2046	Interest Rate Swap				63938E-AE-4	NELNET STUDENT LOAN TRUS-SERIES 2006-3 CLASS B	1	2,645,000	2,445,453
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,846,766	1,607,044	12/06/2016	12/06/2046	Interest Rate Swap				64031A-AJ-5	NAVIENT STUDENT LOAN TRU-SERIES 2015-3 CLASS B	1	1,846,766	1,607,044
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,445,605	6,303,238	12/06/2016	12/06/2046	Interest Rate Swap				63939L-AC-1	NELNET STUDENT LOAN TRUS-SERIES 2014-1A CLASS B	1	6,445,605	6,303,238
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,395,420	3,343,719	12/06/2016	12/06/2046	Interest Rate Swap				64033J-AB-1	COLLEGE LOAN CORPORATION-SERIES 2005-2 CLASS B	1	3,395,420	3,343,719
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,112,491	1,943,626	12/06/2016	12/06/2046	Interest Rate Swap				194266-AE-2	NELNET STUDENT LOAN TRUS-SERIES 2014-5A CLASS B	1	2,112,491	1,943,626
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,255,761	3,222,348	12/06/2016	12/06/2046	Interest Rate Swap				64033N-AB-2	SLM STUDENT LOAN TRUST-SERIES 2004-3 CLASS B	1	3,255,761	3,222,348
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,668,573	1,588,727	12/06/2016	12/06/2046	Interest Rate Swap				78442G-LJ-3	NELNET STUDENT LOAN TRUS-SERIES 2012-1A CLASS B	1	1,668,573	1,588,727
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,250,000	3,035,048	12/06/2016	12/06/2046	Interest Rate Swap				64032A-AB-1	NELNET STUDENT LOAN TRUS-SERIES 2014-2A CLASS B	1	3,250,000	3,035,048
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,026,669	2,915,615	12/06/2016	12/06/2046	Interest Rate Swap				64033L-AD-2	NELNET STUDENT LOAN TRUS-SERIES 2014-3A CLASS B	1	3,026,669	2,915,615
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,240,000	3,149,440	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	3,149,440
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,750,000	13,969,371	12/06/2016	12/06/2046	Interest Rate Swap				03767M-AG-3	Apidos CLO-SERIES 18-29A CLASS A2	1	14,750,000	13,969,371

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STATEMENT AS OF SEPTEMBER 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*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,500,000	4,213,161	12/06/2016	12/06/2046	Interest Rate Swap			55852Y-AT-4	Magnetite VIII Ltd-MAGNE 2014-8A CR2	1	4,500,000	4,213,161
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,700,000	6,308,378	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	6,308,378
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,000,000	2,853,189	12/06/2016	12/06/2046	Interest Rate Swap			48250R-BN-5	KKR CLO 12 Ltd-KKR 12 BR2	1	3,000,000	2,853,189
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,250,000	13,660,235	12/06/2016	12/06/2046	Interest Rate Swap			67112K-AB-5	OCF CLO Ltd-SERIES 18-15A CLASS A2	1	14,250,000	13,660,235
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,380,000	13,207,820	12/06/2016	12/06/2046	Interest Rate Swap			043671-AA-4	Aseko Inc-FIRST LIEN	1	13,380,000	13,207,820
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	15,000,000	12/06/2016	12/06/2046	Interest Rate Swap			186858-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	15,000,000	15,000,000
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	17,648,031	(26,468,805)	09/15/2017	09/15/2047	Interest Rate Swap	(43,677,853)		29364N-AS-7	ENTERGY MISSISSIPPI INC-SECURED NOTE	1	17,648,031	17,209,048
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,815,000	8,756,855	09/15/2017	09/15/2047	Interest Rate Swap			05684L-AG-0	Bain Capital Credit CLO-BCC 2021-1A C	1	9,815,000	8,756,855
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		32,557,015	31,390,965	09/15/2017	09/15/2047	Interest Rate Swap			75972Y-AA-9	RENAISSANCE FINANCE-SR UNSECURED	1	32,557,015	31,390,965
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,500,000	8,761,223	09/15/2017	09/15/2047	Interest Rate Swap			338826-AJ-7	Flatiron CLO 17 Ltd-FLAT 2017-1A CR	1	9,500,000	8,761,223
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	2,879,827	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	2,879,827
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,456,632	09/15/2017	09/15/2047	Interest Rate Swap			67104L-AG-2	OHA Loan Funding 2013-2 -OHALF 2013-2A CR	1	8,000,000	7,456,632
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,000,000	13,430,676	09/15/2017	09/15/2047	Interest Rate Swap			38862E-AB-0	GRIFFEN PARK CLO LTD-SERIES 17-1A CLASS B	1	14,000,000	13,430,676
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	IM 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	27,705,854	09/15/2017	09/15/2047	Interest Rate Swap			06761T-AE-2	Barings Middle Market CI-BMM 2019-1A A2	1	28,212,967	27,705,854
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,600,000	22,482,823	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	22,482,823
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,400,000	5,055,880	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	5,055,880
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,354,403	9,838,752	09/15/2017	09/15/2047	Interest Rate Swap			00206R-GL-0	AT&T Inc-SENIOR UNSECURED	2	10,354,403	9,838,752
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,184,763	20,512,814	09/15/2017	09/15/2047	Interest Rate Swap			009280-AQ-4	AIRCATTLE LTD-SENIOR UNSECURED	2	21,184,763	20,512,814
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,490,331	5,949,477	09/15/2017	09/15/2047	Interest Rate Swap			29365T-AF-1	Entergy Texas Inc-SECURED	1	6,490,331	5,949,477
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,728,908	11,983,550	09/15/2017	09/15/2047	Interest Rate Swap			90933J-AA-9	United Airlines 2016-2 C-UNTD AIR 16-2 B	3	13,728,908	11,983,550
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,000,000	18,000,000	09/15/2017	09/15/2047	Interest Rate Swap			186858-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	18,000,000	18,000,000
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	250,000,000	1,518,407	(41,922,891)	09/15/2017	09/15/2047	Interest Rate Swap	(43,365,875)		031162-CJ-7	AMGEN INC-SENIOR UNSECURED	2	1,518,407	1,442,984
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		175,520	172,241	09/15/2017	09/15/2047	Interest Rate Swap			445658-CD-7	JB HUNT TRANSPRT SVCS-SENIOR UNSECURED NOTE	2	175,520	172,241
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		21,932,618	21,280,030	09/15/2017	09/15/2047	Interest Rate Swap			456866-AM-4	INGERSOLL-RAND CO-DEBENTURE	2	21,932,618	21,280,030
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,902,355	15,634,383	09/15/2017	09/15/2047	Interest Rate Swap			664397-AK-2	EVERSOURCE ENERGY-UNSECURED NOTE	2	15,902,355	15,634,383
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		184,900,000	179,618,886	09/15/2017	09/15/2047	Interest Rate Swap			42086P-AC-7	Kingsland Ltd-SERIES 18-8A CLASS A	1	184,900,000	179,618,886
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		5,900,000	5,418,171	09/15/2017	09/15/2047	Interest Rate Swap			05875M-AS-1	Ballyrook CLO 2019-2 Ltd-SERIES 19-2A CLASS BR	1	5,900,000	5,418,171
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		6,468,145	6,495,863	09/15/2017	09/15/2047	Interest Rate Swap			919794-AB-3	VALLEY NATIONAL BANCORP-SUBORDINATED NOTE	2	6,468,145	6,495,863
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		13,829,317	14,359,699	09/15/2017	09/15/2047	Interest Rate Swap			042735-AK-6	Arrow Electronics Inc-DEBENTURE	2	13,829,317	14,359,699

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STATEMENT AS OF SEPTEMBER 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*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		3,000,000	2,694,162	09/15/2017	09/15/2047	Interest Rate Swap				830120-AE-4	Sixth Street CLO-SIXST 2021-20A C	1	3,000,000	2,694,162
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		11,611,455	11,086,016	09/15/2017	09/15/2047	Interest Rate Swap				06761M-AD-9	Barings Middle Market CL-BMM 2018-IA C	2	11,611,455	11,086,016
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		12,200,000	10,539,861	09/15/2017	09/15/2047	Interest Rate Swap				06760W-AJ-5	Barings Middle Market CL-BMM 2021-IA C	2	12,200,000	10,539,861
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		1,725,000	1,534,074	09/15/2017	09/15/2047	Interest Rate Swap				04018X-AJ-8	ARES CLO-ARES 2021-ALFA D	2	1,725,000	1,534,074
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		25,000,000	25,000,000	09/15/2017	09/15/2047	Interest Rate Swap				186858-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	25,000,000	25,000,000
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	250,000,000	9,403,805	(33,813,024)	09/15/2017	09/15/2047	Interest Rate Swap		(43,199,487)		00287Y-AL-3	AbbVie Inc-SENIOR UNSECURED NOTE	2	9,403,805	9,386,463
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		1,023,963	845,362	09/15/2017	09/15/2047	Interest Rate Swap				04352E-AA-3	Ascension Health-SENIOR UNSECURED	1	1,023,963	845,362
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		5,175,197	4,937,161	09/15/2017	09/15/2047	Interest Rate Swap				195869-AP-7	COLONIAL PIPELINE CO-SR UNSECURED DISCOVER FINANCIAL SVS-SENIOR UNSECURED	1	5,175,197	4,937,161
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		47,790,992	44,359,587	09/15/2017	09/15/2047	Interest Rate Swap				254709-AM-0	UNSECURED	2	47,790,992	44,359,587
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		8,946,508	8,944,301	09/15/2017	09/15/2047	Interest Rate Swap				444859-BA-9	Humana Inc-SENIOR UNSECURED NOTE LOM LTD PARTNERSHIP-SERIES 25A	2	8,946,508	8,944,301
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		2,500,000	2,307,288	09/15/2017	09/15/2047	Interest Rate Swap				50189P-AN-2	CLASS C2	1	2,500,000	2,307,288
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		43,571,995	34,658,864	09/15/2017	09/15/2047	Interest Rate Swap				06762X-AA-0	Barings Clo Ltd 2020-III-BABSN 2020-3A B	2	43,571,995	34,658,864
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		66,300,000	63,687,183	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	63,687,183
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		47,042,794	38,999,741	09/15/2017	09/15/2047	Interest Rate Swap				341081-FG-7	FLORIDA POWER & LIGHT CO-SECURED BOND	1	47,042,794	38,999,741
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		8,800,000	8,410,362	09/15/2017	09/15/2047	Interest Rate Swap				05683L-AC-0	Bain Capital Credit CLO-BCC 2018-1A A2	1	8,800,000	8,410,362
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		11,652,257	10,778,070	09/15/2017	09/15/2047	Interest Rate Swap				224044-CG-0	COX COMMUNICATIONS INC-SENIOR UNSECURED	2	11,652,257	10,778,070
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,294,928	14,660,144	09/15/2017	09/15/2047	Interest Rate Swap				709599-AZ-7	Penske Truck Leasing Co-SENIOR UNSECURED	2	15,294,928	14,660,144
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		20,376,321	19,177,641	09/15/2017	09/15/2047	Interest Rate Swap				98389B-AV-2	Xcel Energy Inc-SENIOR UNSECURED Babson CLO Ltd 2013-I-SERIES 2013-IS CLASS BR	2	20,376,321	19,177,641
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		1,995,000	1,935,395	09/15/2017	09/15/2047	Interest Rate Swap				06760E-AC-0	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	1,995,000	1,935,395
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		33,000,000	33,000,000	09/15/2017	09/15/2047	Interest Rate Swap				186858-AC-6	AERCAP IRELAND CAPITAL D-SENIOR UNSECURED	1	33,000,000	33,000,000
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	250,000,000	16,904,174	(28,752,569)	09/15/2017	09/15/2047	Interest Rate Swap		(43,573,861)		00774M-AB-1	UNSECURED	2	16,904,174	14,821,292
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		18,426,651	17,790,046	09/15/2017	09/15/2047	Interest Rate Swap				378272-AL-2	GLENDRE FUNDING LLC-SR UNSECURED	2	18,426,651	17,790,046
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		50,431,713	31,903,938	09/15/2017	09/15/2047	Interest Rate Swap				191216-CY-4	Coca-Cola Co/The-SENIOR UNSECURED	1	50,431,713	31,903,938
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		16,456,970	14,262,130	09/15/2017	09/15/2047	Interest Rate Swap				09778P-AA-3	Bon Secours Mercy Health-SECURED O'REILLY AUTOMOTIVE INC-SENIOR UNSECURED	1	16,456,970	14,262,130
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		8,892,250	8,267,443	09/15/2017	09/15/2047	Interest Rate Swap				67103H-AF-4	SCHLUMBERGER HLDGS CORP-SR UNSECURED	2	8,892,250	8,267,443
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		9,323,649	9,121,991	09/15/2017	09/15/2047	Interest Rate Swap				806851-AG-6	Reckitt Benckiser Treasu-SENIOR UNSECURED	2	9,323,649	9,121,991
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		5,505,340	5,376,741	09/15/2017	09/15/2047	Interest Rate Swap				75625Q-AD-1	ISRAEL ELECTRIC CORP LTD-SECURED NOTE	1	5,505,340	5,376,741
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		21,019,925	20,431,097	09/15/2017	09/15/2047	Interest Rate Swap				465077-AK-1	DTE Electric Co-SECURED	2	21,019,925	20,431,097
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,798,806	12,526,210	09/15/2017	09/15/2047	Interest Rate Swap				23338V-AE-6	INTEL CORP-SENIOR UNSECURED NOTE	1	15,798,806	12,526,210
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		70,847,946	59,591,503	09/15/2017	09/15/2047	Interest Rate Swap				458140-AK-6	INTEL CORP-SENIOR UNSECURED NOTE	1	70,847,946	59,591,503

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STATEMENT AS OF SEPTEMBER 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*DNB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	23,240,239	23,240,239	21,423,994	09/15/2017	09/15/2047	Interest Rate Swap				11271L-AC-6	Brookfield Finance Inc-SENIOR UNSECURED	1	23,240,239	21,423,994
57629*DNB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	18,383,165	18,383,165	16,846,275	09/15/2017	09/15/2047	Interest Rate Swap				40728T-AA-1	HAMILTON COLLEGE-UNSECURED	1	18,383,165	16,846,275
57629*DNB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	18,602,624	18,602,624	17,646,181	09/15/2017	09/15/2047	Interest Rate Swap				75625Q-AE-9	Reckitt Benckiser Treasu-SENIOR UNSECURED	1	18,602,624	17,646,181
57629*DNB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	15,500,000	15,500,000	12,329,305	09/15/2017	09/15/2047	Interest Rate Swap				06762X-AA-0	Barings Clo Ltd 2020-III-BABSN 2020-3A B	2	15,500,000	12,329,305
57629*DNB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	34,000,000	34,000,000	34,000,000	09/15/2017	09/15/2047	Interest Rate Swap				51509E-MM-6	Landmark Equity Partners XVI-D, LLC	1	34,000,000	34,000,000
Need to File with the NAIC	Sovereign Bond of Brazil	2Z	5,000,000	10,610,732	7,905,277	06/21/2022	12/20/2027	5 Yr Credit Default Swap	(324,084)	(457,223)		912810-PP-5	US TREAS N/B-NOTE	1	10,934,816	8,362,500
Need to File with the NAIC	Sovereign Bond of Mexico	2Z	20,000,000	25,007,003	24,782,122	06/21/2022	12/20/2027	5 Yr Credit Default Swap	(495,901)	(673,898)		912833-LL-2	US TREASURY-STRIP COUPON RECEIPT	1	25,502,904	25,656,020
Need to File with the NAIC	Sovereign Bond of India	2Z	40,000,000	35,756,348	29,055,870	06/21/2022	12/20/2027	5 Yr Credit Default Swap	(223,943)	(1,130,692)		912810-RV-2	US TREASURY N/B-UNSECURED	1	35,980,291	30,186,562
Need to File with the NAIC	Sovereign Bond of India	2Z		14,895,048	12,283,595	06/21/2022	12/20/2027	5 Yr Credit Default Swap				912810-RU-4	US TREASURY N/B-UNSECURED	1	14,895,048	12,283,595
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z	985,000,000	55,835,536	126,014,501	07/12/2022	07/12/2048	Interest Rate Swap		79,621,436		882508-BD-5	Texas Instruments Inc-SENIOR UNSECURED	1	55,835,536	46,393,065
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		48,996,922	40,212,611	07/12/2022	07/12/2048	Interest Rate Swap				745332-CG-9	PUGET SOUND ENERGY INC-SECURED	1	48,996,922	40,212,611
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		48,666,976	38,710,609	07/12/2022	07/12/2048	Interest Rate Swap				81373P-AA-1	Securian Financial Group-SENIOR UNSECURED	1	48,666,976	38,710,609
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		54,180,306	44,022,160	07/12/2022	07/12/2048	Interest Rate Swap				92826C-AF-9	VISA INC-SR UNSECURED	1	54,180,306	44,022,160
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		37,081,910	34,668,242	07/12/2022	07/12/2048	Interest Rate Swap				670346-AH-8	NUCOR CORP-SENIOR UNSECURED NOTE	1	37,081,910	34,668,242
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		45,540,168	39,424,511	07/12/2022	07/12/2048	Interest Rate Swap				12572Q-AH-8	CME Group Inc-SENIOR UNSECURED	1	45,540,168	39,424,511
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		51,107,255	40,059,749	07/12/2022	07/12/2048	Interest Rate Swap				00440E-AW-7	ACE INA HOLDINGS-SR UNSECURED	1	51,107,255	40,059,749
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		1,012,593	822,671	07/12/2022	07/12/2048	Interest Rate Swap				30231G-AW-2	EXXON MOBIL CORPORATION-SR UNSECURED	1	1,012,593	822,671
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		57,947,949	49,569,877	07/12/2022	07/12/2048	Interest Rate Swap				037833-BX-7	APPLE INC-SENIOR UNSECURED	1	57,947,949	49,569,877
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		56,129,723	43,426,874	07/12/2022	07/12/2048	Interest Rate Swap				91324P-CR-1	UNITEDHEALTH GROUP INC-SR UNSECURED	1	56,129,723	43,426,874
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		76,416,454	61,358,147	07/12/2022	07/12/2048	Interest Rate Swap				023135-AQ-9	AMAZON.COM INC-SR UNSECURED	1	76,416,454	61,358,147
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		11,323,503	9,481,967	07/12/2022	07/12/2048	Interest Rate Swap				438516-BS-4	Honeywell International -SENIOR UNSECURED	1	11,323,503	9,481,967
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		10,000,000	9,500,420	07/12/2022	07/12/2048	Interest Rate Swap				12511A-AC-8	CBAM Ltd-CBAM 2020-13A B1	1	10,000,000	9,500,420
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		13,300,000	12,393,246	07/12/2022	07/12/2048	Interest Rate Swap				75888F-AE-5	Regatta XIII Funding LLC-SERIES 18-2A CLASS A2	1	13,300,000	12,393,246
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		18,150,945	12,222,526	07/12/2022	07/12/2048	Interest Rate Swap				037833-DW-7	Apple Inc-SENIOR UNSECURED	1	18,150,945	12,222,526
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		12,991,804	12,124,216	07/12/2022	07/12/2048	Interest Rate Swap				55818R-BC-9	Madison Park Funding XIV-MIDPK 2014-14A CRR	1	12,991,804	12,124,216
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		37,929,418	28,725,582	07/12/2022	07/12/2048	Interest Rate Swap				575634-AT-7	MASSACHUSETTS ELECTRIC-SENIOR UNSECURED	2	37,929,418	28,725,582
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		35,451,174	27,577,064	07/12/2022	07/12/2048	Interest Rate Swap				45138L-BD-4	IDAHO POWER CORP-SECURED NOTE	1	35,451,174	27,577,064
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		29,324,799	22,569,593	07/12/2022	07/12/2048	Interest Rate Swap				28246Q-AB-1	Empresa de Transporte de-SENIOR UNSECURED	1	29,324,799	22,569,593
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		27,762,733	23,717,751	07/12/2022	07/12/2048	Interest Rate Swap				771196-BH-4	ROCHE HOLDING INC-SENIOR UNSECURED NOTE	1	27,762,733	23,717,751
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		30,705,138	24,975,072	07/12/2022	07/12/2048	Interest Rate Swap				437076-BH-4	Home Depot Inc/The-SENIOR UNSECURED	1	30,705,138	24,975,072
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		24,641,380	20,603,094	07/12/2022	07/12/2048	Interest Rate Swap				578454-AD-2	Mayo Clinic-UNSECURED	1	24,641,380	20,603,094

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STATEMENT AS OF SEPTEMBER 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 Floating Rate Corporate Bonds	1Z		17,559,769	12,451,163	07/12/2022	07/12/2048	Interest Rate Swap			571676-AH-8	Mars Inc-SENIOR UNSECURED	1	17,559,769	12,451,163
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		36,818,233	28,852,852	07/12/2022	07/12/2048	Interest Rate Swap			828807-CZ-8	SIMON PROPERTY GROUP LP-SENIOR UNSECURED	1	36,818,233	28,852,852
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		32,893,873	27,737,813	07/12/2022	07/12/2048	Interest Rate Swap			12189L-BB-6	BURLINGTN NORTH SANTA FE-SENIOR UNSECURED	1	32,893,873	27,737,813
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		34,010,202	26,596,374	07/12/2022	07/12/2048	Interest Rate Swap			391382-AB-4	GREAT-WEST LIFE CO FINANC-SENIOR UNSECURED	1	34,010,202	26,596,374
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		30,544,590	24,977,974	07/12/2022	07/12/2048	Interest Rate Swap			455434-BR-0	INDIANAPOLIS PWIR & LIGHT-SECURED BOND	1	30,544,590	24,977,974
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		54,080,847	47,496,190	07/12/2022	07/12/2048	Interest Rate Swap			002824-BH-2	ABBOTT LABORATORIES-SENIOR UNSECURED	1	54,080,847	47,496,190
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		60,320,206	46,888,815	07/12/2022	07/12/2048	Interest Rate Swap			68389X-AM-7	ORACLE CORP-SENIOR UNSECURED NOTE	2	60,320,206	46,888,815
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		63,287,270	52,393,851	07/12/2022	07/12/2048	Interest Rate Swap			149123-CB-5	Caterpillar Inc-SENIOR UNSECURED BOND	1	63,287,270	52,393,851
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		71,826,754	64,465,206	07/12/2022	07/12/2048	Interest Rate Swap			377372-AE-7	GLAXOSMITHKLINE CAP INC-SR UNSECURED	1	71,826,754	64,465,206
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		42,739,412	35,243,053	07/12/2022	07/12/2048	Interest Rate Swap			983024-AN-0	Wyeth LLC-NOTE	1	42,739,412	35,243,053
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	197,639,266	56,875,809	25,278,916	07/29/2022	08/01/2023	TRS Bond Index		(29,113,403)	539830-AM-9	Lockheed Martin Corp-SENIOR UNSECURED NOTE	1	56,875,809	54,392,319
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		1,497,912	1,491,425	07/29/2022	08/01/2023	TRS Bond Index			485134-BN-9	KANSAS CITY POWER & LT-SENIOR UNSECURED NOTE	1	1,497,912	1,491,425
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		14,005,355	12,894,879	07/29/2022	08/01/2023	TRS Bond Index			521070-AJ-4	Lazard Group LLC-SENIOR UNSECURED	2	14,005,355	12,894,879
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,487,263	13,437,633	07/29/2022	08/01/2023	TRS Bond Index			767201-AD-8	RIO TINTO FIN USA LTD-SENIOR UNSECURED NOTE	1	13,487,263	13,437,633
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		1,378,048	1,148,375	07/29/2022	08/01/2023	TRS Bond Index			12189L-AW-1	BURLINGTN NORTH SANTA FE-SENIOR UNSECURED	1	1,378,048	1,148,375
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		15,604,341	14,252,857	07/29/2022	08/01/2023	TRS Bond Index			03076C-AH-9	Ameriprise Financial Inc-SENIOR UNSECURED	1	15,604,341	14,252,857
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,472,290	11,687,246	07/29/2022	08/01/2023	TRS Bond Index			92928Q-AE-8	WEA Finance LLC-SENIOR UNSECURED	2	13,472,290	11,687,246
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,650,466	8,568,757	07/29/2022	08/01/2023	TRS Bond Index			373298-CF-3	GEORGIA-PACIFIC LLC-SENIOR UNSECURED NOTE	1	8,650,466	8,568,757
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,500,000	13,033,872	07/29/2022	08/01/2023	TRS Bond Index			03329A-AE-5	2014-5RA CLASS B	1	13,500,000	13,033,872
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		10,000,000	9,357,030	07/29/2022	08/01/2023	TRS Bond Index			87246M-AU-6	TICP CLO VI 2016-2 Ltd-TICP 2016-6A BR2	1	10,000,000	9,357,030
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		10,000,000	9,309,010	07/29/2022	08/01/2023	TRS Bond Index			12563Y-AC-3	CIFC Funding 2021-II-CIFC 2021-2A B	1	10,000,000	9,309,010
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,087,788	4,951,447	07/29/2022	08/01/2023	TRS Bond Index			020002-AZ-4	ALLSTATE CORP-SR UNSECURED	1	5,087,788	4,951,447
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		255,316	248,088	07/29/2022	08/01/2023	TRS Bond Index			12189L-AQ-4	Burlington Northern Sant-SENIOR UNSECURED	1	255,316	248,088
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		26,036,515	26,417,215	07/29/2022	08/01/2023	TRS Bond Index			448814-EJ-8	HYDRO-QUEBEC-NOTE	1	26,036,515	26,417,215
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		60,000,000	59,226,600	07/29/2022	08/01/2023	TRS Bond Index			67332F-AD-5	RRPF Engine Leasing Ltd Senior Secured	2	60,000,000	59,226,600
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		12,500,000	11,690,563	07/29/2022	08/01/2023	TRS Bond Index			67115L-AC-8	Oak Hill Credit Partners-OAKC 2021-16A B	1	12,500,000	11,690,563
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		10,800,000	10,207,156	07/29/2022	08/01/2023	TRS Bond Index			94949J-AC-9	Wellfleet CLO 2018-2 Ltd-WELF 2018-2A A2	1	10,800,000	10,207,156
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,700,000	8,130,063	07/29/2022	08/01/2023	TRS Bond Index			03330Y-AE-0	Anchorage Capital Clo 20-ANCHC 2021-20A B	1	8,700,000	8,130,063
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,700,000	8,160,513	07/29/2022	08/01/2023	TRS Bond Index			69700G-AL-6	Palmer Square CLO 2019-1-PLMRS 2019-1A A2R	1	8,700,000	8,160,513
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,500,000	6,900,413	07/29/2022	08/01/2023	TRS Bond Index			67112C-AN-7	OZLM XIX Ltd-OZLM 2017-19A A2AR	1	7,500,000	6,900,413
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,500,000	6,051,351	07/29/2022	08/01/2023	TRS Bond Index			33883J-AQ-4	Flatiron CLO 19 Ltd-FLAT 2019-1A BR	1	6,500,000	6,051,351

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STATEMENT AS OF SEPTEMBER 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		6,100,000	5,642,732	07/29/2022	08/01/2023	TRS Bond Index			05684C-AQ-8	Bain Capital Credit CLO -BCC 2020-3A BR	1	6,100,000	5,642,732
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,000,000	5,326,284	07/29/2022	08/01/2023	TRS Bond Index			404400-AE-1	Highbridge Loan Managem-HLM 2021-16A C	1	6,000,000	5,326,284
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,850,000	3,450,755	07/29/2022	08/01/2023	TRS Bond Index			70470M-AJ-4	Peace Park CLO Ltd-PCEPK 2021-1A C	1	3,850,000	3,450,755
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	233,593,750	4,758,061	(19,145,127)	06/08/2022	06/08/2023	TRS Bond Index		(23,717,523)	571748-AZ-5	Marsh & McLennan Cos Inc-SR UNSECURED	2	4,758,061	4,572,396
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,547,028	5,363,782	06/08/2022	06/08/2023	TRS Bond Index			69353R-EQ-7	PNC Bank NA-SENIOR UNSECURED	1	5,547,028	5,363,782
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		10,550,000	9,937,921	06/08/2022	06/08/2023	TRS Bond Index			74983A-AC-7	RR 19 Ltd-PRAM 2021-19A A2	1	10,550,000	9,937,921
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		17,385,833	16,905,997	06/08/2022	06/08/2023	TRS Bond Index			52107Q-AG-0	LAZARD GROUP LLC-SENIOR UNSECURED	2	17,385,833	16,905,997
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		20,738,982	19,719,675	06/08/2022	06/08/2023	TRS Bond Index			78008Z-AD-5	Royal Bank of Canada-SUBORDINATED	1	20,738,982	19,719,675
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		18,818,829	18,244,053	06/08/2022	06/08/2023	TRS Bond Index			00830Y-AB-7	Africa Finance Corp-SENIOR UNSECURED	1	18,818,829	18,244,053
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		16,666,690	15,392,465	06/08/2022	06/08/2023	TRS Bond Index			74340X-BH-3	Prologis LP-SENIOR UNSECURED	1	16,666,690	15,392,465
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		14,000,000	13,056,960	06/08/2022	06/08/2023	TRS Bond Index			67592R-AC-7	Wells Fargo-OCT53 2021-1A B	1	14,000,000	13,056,960
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		28,902,517	26,056,606	06/08/2022	06/08/2023	TRS Bond Index			91131Z-AJ-5	UNITED PARCEL SERVICE 1N-SENIOR UNSECURED NOTE	1	28,902,517	26,056,606
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,500,000	6,212,118	06/08/2022	06/08/2023	TRS Bond Index			06654D-AB-3	Banner Health-UNSECURED	1	7,500,000	6,212,118
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,046,613	2,739,721	06/08/2022	06/08/2023	TRS Bond Index			06051G-GA-1	BANK OF AMERICA CORP-SENIOR UNSECURED	1	3,046,613	2,739,721
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
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		15,000,000	13,975,560	06/08/2022	06/08/2023	TRS Bond Index			67102Q-AZ-1	OHA Credit Partners VII -SERIES 2012-7A CLASS BR3	1	15,000,000	13,975,560
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	150,000,000	9,900,000	(24,550,745)	08/30/2019	08/30/2034	Interest Rate Swap		(33,960,824)	69688X-AU-5	Palmer Square CLO 2014-1-SERIES 2014-1A CLASS A2RR	1	9,900,000	9,410,079
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		2,238,538	2,228,881	08/30/2019	08/30/2034	Interest Rate Swap			281378-AB-5	EDUCATIONAL SERVICES OF -SERIES 2015-1 CLASS B	1	2,238,538	2,228,881
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		2,369,504	2,311,307	08/30/2019	08/30/2034	Interest Rate Swap			28137T-AB-9	EDUCATIONAL SERVICES OF -SERIES 2014-2 CLASS B	1	2,369,504	2,311,307
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		886,704	768,463	08/30/2019	08/30/2034	Interest Rate Swap			19458L-BD-1	COLLEGIATE FUNDING SERVI -SERIES 2005-A CLASS B	1	886,704	768,463
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		16,594,406	16,069,240	08/30/2019	08/30/2034	Interest Rate Swap			03666H-AA-9	Antares Holdings LP-SENIOR UNSECURED	2	16,594,406	16,069,240
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,000,000	15,000,000	08/30/2019	08/30/2034	Interest Rate Swap			186858-AC-6	Cliffwater Corporate Lending Fund -Senior Secured Revolving Credit Facility	1	15,000,000	15,000,000
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		12,260,194	11,278,682	08/30/2019	08/30/2034	Interest Rate Swap			708696-BY-4	Pennsylvania Electric Co-SENIOR UNSECURED	2	12,260,194	11,278,682
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		24,001,352	22,235,379	08/30/2019	08/30/2034	Interest Rate Swap			806851-AK-7	Schlumberger Holdings Co-SENIOR UNSECURED	2	24,001,352	22,235,379
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		28,060,233	26,934,234	08/30/2019	08/30/2034	Interest Rate Swap			10510K-AC-1	BRAMBLES USA INC-SR UNSECURED	2	28,060,233	26,934,234
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		32,436,354	27,991,747	08/30/2019	08/30/2034	Interest Rate Swap			438516-BB-1	HONEYWELL INTERNATIONAL - SENIORUNSECURED NOTE	1	32,436,354	27,991,747
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		24,958,907	21,732,742	08/30/2019	08/30/2034	Interest Rate Swap			438516-AT-3	HONEYWELL INTERNATIONAL -SENIOR NOTE	1	24,958,907	21,732,742
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,450,000	15,094,187	08/30/2019	08/30/2034	Interest Rate Swap			03328Y-AA-2	ANCHORAGE CAPITAL CLO 1--ANCHC 2018-1RA A1	1	15,450,000	15,094,187
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		10,141,515	9,576,418	08/30/2019	08/30/2034	Interest Rate Swap			06761T-AJ-1	Barings Middle Market CI-BMM 2019-1A C	2	10,141,515	9,576,418
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		2,700,000	2,390,537	08/30/2019	08/30/2034	Interest Rate Swap			125550-AW-6	CIFC Funding 2020-1 Ltd-CIFC 2020-1A DR	2	2,700,000	2,390,537
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		2,700,000	2,402,028	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	2,402,028

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STATEMENT AS OF SEPTEMBER 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*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	200,000,000	19,725,428	(43,621,149)	08/30/2019	08/30/2039	Interest Rate Swap	(56,476,086)		693304-AY-3	PECO Energy Co-SECURED	1	19,725,428	12,854,937
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,965,580	15,167,280	08/30/2019	08/30/2039	Interest Rate Swap			579780-AN-7	MCCORMICK & CO INC/MID-SENIOR UNSECURED	2	15,965,580	15,167,280
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		17,546,915	14,413,531	08/30/2019	08/30/2039	Interest Rate Swap			90932K-AA-7	United Airlines 2019-2 C-UNTD AIR 19-2 B FIXED	3	17,546,915	14,413,531
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		14,332,421	13,380,979	08/30/2019	08/30/2039	Interest Rate Swap			22822V-AE-1	CROWN CASTLE INTL CORP-SENIOR UNSECURED	2	14,332,421	13,380,979
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		29,226,027	29,039,941	08/30/2019	08/30/2039	Interest Rate Swap			378272-AF-5	GLENCORE FUNDING LLC-SENIOR UNSECURED NOTE	2	29,226,027	29,039,941
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		26,387,029	22,901,269	08/30/2019	08/30/2039	Interest Rate Swap			05369A-AA-9	Aviation Capital Group L-SENIOR UNSECURED	2	26,387,029	22,901,269
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		45,350,000	43,862,656	08/30/2019	08/30/2039	Interest Rate Swap			592688-B8-3	Mettiler-Toledo Internati Senior Note Ser	2	45,350,000	43,862,656
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		10,000,000	9,575,240	08/30/2019	08/30/2039	Interest Rate Swap			290015-AN-6	Elmwood CLO I Ltd-ELMMI 2019-1A BR	1	10,000,000	9,575,240
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		7,850,000	7,486,702	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	7,486,702
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,000,000	14,301,225	08/30/2019	08/30/2039	Interest Rate Swap			04019L-AL-8	ARES LI CLO Ltd-ARES 2019-51A A1R C1FC Funding 2018-II Ltd-C1FC 2018-	1	15,000,000	14,301,225
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,000,000	14,308,500	08/30/2019	08/30/2039	Interest Rate Swap			17180W-AC-9	2A A2 Madison Park Funding Ltd-SERIES 18-28A CLASS A2	1	15,000,000	14,308,500
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		11,750,000	11,313,570	08/30/2019	08/30/2039	Interest Rate Swap			55821A-AC-2	Barings Clo Ltd 2020-III-BABSN	1	11,750,000	11,313,570
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		35,500,000	28,238,085	08/30/2019	08/30/2039	Interest Rate Swap			06762X-AA-0	2020-3A B Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	35,500,000	28,238,085
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		21,000,000	21,000,000	08/30/2019	08/30/2039	Interest Rate Swap			186858-AC-6	Yara International ASA-SENIOR UNSECURED	2	21,000,000	21,000,000
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	200,000,000	925,572	(66,087,347)	08/30/2019	08/30/2049	Interest Rate Swap	(66,931,470)		984851-AF-2	Edwards Lifesciences Cor-SENIOR UNSECURED	2	925,572	844,123
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		30,166,940	28,243,937	08/30/2019	08/30/2049	Interest Rate Swap			28176E-AD-0	GATX Corp-SENIOR UNSECURED	2	30,166,940	28,243,937
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		36,988,131	34,211,448	08/30/2019	08/30/2049	Interest Rate Swap			361448-BC-6	BUNGE LTD FINANCE CORP-SENIOR UNSECURED	2	36,988,131	34,211,448
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		17,634,142	16,556,710	08/30/2019	08/30/2049	Interest Rate Swap			120568-AX-8	Air Canada 2017-1 Class -SECURED	2	17,634,142	16,556,710
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		19,505,132	16,842,450	08/30/2019	08/30/2049	Interest Rate Swap			00908P-AC-1	CHURCH & DWIGHT CO INC-SENIOR UNSECURED	2	19,505,132	16,842,450
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		5,171,457	4,956,593	08/30/2019	08/30/2049	Interest Rate Swap			171340-AN-2	DTE Electric Co-SECURED	1	5,171,457	4,956,593
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		45,176,049	35,818,193	08/30/2019	08/30/2049	Interest Rate Swap			23338V-AE-6	MM Investment Holding Revolver Fixed Line	2	45,176,049	35,818,193
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		131,999,996	132,000,000	08/30/2019	08/30/2049	Interest Rate Swap			57542Z-A9-8	FS Global Credit Opportu-FS GLOBAL CREDIT	1	131,999,996	132,000,000
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	306,000,000	75,000,000	(27,822,389)	09/03/2019	09/03/2049	Interest Rate Swap	(100,311,314)		30290Y-AC-5	Sanofi-SENIOR UNSECURED	1	75,000,000	72,488,925
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,461,026	9,821,630	09/03/2019	09/03/2049	Interest Rate Swap			801060-AD-6	AEP Texas Inc-SENIOR UNSECURED	2	10,461,026	9,821,630
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,055,634	6,373,484	09/03/2019	09/03/2049	Interest Rate Swap			00108W-AH-3	Toyota Motor Corp-SENIOR UNSECURED	1	7,055,634	6,373,484
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,200,000	19,836,855	09/03/2019	09/03/2049	Interest Rate Swap			892331-AD-1	salesforce.com Inc-SENIOR UNSECURED	1	21,200,000	19,836,855
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,695,400	19,680,209	09/03/2019	09/03/2049	Interest Rate Swap			79466L-AF-1	General Dynamics Corp-SENIOR UNSECURED	1	20,695,400	19,680,209
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,056,886	6,590,539	09/03/2019	09/03/2049	Interest Rate Swap			369550-BC-1	Toyota Industries Corp-SENIOR UNSECURED	1	7,056,886	6,590,539
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,838,176	22,278,742	09/03/2019	09/03/2049	Interest Rate Swap			892330-AC-5	LCM XVIII LP-LCM 18A A1R Canyon Capital CLO Ltd-CANYC 2012-1RA A	1	23,838,176	22,278,742
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		35,000,000	34,157,865	09/03/2019	09/03/2049	Interest Rate Swap			501886-AT-0		1	35,000,000	34,157,865
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		45,000,000	43,986,285	09/03/2019	09/03/2049	Interest Rate Swap			13876J-AC-6		1	45,000,000	43,986,285

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STATEMENT AS OF SEPTEMBER 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*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,305,433	2,271,669	09/03/2019	09/03/2049	Interest Rate Swap				313747-AU-1	Federal Realty Investmen-SENIOR UNSECURED	2	2,305,433	2,271,669
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		170,999,995	171,000,000	09/03/2019	09/03/2049	Interest Rate Swap				575422-A9-8	MM Investment Holding Revolver Fixed Line	2	170,999,995	171,000,000
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	255,000,000	140,999,996	58,380,907	09/03/2019	09/03/2049	Interest Rate Swap		(82,619,093)		575422-A9-8	MM Investment Holding Revolver Fixed Line	2	140,999,996	141,000,000
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,948,747	7,342,611	09/03/2019	09/03/2049	Interest Rate Swap				06406R-AF-4	Bank of New York Mellon -SENIOR UNSECURED	1	7,948,747	7,342,611
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,377,516	2,354,483	09/03/2019	09/03/2049	Interest Rate Swap				90932P-AA-6	United Airlines 2014-1 C-SECURED NOTE	2	2,377,516	2,354,483
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,840,598	11,860,613	09/03/2019	09/03/2049	Interest Rate Swap				606822-AV-6	Mitsubishi UFJ Financial-SENIOR UNSECURED	1	12,840,598	11,860,613
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,085,395	3,011,111	09/03/2019	09/03/2049	Interest Rate Swap				857477-AN-3	State Street Corp-SR UNSECURED	1	3,085,395	3,011,111
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,800,000	6,308,830	09/03/2019	09/03/2049	Interest Rate Swap				631005-BH-7	Narragansett Electric Co-SENIOR UNSECURED	1	6,800,000	6,308,830
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,367,231	2,281,488	09/03/2019	09/03/2049	Interest Rate Swap				532457-AZ-1	Eli Lilly & Co-SENIOR UNSECURED	1	2,367,231	2,281,488
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,975,011	1,971,781	09/03/2019	09/03/2049	Interest Rate Swap				06366R-JJ-5	BANK OF MONTREAL-SR UNSECURED	1	1,975,011	1,971,781
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,102,906	11,743,661	09/03/2019	09/03/2049	Interest Rate Swap				09062X-AF-0	BIOGEN INC-SR UNSECURED	2	12,102,906	11,743,661
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,151,320	2,926,394	09/03/2019	09/03/2049	Interest Rate Swap				46625H-JY-7	JPMorgan Chase & Co-SUBORDINATED NOTE	1	3,151,320	2,926,394
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,700,130	2,601,876	09/03/2019	09/03/2049	Interest Rate Swap				452308-AX-7	Illinois Tool Works Inc-SENIOR UNSECURED	1	2,700,130	2,601,876
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		28,951,616	28,727,383	09/03/2019	09/03/2049	Interest Rate Swap				254687-CP-9	Walt Disney Co/The-SENIOR UNSECURED	1	28,951,616	28,727,383
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,623,223	6,977,219	09/03/2019	09/03/2049	Interest Rate Swap				313747-AY-3	Federal Realty Investmen-SENIOR UNSECURED	2	7,623,223	6,977,219
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,465,534	6,241,186	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	6,241,186
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,194,902	5,719,222	09/03/2019	09/03/2049	Interest Rate Swap				670346-AP-0	Nucor Corp-SENIOR UNSECURED	1	6,194,902	5,719,222
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,983,471	1,852,670	09/03/2019	09/03/2049	Interest Rate Swap				784426-RY-4	SLM STUDENT LOAN TRUST-SERIES 2006-2 CLASS B	1	1,983,471	1,852,670
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		100,000,000	97,634,700	09/03/2019	09/03/2049	Interest Rate Swap				420860-AA-9	Kingsland VI Ltd-KING 2013-6A AR	1	100,000,000	97,634,700
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	110,000,000	67,255,223	01/08/2020	01/08/2032	Interest Rate Swap		(40,070,017)		85816W-AC-8	Steele Creek CLO 2014-1 -SERIES 14-1RA CLASS A	1	110,000,000	107,325,240
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		72,155,000	69,147,002	01/08/2020	01/08/2032	Interest Rate Swap				12555Q-AN-6	CIFC Funding 2020-1 Ltd-CIFC 2020-1A A1R	1	72,155,000	69,147,002
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,900,000	15,611,367	01/08/2020	01/08/2032	Interest Rate Swap				74988L-AA-2	ALM XIV Ltd-SERIES 14-14A CLASS AIR2	1	15,900,000	15,611,367
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,498,675	15,161,930	01/08/2020	01/08/2032	Interest Rate Swap				12550A-AT-3	CIFC Funding 2014-V Ltd-CIFC 2014-5A AIR2	1	15,498,675	15,161,930
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,386,020	01/08/2020	01/08/2032	Interest Rate Swap				88432U-AC-0	Wind River CLO Ltd-SERIES 18-3A CLASS A2	1	15,000,000	14,386,020
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,900,000	11,131,343	01/08/2020	01/08/2032	Interest Rate Swap				00190Y-BF-1	Ares XXVII CLO Ltd-ARES 2013-2A BR2	1	11,900,000	11,131,343
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,883,309	24,247,550	01/08/2020	01/08/2032	Interest Rate Swap				05875H-AA-1	Ballyrock CLO 2018-1 Ltd	1	24,883,309	24,247,550
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,358,174	16,449,516	01/08/2020	01/08/2032	Interest Rate Swap				48251C-AA-6	KKR Wolverine I Ltd Class A Senior	1	18,358,174	16,449,516
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,000,000	18,000,000	01/08/2020	01/08/2032	Interest Rate Swap				186856-AC-6	Cliffwater Corporate Lending Fund -Senior Secured Revolving Credit Facility	1	18,000,000	18,000,000
57629*EW7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	216,000,000	177,637,017	01/08/2020	01/08/2035	Interest Rate Swap		(38,362,983)		12499#-MM-8	CCOF Onshore Co-Borrower Revolving Loan	1	216,000,000	216,000,000
57629*EW7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,204,590	17,083,873	01/08/2020	01/08/2035	Interest Rate Swap				61744Y-AK-4	Morgan Stanley-SENIOR UNSECURED	1	19,204,590	17,083,873

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STATEMENT AS OF SEPTEMBER 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*EW7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,000,000	14,000,000	01/08/2020	01/08/2035	Interest Rate Swap			186858-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	14,000,000	14,000,000
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	400,000,000	74,770,000	(45,640,359)	02/11/2020	02/11/2050	Interest Rate Swap	(117,944,968)		A3158#-AC-3	Hofer Financial Services Senior Note Ser	1	74,770,000	72,304,609
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		79,100,000	73,881,773	02/11/2020	02/11/2050	Interest Rate Swap			87278*-AD-4	TPF Equity REIT Operatin Gtd Senior Note	1	79,100,000	73,881,773
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		57,050,000	56,449,206	02/11/2020	02/11/2050	Interest Rate Swap			Q0458*-AB-5	AquaSure Finance Pty Ltd Gtd Senior Secu	1	57,050,000	56,449,206
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		59,800,000	54,450,830	02/11/2020	02/11/2050	Interest Rate Swap			G5147*-AD-8	Johnson Matthey PLC Senior Note Ser	1	59,800,000	54,450,830
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		62,900,000	62,109,095	02/11/2020	02/11/2050	Interest Rate Swap			786584-A#-9	Safran Senior Note Ser	2	62,900,000	62,109,095
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		62,800,000	60,859,480	02/11/2020	02/11/2050	Interest Rate Swap			Q0832*-AD-8	Australia Pacific Airpor Gtd Senior Note	2	62,800,000	60,859,480
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	6,879,983	02/11/2020	02/11/2050	Interest Rate Swap			03330A-AE-2	Anchorage Capital CLO 3-ANCHC 2014-3RA C	1	7,500,000	6,879,983
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,750,000	6,248,489	02/11/2020	02/11/2050	Interest Rate Swap			00119Y-AC-7	AGL CLO Ltd-AGL 2021-10A B	1	6,750,000	6,248,489
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,025,000	11,278,248	02/11/2020	02/11/2050	Interest Rate Swap			06762J-AC-7	Babson CLO Ltd/Cayman Is-BABSN 2021-2A B	1	12,025,000	11,278,248
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,900,000	10,965,505	02/11/2020	02/11/2050	Interest Rate Swap			64133V-AC-1	Neuberger Berman CLO Ltd-NEUB 2021-44A B	1	11,900,000	10,965,505
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,100,000	5,652,504	02/11/2020	02/11/2050	Interest Rate Swap			05682E-AE-3	Bain Capital Credit CLO -BCC 2021-5A B	1	6,100,000	5,652,504
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,612,092	14,283,585	02/11/2020	02/11/2050	Interest Rate Swap			00119Y-AA-1	AGL CLO 10 Ltd-AGL 2021-10A A	1	14,612,092	14,283,585
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,000,000	13,217,918	02/11/2020	02/11/2050	Interest Rate Swap			03330P-AA-7	ANCHORAGE CREDIT FUNDING-SERIES 18-5A CLASS A	1	14,000,000	13,217,918
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,100,000	12,241,321	02/11/2020	02/11/2050	Interest Rate Swap			75009P-AC-1	Rad CLO 12 Ltd-RAD 2021-12A B	1	13,100,000	12,241,321
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,879,370	02/11/2020	02/11/2050	Interest Rate Swap			08179P-AE-2	Benefit Street Partners -BSP 2022-27A B1	1	10,000,000	9,879,370
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,625,000	6,212,402	02/11/2020	02/11/2050	Interest Rate Swap			48250E-AS-4	KKR CLO 30 Ltd-KKR 30A BR	1	6,625,000	6,212,402
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		43,000,000	43,000,000	02/11/2020	02/11/2050	Interest Rate Swap			515095-MM-6	Landmark Equity Partners XVI-D, LLC	1	43,000,000	43,000,000
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	185,000,000	23,432,539	(33,435,410)	02/20/2020	02/20/2050	Interest Rate Swap	(56,974,355)		06761M-AB-3	Barings Middle Market CL-BMM 2018-1A A2	1	23,432,539	23,538,945
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,500,000	5,177,194	02/20/2020	02/20/2050	Interest Rate Swap			55820B-AL-1	Madison Park Funding XLV-MDPK 2020-45A BR	1	5,500,000	5,177,194
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,206,050	02/20/2020	02/20/2050	Interest Rate Swap			38137Y-AS-0	Goldentree Loan Manageme-GLM 2019-4A BR	1	15,000,000	14,206,050
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,500,000	11,041,610	02/20/2020	02/20/2050	Interest Rate Swap			282523-AM-1	1828 CLO Ltd-GUGG4 2016-1A A1JR	1	11,500,000	11,041,610
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,577,872	02/20/2020	02/20/2050	Interest Rate Swap			14317R-AC-3	CARLYLE US CLO 2018-3 LT-CGMS 2018-3A A1B	1	8,000,000	7,577,872
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,700,000	7,251,190	02/20/2020	02/20/2050	Interest Rate Swap			67113G-AG-2	Oak Hill Credit Partners-OAKC 2020-5A B	1	7,700,000	7,251,190
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,200,000	8,762,393	02/20/2020	02/20/2050	Interest Rate Swap			64129J-BG-4	Neuberger Berman CLO XIV-NEUB 2013-14A BR2	1	9,200,000	8,762,393
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,599,064	02/20/2020	02/20/2050	Interest Rate Swap			27831B-AE-3	Eaton Vance CLO 2018-1 L-EATON 2018-1A B	1	8,000,000	7,599,064
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,700,000	13,765,771	02/20/2020	02/20/2050	Interest Rate Swap			55821L-AC-8	Madison Park Funding XXX-MDPK 2021-39A B	1	14,700,000	13,765,771
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,500,000	14,191,643	02/20/2020	02/20/2050	Interest Rate Swap			553205-AC-9	MP CLO III LTD-MP3 2013-1A AR	1	14,500,000	14,191,643
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,500,000	8,947,651	02/20/2020	02/20/2050	Interest Rate Swap			88432U-AE-6	Wind River CLO Ltd-SERIES 18-3A CLASS B	1	9,500,000	8,947,651
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,157,413	3,013,635	02/20/2020	02/20/2050	Interest Rate Swap			05875H-AC-7	BALLYROCK CLO 2018-1 LTD-SERIES 2018-1A CLASS A2	1	3,157,413	3,013,635
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,950,000	9,472,301	02/20/2020	02/20/2050	Interest Rate Swap			03328T-BC-8	Anchorage Capital CLO 7 -ANCHC 2015-7A BR2 FLOATING	1	9,950,000	9,472,301

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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		8,000,000	7,658,136	02/20/2020	02/20/2050	Interest Rate Swap			74979V-AE-3	RR Ltd-RRAM 2018-5A A2	1	8,000,000	7,658,136
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	18,652,980	02/20/2020	02/20/2050	Interest Rate Swap			74980P-AC-7	ALM Ltd/KY-SERIES 21-14A CLASS A2	1	20,000,000	18,652,980
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,700,000	7,083,168	02/20/2020	02/20/2050	Interest Rate Swap			97314H-AC-3	Wind River CLO Ltd-WINDR 2021-1A B1	1	7,700,000	7,083,168
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,460,760	10,967,907	02/20/2020	02/20/2050	Interest Rate Swap			55820C-AG-0	Madison Park Funding XXI-MDPK 2018-29A B	1	11,460,760	10,967,907
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,854,918	02/20/2020	02/20/2050	Interest Rate Swap			50188Q-AL-5	LCM XVIII LP-LCM 19A BR	1	7,000,000	6,854,918
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,727,028	02/20/2020	02/20/2050	Interest Rate Swap			36248M-AL-1	GT Loan Financing I Ltd -SERIES 2013-1A CLASS BR	1	7,000,000	6,727,028
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,100,000	9,172,446	02/20/2020	02/20/2050	Interest Rate Swap			83615P-AC-1	Sound Point Clo XXXI Ltd-SNDPT 2021-3A B	1	10,100,000	9,172,446
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,135,000	13,585,247	02/20/2020	02/20/2050	Interest Rate Swap			151895-D*-7	CenterPoint Properties T Senior Note Ser	1	14,135,000	13,585,247
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	12,617,265	02/20/2020	02/20/2050	Interest Rate Swap			74986B-BB-6	RREEF America REIT II, I Senior Unsecured Notes	1	15,000,000	12,617,265
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,000,000	16,000,000	02/20/2020	02/20/2050	Interest Rate Swap			18685B-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	16,000,000	16,000,000
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	215,000,000	51,250,853	(15,191,283)	02/20/2020	02/20/2050	Interest Rate Swap	(66,442,136)		50079B-MS-5	KREF Lending VII LLC - Term Loan Series 2019-7	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	23,303,384	02/20/2020	02/20/2050	Interest Rate Swap			70470M-AC-9	Peace Park CLO Ltd-PCEPK 2021-1A A	1	24,300,000	23,303,384
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,000,000	20,302,766	02/20/2020	02/20/2050	Interest Rate Swap			97315T-AE-2	THL Credit Wind River 20-WINDR 2017-1A BR	1	22,000,000	20,302,766
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		26,121,584	25,244,599	02/20/2020	02/20/2050	Interest Rate Swap			87246M-AS-1	TICP CLO VI 2016-2 Ltd-TICP 2016-6A AR2	1	26,121,584	25,244,599
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,000,000	20,002,605	02/20/2020	02/20/2050	Interest Rate Swap			55821C-AC-8	Atrium IX-ATRM 9A BR2	1	21,000,000	20,002,605
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,000,000	22,957,032	02/20/2020	02/20/2050	Interest Rate Swap			38137Y-AQ-4	Goldentree Loan Managem-SERIES 19-4A CLASS AJR	1	24,000,000	22,957,032
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		48,000,000	46,114,512	02/20/2020	02/20/2050	Interest Rate Swap			87271L-AJ-1	TIAA CLO I Ltd-TIA 2016-1A AR	1	48,000,000	46,114,512
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,000,000	26,449,848	02/20/2020	02/20/2050	Interest Rate Swap			33883G-AA-5	Flatiron CLO 18 Ltd-FLAT 2018-1A A	1	27,000,000	26,449,848
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,100,000	7,868,648	02/20/2020	02/20/2050	Interest Rate Swap			42086P-AC-7	Kingsland Ltd-SERIES 18-8A CLASS A	1	8,100,000	7,868,648
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,937,034	20,674,603	02/20/2020	02/20/2050	Interest Rate Swap			60040F-AB-8	Millennium Pipeline Comp Senior Secured	1	19,937,034	20,674,603
57629*FC0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,000,000	19,000,000	02/20/2020	02/20/2050	Interest Rate Swap			18685B-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	19,000,000	19,000,000
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	51,500,000	(33,985,645)	02/25/2020	02/25/2050	Interest Rate Swap	(82,385,397)		65791F-AA-9	Manchester United Football Club, Ltd Senior Secu	1	51,500,000	48,399,752
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		189,999,994	190,000,000	02/25/2020	02/25/2050	Interest Rate Swap			57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	189,999,994	190,000,000
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		39,500,000	36,028,582	02/25/2020	02/25/2050	Interest Rate Swap			Q9396F-AK-7	Victoria Power Networks Gtd Senior Note	1	39,500,000	36,028,582
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,239,643	23,426,040	02/25/2020	02/25/2050	Interest Rate Swap			04351L-AA-8	Ascension Health-UNSECURED BOND	1	24,239,643	23,426,040
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		29,334,636	28,168,848	02/25/2020	02/25/2050	Interest Rate Swap			46247B-AA-2	Iowa Interstate Railroad Senior Secured	1	29,334,636	28,168,848
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,225,000	9,886,225	02/25/2020	02/25/2050	Interest Rate Swap			Q3958B-AJ-5	GAIF Bond Issuer Pty Ltd Gtd Senior Note	1	10,225,000	9,886,225
57629*EZ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	37,900,000	(46,186,690)	02/25/2020	02/25/2050	Interest Rate Swap	(81,853,433)		Q3920F-AL-3	Fonterra Co-operative Gr Senior Unsecured Notes	1	37,900,000	35,666,743
57629*EZ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		42,700,000	41,142,688	02/25/2020	02/25/2050	Interest Rate Swap			838515-G*-9	South Jersey Gas Co. First Mortgage	1	42,700,000	41,142,688
57629*EZ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,200,000	29,521,829	02/25/2020	02/25/2050	Interest Rate Swap			23325P-A*-5	DNP Select Income Fund I Senior Secured	1	30,200,000	29,521,829

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STATEMENT AS OF SEPTEMBER 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*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		36,150,000	38,131,888	02/25/2020	02/25/2050	Interest Rate Swap				Q3535#-AD-8	Envestra Victoria Pty Lt Senior Secured	1	36,150,000	38,131,888
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		39,000,000	36,582,858	02/25/2020	02/25/2050	Interest Rate Swap				749868-AV-3	RREEF AMERICA REIT II INC SR UNSECD NT SER D	1	39,000,000	36,582,858
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		38,250,000	35,657,683	02/25/2020	02/25/2050	Interest Rate Swap				Q3920#-AG-4	Fonterra Co-operative Gr Senior Note	1	38,250,000	35,657,683
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		31,035,133	25,451,495	02/25/2020	02/25/2050	Interest Rate Swap				873050-OM-1	TTX CO-SENIOR UNSECURED	1	31,035,133	25,451,495
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		920,203	818,290	02/25/2020	02/25/2050	Interest Rate Swap				493268-BW-5	KEYCORP STUDENT LOAN TRU-SERIES 2004-A CLASS 1B	1	920,203	818,290
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,900,000	7,434,880	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	7,434,880
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,050,000	6,520,785	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	6,520,785
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,594,483	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	6,594,483
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		45,500,000	42,787,927	02/25/2020	02/25/2050	Interest Rate Swap				27889#-AM-1	ECON Atlantic Inc - Guaranteed Series A Senior Note	1	45,500,000	42,787,927
57629*EZO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,000,000	27,000,000	02/25/2020	02/25/2050	Interest Rate Swap				186858-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	27,000,000	27,000,000
57629*FDB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	38,900,000	(51,315,929)	02/26/2020	02/26/2050	Interest Rate Swap		(87,081,795)		06235#-AN-2	Mirvac Group Finance Ltd Senior Note	1	38,900,000	35,765,866
57629*FDB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		33,547,500	31,864,455	02/26/2020	02/26/2050	Interest Rate Swap				74979U-AA-3	RS 2018 Private, LLC Senior Secured	1	33,547,500	31,864,455
57629*FDB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		35,600,000	34,962,760	02/26/2020	02/26/2050	Interest Rate Swap				05565E-G8-8	BMW U.S. Capital LLC Gtd Senior Note	1	35,600,000	34,962,760
57629*FDB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		38,150,000	34,350,413	02/26/2020	02/26/2050	Interest Rate Swap				Q3189#-AC-3	DEXUS Funds Management L Senior Note Ser	1	38,150,000	34,350,413
57629*FDB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		60,000,000	60,000,000	02/26/2020	02/26/2050	Interest Rate Swap				515095-IM-6	Landmark Equity Partners XVI-D, LLC	1	60,000,000	60,000,000
57629*FDB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		31,100,000	28,972,014	02/26/2020	02/26/2050	Interest Rate Swap				74264#-AC-0	PRISA LHC Senior Note Ser	1	31,100,000	28,972,014
57629*FDB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		32,900,000	32,463,417	02/26/2020	02/26/2050	Interest Rate Swap				48661E-B#-8	KAYNE ANDERSON MID/ENERGY-SR UNSECD SER D	1	32,900,000	32,463,417
57629*FDB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,000,000	15,196,240	02/26/2020	02/26/2050	Interest Rate Swap				65023P-AQ-3	Newark BSL CLO 2 Ltd-NBCLO 2017-1A A2R	1	16,000,000	15,196,240
57629*FDB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,850,000	9,299,434	02/26/2020	02/26/2050	Interest Rate Swap				48254H-AC-8	KKR CLO 32 Ltd-KKR 32A B	1	9,850,000	9,299,434
57629*FDB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,300,000	7,844,006	02/26/2020	02/26/2050	Interest Rate Swap				29002Q-AC-3	Elmwood CLO VII Ltd-ELMW7 2020-4A B	1	8,300,000	7,844,006
57629*FDB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,125,000	4,655,735	02/26/2020	02/26/2050	Interest Rate Swap				05683H-AS-4	Bain Capital Credit CLO -BCC 2017-2A CR2	1	5,125,000	4,655,735
57629*FDB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,100,000	4,887,024	02/26/2020	02/26/2050	Interest Rate Swap				06760B-AJ-1	BABSON CLO LTD-SERIES 17-1A CLASS C	1	5,100,000	4,887,024
57629*FDB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		39,500,000	38,360,030	02/26/2020	02/26/2050	Interest Rate Swap				G2037#-AA-4	Chanel Limited Senior Note Series A	1	39,500,000	38,360,030
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	50,000,000	(61,825,533)	06/15/2020	06/15/2050	Interest Rate Swap		(109,742,633)		143133-AA-4	CGMS 2021-6A A1	1	50,000,000	47,917,100
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		50,000,000	47,941,850	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	47,941,850
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,100,000	12,501,382	06/15/2020	06/15/2050	Interest Rate Swap				03766G-AQ-5	Apidos CLO XXVI-APID 2017-26A A2R	1	13,100,000	12,501,382
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		60,604,273	58,133,921	06/15/2020	06/15/2050	Interest Rate Swap				25255D-AA-8	Diameter Capital CLO 1 L-DCLO 2021-1A A1A	1	60,604,273	58,133,921
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,600,000	12,746,709	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	12,746,709
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,525,000	10,814,173	06/15/2020	06/15/2050	Interest Rate Swap				48252U-AJ-6	KKR CLO 25 Ltd-SERIES 25 CLASS BR	1	11,525,000	10,814,173
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,000,000	10,366,576	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	10,366,576
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,200,000	8,738,390	06/15/2020	06/15/2050	Interest Rate Swap				39809G-AC-9	GREYWOLF CLO VI Ltd-GWOLF 2018-1A A2	1	9,200,000	8,738,390

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STATEMENT AS OF SEPTEMBER 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*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,650,000	8,168,256	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	8,168,256	
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,151,152	8,083,943	06/15/2020	06/15/2050	Interest Rate Swap			124166-AA-7	Buttermilk Park CLO Ltd-BMILK 2018-1A A1	1	8,151,152	8,083,943	
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,000,000	10,259,095	06/15/2020	06/15/2050	Interest Rate Swap			13875M-AA-0	Canyon CLO 2021-3 Ltd-CANYC 2021-3A	1	11,000,000	10,259,095	
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,200,000	6,859,166	06/15/2020	06/15/2050	Interest Rate Swap			06759M-AE-1	Babson CLO Ltd 2016-1-BABSN 2016-1A A2R	1	7,200,000	6,859,166	
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,900,000	6,504,734	06/15/2020	06/15/2050	Interest Rate Swap			67110U-AN-9	OHA Loan Funding 2016-1 -OHALF 2016-1A B1R	1	6,900,000	6,504,734	
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,700,000	6,360,699	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	6,360,699	
57629*FF3	Evergreen Basket 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 Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,042,748	6,009,511	06/15/2020	06/15/2050	Interest Rate Swap			87250R-AA-2	TICP CLO XV Ltd-TICP 2020-15A A Elmwood CLO IV Ltd-ELMW4 2020-1A B	1	6,042,748	6,009,511	
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,800,000	5,488,134	06/15/2020	06/15/2050	Interest Rate Swap			29002G-AC-5	Elmwood CLO IV Ltd-ELMW4 2020-1A B	1	5,800,000	5,488,134	
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,750,000	5,471,769	06/15/2020	06/15/2050	Interest Rate Swap			77340G-AL-5	Rockford Tower CLO 2017-2 Ltd	1	5,750,000	5,471,769	
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,650,000	5,124,595	06/15/2020	06/15/2050	Interest Rate Swap			50200F-AG-4	LGM 26 Ltd-SERIES 26A CLASS C	1	5,650,000	5,124,595	
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,250,000	4,989,768	06/15/2020	06/15/2050	Interest Rate Swap			12555X-AG-6	CIFC Funding Ltd-CIFC 2019-6A C TCM Direct Lending Structured	1	5,250,000	4,989,768	
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,573,684	17,531,507	06/15/2020	06/15/2050	Interest Rate Swap			87241F-AA-0	Solutions 2019 LLC - Class A Note PRISA LHC, LLC Senior Note Series C	1	17,573,684	17,531,507	
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,500,000	19,744,848	06/15/2020	06/15/2050	Interest Rate Swap			74264*-AE-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	21,500,000	19,744,848	
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	20,000,000	06/15/2020	06/15/2050	Interest Rate Swap			186858-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	20,000,000	20,000,000	
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	300,000,000	56,447,881	(92,119,876)	06/29/2020	06/29/2050	Interest Rate Swap		(133,550,363)	149123-CJ-8	Caterpillar Inc-SENIOR UNSECURED	1	56,447,881	41,430,487	
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		50,521,635	32,089,091	06/29/2020	06/29/2050	Interest Rate Swap			91324P-EA-6	UnitedHealth Group Inc-SENIOR UNSECURED	1	50,521,635	32,089,091	
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		46,541,594	34,531,700	06/29/2020	06/29/2050	Interest Rate Swap			143499-AB-7	Carnegie Institution of -UNSECURED	1	46,541,594	34,531,700	
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		44,780,767	34,962,982	06/29/2020	06/29/2050	Interest Rate Swap			355611-AA-2	Fred Hutchinson Cancer R-UNSECURED	1	44,780,767	34,962,982	
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,893,832	10,640,108	06/29/2020	06/29/2050	Interest Rate Swap			29157T-AD-8	Emory University-UNSECURED	1	12,893,832	10,640,108	
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		82,254,545	82,246,320	06/29/2020	06/29/2050	Interest Rate Swap			72403Z-NR-1	PIONEERS GATE LLC 2020-2 CERB Landmark Equity Partners XVII-D, LLC	1	82,254,545	82,246,320	
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		86,000,000	86,000,000	06/29/2020	06/29/2050	Interest Rate Swap			51509S-MM-6	Carlyle Global Market St-CGMS 2021-3SA A2	1	86,000,000	86,000,000	
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,700,000	6,240,963	06/29/2020	06/29/2050	Interest Rate Swap			14315D-AC-6	Carlyle Global Market St-CGMS 2021-3SA A2	1	6,700,000	6,240,963	
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,904,112	16,978,053	06/29/2020	06/29/2050	Interest Rate Swap			26442T-AH-0	Duke University-UNSECURED	1	25,904,112	16,978,053	
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,636,162	18,144,899	06/29/2020	06/29/2050	Interest Rate Swap			06654D-AC-1	Banner Health-UNSECURED	1	25,636,162	18,144,899	
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,750,000	11,002,712	06/29/2020	06/29/2050	Interest Rate Swap			50200F-AE-9	LGM 26 Ltd-SERIES 26A CLASS B	1	11,750,000	11,002,712	
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,600,000	11,055,635	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	11,055,635	
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,325,000	9,610,572	06/29/2020	06/29/2050	Interest Rate Swap			05683E-AQ-5	Bain Capital Credit CLO -BCC 2020-2A BR	1	10,325,000	9,610,572	
57629*FE6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		43,339,935	39,617,945	06/29/2020	06/29/2050	Interest Rate Swap			44919*-AC-2	I 585 Express, LLC Senior Secured	1	43,339,935	39,617,945	
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		124,464,783	16,600,000	(703,030)	07/13/2022	07/13/2023	TRIS Bond Index		(16,669,557)	12656*-AD-4	CSLB Holdings, Inc. Gtd Senior Note	1	16,600,000	15,966,527
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		16,500,000	16,291,853		07/13/2022	07/13/2023	TRIS Bond Index			12656*-AC-6	CSLB Holdings, Inc. Gtd Senior Note	1	16,500,000	16,291,853

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STATEMENT AS OF SEPTEMBER 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		16,500,000	15,737,568	07/13/2022	07/13/2023	TRS Bond Index			091948-AC-1	Transper New Zealand L Senior Note Ser	1	16,500,000	15,737,568
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		16,450,000	15,847,239	07/13/2022	07/13/2023	TRS Bond Index			674003-AA-9	Oaktree Capital Managem Senior Note Ser	1	16,450,000	15,847,239
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,028,750	8,017,620	07/13/2022	07/13/2023	TRS Bond Index			02379-AA-7	American Airlines Group Senior Secured Notes Class A	1	9,028,750	8,017,620
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		37,500,034	36,554,891	07/13/2022	07/13/2023	TRS Bond Index			91412N-AK-6	University of Chicago/Th-UNSECURED BOND	1	37,500,034	36,554,891
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		14,250,000	13,775,475	07/13/2022	07/13/2023	TRS Bond Index			486606-K#-2	KAYNE ANDERSON MLP INVT CO-SR UNSECD SER KK	1	14,250,000	13,775,475
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		15,000,000	14,696,790	07/13/2022	07/13/2023	TRS Bond Index			05616B-AA-1	BABSON CAPITAL PARTN INVS TR-SR CONV NT	2	15,000,000	14,696,790
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,500,000	12,132,558	07/13/2022	07/13/2023	TRS Bond Index			74170*-AN-9	Prime Property Fund LLC Senior Note Ser	1	13,500,000	12,132,558
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		11,900,000	10,869,924	07/13/2022	07/13/2023	TRS Bond Index			73020*-AK-9	PNG Companies LLC Senior Secured	1	11,900,000	10,869,924
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,730,000	13,419,826	07/13/2022	07/13/2023	TRS Bond Index			05237*-AH-7	Austin Powder Holdings C Senior Note Ser	2	13,730,000	13,419,826
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		14,325,000	13,385,395	07/13/2022	07/13/2023	TRS Bond Index			674003-AA-7	Oaktree Capital Managem Senior Note Ser	1	14,325,000	13,385,395
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,175,000	6,761,835	07/13/2022	07/13/2023	TRS Bond Index			033291-AN-5	Anchorage Capital Clo 13-ANHC 2019-13A B1R	1	7,175,000	6,761,835
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	23,000,000	(60,966,232)	09/02/2020	09/02/2050	Interest Rate Swap		(82,065,811)	41242*-AY-8	Hardwood Funding LLC Senior Secured	1	23,000,000	21,099,579
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,190,000	20,266,793	09/02/2020	09/02/2050	Interest Rate Swap			07795*-AA-0	QIC Finance (Shopping Ce Gtd Senior Note Ser	1	22,190,000	20,266,793
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,700,000	7,205,344	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	7,205,344
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,255,939	9,183,065	09/02/2020	09/02/2050	Interest Rate Swap			02376*-AA-0	American Airlines Group Senior Secured	1	10,255,939	9,183,065
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,600,000	21,262,543	09/02/2020	09/02/2050	Interest Rate Swap			05237*-AF-1	Austin Powder Holdings C Senior Note Ser	2	21,600,000	21,262,543
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,600,000	17,797,001	09/02/2020	09/02/2050	Interest Rate Swap			620448-BA-2	Compass Group PLC Senior Note Ser	1	18,600,000	17,797,001
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,819,289	14,765,502	09/02/2020	09/02/2050	Interest Rate Swap			929287-ZZ-6	WINGS Aviation 62696 USD Tranche A-1 Ln	1	16,819,289	14,765,502
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,400,000	18,618,468	09/02/2020	09/02/2050	Interest Rate Swap			12656*-AK-8	CSLB Holdings, Inc. Gtd Senior Note	1	20,400,000	18,618,468
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,100,000	20,796,540	09/02/2020	09/02/2050	Interest Rate Swap			698508-AC-7	YORKSHIRE WTR SERV BRADFORD-GTD SR SEC CL A	1	21,100,000	20,796,540
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,950,000	8,331,564	09/02/2020	09/02/2050	Interest Rate Swap			50184N-AP-7	LCM LTD PARTNERSHIP-SERIES 15A CLASS CR	1	8,950,000	8,331,564
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		28,008,392	22,567,643	09/02/2020	09/02/2050	Interest Rate Swap			141781-BJ-2	Cargill Inc-SENIOR UNSECURED	1	28,008,392	22,567,643
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,500,000	7,900,045	09/02/2020	09/02/2050	Interest Rate Swap			38136F-BJ-1	Goldentree Loan Managem-GLM 2017-1A B1R2	1	8,500,000	7,900,045
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,550,000	7,064,799	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	7,064,799
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,850,000	12,907,300	09/02/2020	09/02/2050	Interest Rate Swap			05684R-AE-2	Bain Capital Credit CLO-BCC 2021-2A B	1	13,850,000	12,907,300
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,700,000	12,750,193	09/02/2020	09/02/2050	Interest Rate Swap			48255A-AC-2	KKR CLO 36 Ltd-KKR 36A B	1	13,700,000	12,750,193
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,500,000	5,157,158	09/02/2020	09/02/2050	Interest Rate Swap			08182B-AN-8	Benefit Street Partners -BSP 2019-17A BR	1	5,500,000	5,157,158
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,050,000	17,773,925	09/02/2020	09/02/2050	Interest Rate Swap			151895-C*-8	CenterPoint Properties T Senior Note Ser	1	18,050,000	17,773,925
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,900,000	15,779,047	09/02/2020	09/02/2050	Interest Rate Swap			74170*-AI-9	Prime Property Fund LLC Senior Note Series U	1	17,900,000	15,779,047
57629*FJ5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,000,000	22,000,000	09/02/2020	09/02/2050	Interest Rate Swap			515095-IM-6	Landmark Equity Partners XVI-D, LLC	1	22,000,000	22,000,000
57629*FLO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	18,750,000	(63,872,223)	09/02/2020	09/02/2050	Interest Rate Swap		(81,940,098)	74170*-AC-3	Prime Property Fund LLC Senior Note Ser	1	18,750,000	18,067,875

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STATEMENT AS OF SEPTEMBER 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*FLO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,100,000	19,183,963	09/02/2020	09/02/2050	Interest Rate Swap				56081#-CA-6	Major League Baseball Tr Series 44 Term Note	1	20,100,000	19,183,963
57629*FLO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,541,358	11,436,101	09/02/2020	09/02/2050	Interest Rate Swap				47715*-AA-5	JetBlue Airways Corporat Pass Thru Certi	1	11,541,358	11,436,101
57629*FLO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,450,000	20,241,083	09/02/2020	09/02/2050	Interest Rate Swap				G2044#-AY-1	Compass Group PLC Senior Note Ser	1	20,450,000	20,241,083
57629*FLO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,700,000	17,378,116	09/02/2020	09/02/2050	Interest Rate Swap				41242*-AU-6	Hardwood Funding LLC Senior Note Ser	1	18,700,000	17,378,116
57629*FLO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,315,000	18,275,080	09/02/2020	09/02/2050	Interest Rate Swap				36198*-AA-4	GI Manager L.P. Senior Secured Notes	1	19,315,000	18,275,080
57629*FLO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,700,000	16,711,278	09/02/2020	09/02/2050	Interest Rate Swap				41242*-AX-0	Hardwood Funding LLC Senior Secured	1	17,700,000	16,711,278
57629*FLO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,200,709	9,197,728	09/02/2020	09/02/2050	Interest Rate Swap				00114*-AA-1	AEP TRANSMISSION CO LLC SR NT SER A	1	9,200,709	9,197,728
57629*FLO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,900,000	15,225,983	09/02/2020	09/02/2050	Interest Rate Swap				68233J-A8-3	Oncor Electric Delivery SR SEC0 NT SER B	1	15,900,000	15,225,983
57629*FLO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		94,451,066	97,908,287	09/02/2020	09/02/2050	Interest Rate Swap				931142-CS-0	WAL-MART STORES INC-SENIOR NOTE	1	94,451,066	97,908,287
57629*FLO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,700,000	26,592,609	09/02/2020	09/02/2050	Interest Rate Swap				38176D-AJ-8	Golub Capital Partners C-GOCAP 2015-26A A2R	1	27,700,000	26,592,609
57629*FLO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,000,000	13,000,000	09/02/2020	09/02/2050	Interest Rate Swap				18685#-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	13,000,000	13,000,000
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	24,000,000	(59,093,437)	09/02/2020	09/02/2050	Interest Rate Swap		(82,173,565)		00114*-AR-4	AEP Transmission Company Senior Note Ser	1	24,000,000	23,080,128
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,700,000	25,193,839	09/02/2020	09/02/2050	Interest Rate Swap				G4622#-AB-5	Howard De Walden Estates Gtd Senior Note	1	25,700,000	25,193,839
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,750,000	24,273,513	09/02/2020	09/02/2050	Interest Rate Swap				G0646#-AN-9	Associated British Foods Senior Note Ser	1	24,750,000	24,273,513
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,900,000	22,308,260	09/02/2020	09/02/2050	Interest Rate Swap				57169*-AU-1	Mars, Inc. Senior Note Ser	1	23,900,000	22,308,260
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,750,000	21,451,568	09/02/2020	09/02/2050	Interest Rate Swap				06235#-AF-9	Mirvac Group Finance Ltd Gtd Senior Note	1	21,750,000	21,451,568
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,150,000	19,735,071	09/02/2020	09/02/2050	Interest Rate Swap				25763#-AE-0	Donaldson Co Inc Senior Note Ser	1	20,150,000	19,735,071
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		135,999,996	136,000,000	09/02/2020	09/02/2050	Interest Rate Swap				57542Z-A8-8	MM Investment Holding Revolver Fixed Line	2	135,999,996	136,000,000
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,000,000	12,626,497	09/02/2020	09/02/2050	Interest Rate Swap				48250W-AG-0	KKR CLO 14 Ltd-KKR 14 AR	1	13,000,000	12,626,497
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	8,500,000	(53,700,451)	09/02/2020	09/02/2050	Interest Rate Swap		(61,333,851)		74170*-AR-0	Prime Property Fund LLC Senior Note Ser	1	8,500,000	7,633,400
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,200,000	9,119,031	09/02/2020	09/02/2050	Interest Rate Swap				G1108#-AF-5	British Land Company PLC Senior Note Ser	1	9,200,000	9,119,031
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,500,000	7,857,400	09/02/2020	09/02/2050	Interest Rate Swap				41242*-BF-8	Hardwood Funding LLC Senior Secured	1	8,500,000	7,857,400
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,200,000	7,891,680	09/02/2020	09/02/2050	Interest Rate Swap				47914Z-E8-6	Johnson Matthey PLC Series A Senior Notes	1	8,200,000	7,891,680
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,750,000	8,043,175	09/02/2020	09/02/2050	Interest Rate Swap				151515-YY-3	Bridge Investment Group Senior Secured Notes	1	8,750,000	8,043,175
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,133,334	5,094,048	09/02/2020	09/02/2050	Interest Rate Swap				838515-F8-8	South Jersey Gas Co. Medium Term Not	1	5,133,334	5,094,048
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,386,855	7,282,626	09/02/2020	09/02/2050	Interest Rate Swap				184692-B8-9	Clearbridge Energy MLP F Senior Secured	1	7,386,855	7,282,626
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,386,855	6,967,060	09/02/2020	09/02/2050	Interest Rate Swap				184692-B#-7	Clearbridge Energy MLP Fd Inc-Senior Secured	1	7,386,855	6,967,060
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,145,874	4,489,291	09/02/2020	09/02/2050	Interest Rate Swap				05389L-AK-9	Avolon Aerospace Leasing Secured Note B7	1	5,145,874	4,489,291
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,761,373	5,761,188	09/02/2020	09/02/2050	Interest Rate Swap				C1466#-AA-6	OPR Leasing Ltd Senior Secured	2	5,761,373	5,761,188
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,950,000	6,882,383	09/02/2020	09/02/2050	Interest Rate Swap				92203#-AR-9	Yanguard Group, Inc. Senior Notes Series D	1	6,950,000	6,882,383
57629*FIM8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,450,000	4,002,615	09/02/2020	09/02/2050	Interest Rate Swap				04018E-AE-1	Ares LIX CLO Ltd-ARES 2021-59A C1	1	4,450,000	4,002,615

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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*FN6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,821,920	4,226,461	09/02/2020	09/02/2050	Interest Rate Swap				05389L-AH-6	Avolon Aerospace Leasing Secured Note B7	1	4,821,920	4,226,461
57629*FN6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		93,689,058	77,328,447	09/02/2020	09/02/2050	Interest Rate Swap				055451-AV-0	BHP Billiton Finance USA-SR UNSECURED	1	93,689,058	77,328,447
57629*FN6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		31,685,554	30,409,164	09/02/2020	09/02/2050	Interest Rate Swap				90226#-AA-3	2014 REPLACEMENT PWR STATUTORY TR SR SEC'D NT	1	31,685,554	30,409,164
57629*FN6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,000,000	19,000,000	09/02/2020	09/02/2050	Interest Rate Swap				18685#-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	19,000,000	19,000,000
57629*FP1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	13,864,000	(49,360,962)	09/02/2020	09/02/2050	Interest Rate Swap		(60,970,181)		78403D-AR-1	SBA Tower Trust-ASSET BACKED RREEF America REIT II, I Senior	1	13,864,000	11,609,219
57629*FP1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,700,000	6,576,961	09/02/2020	09/02/2050	Interest Rate Swap				74986#-AN-1	Note Ser	1	6,700,000	6,576,961
57629*FP1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,680,457	4,104,677	09/02/2020	09/02/2050	Interest Rate Swap				05389L-AA-1	Avolon Aerospace Leasing Secured Note A3	1	4,680,457	4,104,677
57629*FP1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,440,000	6,213,808	09/02/2020	09/02/2050	Interest Rate Swap				74170*-AD-1	Prime Property Fund LLC Senior Note Ser	1	6,440,000	6,213,808
57629*FP1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,658,051	4,082,348	09/02/2020	09/02/2050	Interest Rate Swap				05389L-AD-5	Avolon Aerospace Leasing Secured Note A3	1	4,658,051	4,082,348
57629*FP1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,674,044	5,052,901	09/02/2020	09/02/2050	Interest Rate Swap				05400F-AE-1	Avolon Aerospace Funding Senior Secured	1	5,674,044	5,052,901
57629*FP1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,655,867	5,051,781	09/02/2020	09/02/2050	Interest Rate Swap				05400F-AG-6	Avolon Aerospace Funding Senior Secured	1	5,655,867	5,051,781
57629*FP1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,500,805	6,299,995	09/02/2020	09/02/2050	Interest Rate Swap				184692-B*-1	Clearbridge Energy MLP Fd Inc-Senior Secured	1	6,500,805	6,299,995
57629*FP1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,285,746	4,709,642	09/02/2020	09/02/2050	Interest Rate Swap				05400F-AC-5	Avolon Aerospace Funding Senior Secured	1	5,285,746	4,709,642
57629*FP1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,200,000	5,644,740	09/02/2020	09/02/2050	Interest Rate Swap				393154-L#-6	Green Mountain Power Cor First Mtg Bond	1	5,200,000	5,644,740
57629*FP1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		36,596,731	28,225,573	09/02/2020	09/02/2050	Interest Rate Swap				45866F-AH-7	Intercontinental Exchange-SENIOR UNSECURED	1	36,596,731	28,225,573
57629*FP1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	19,317,660	09/02/2020	09/02/2050	Interest Rate Swap				55819D-AE-6	Madison Park Funding XXX-HDPK 2018-31A A2A	1	20,000,000	19,317,660
57629*FP1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		106,999,997	107,000,000	09/02/2020	09/02/2050	Interest Rate Swap				57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	106,999,997	107,000,000
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	6,500,000	(54,479,967)	09/02/2020	09/02/2050	Interest Rate Swap		(61,010,589)		90312*-AC-8	UNs Gas, Inc. Gtd Senior Note	1	6,500,000	6,530,622
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,000,000	21,000,000	09/02/2020	09/02/2050	Interest Rate Swap				18685#-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	21,000,000	21,000,000
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,295,973	4,293,993	09/02/2020	09/02/2050	Interest Rate Swap				63080#-AA-5	NARA Caves Lease Trust Lease Backed Ce	1	4,295,973	4,293,993
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,400,000	5,121,463	09/02/2020	09/02/2050	Interest Rate Swap				479142-E#-4	Johnson Matthey PLC Series B Senior Notes	1	5,400,000	5,121,463
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,384,548	3,892,632	09/02/2020	09/02/2050	Interest Rate Swap				05400F-AA-9	Avolon Aerospace Funding Senior Secured	1	4,384,548	3,892,632
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,012,824	7,975,763	09/02/2020	09/02/2050	Interest Rate Swap				064159-SH-0	Bank of Nova Scotia/The-SENIOR UNSECURED	1	8,012,824	7,975,763
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		699,621	697,771	09/02/2020	09/02/2050	Interest Rate Swap				05577#-AN-0	BTMU Capital Corp. Equipment Note	1	699,621	697,771
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,630,000	16,309,876	09/02/2020	09/02/2050	Interest Rate Swap				216378-AA-7	Cooks Venture Inc-SECURED	1	16,630,000	16,309,876
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,986,029	18,482,310	09/02/2020	09/02/2050	Interest Rate Swap				06761T-AG-7	Barings Middle Market CI-BMM 2019-1A B	1	18,986,029	18,482,310
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,081,299	4,166,658	09/02/2020	09/02/2050	Interest Rate Swap				589331-AD-9	MERCK SHARP & DOHME CORP-DEBENTURE	1	4,081,299	4,166,658
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		928,910	889,425	09/02/2020	09/02/2050	Interest Rate Swap				05348E-AII-9	AYALONBAY COMMUNITIES IN-SR UNSECURED	1	928,910	889,425
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,500,000	4,085,820	09/02/2020	09/02/2050	Interest Rate Swap				74264*-AD-8	PRISA LHC LLC-SENIOR NOTE SER B	1	4,500,000	4,085,820
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,174,980	4,657,397	09/02/2020	09/02/2050	Interest Rate Swap				89236T-DR-3	Toyota Motor Credit Corp-SENIOR UNSECURED	1	5,174,980	4,657,397

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STATEMENT AS OF SEPTEMBER 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*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,750,000	3,731,213	09/02/2020	09/02/2050	Interest Rate Swap				018522-D8-8	ALLETE Inc. First Mortgage	1	3,750,000	3,731,213
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,870,527	3,696,043	09/02/2020	09/02/2050	Interest Rate Swap				18469P-AA-7	Clearbridge Energy MLP Op Fd Inc-Senior Secured	1	3,870,527	3,696,043
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,893,743	10,205,257	09/02/2020	09/02/2050	Interest Rate Swap				74980X-AC-0	ALM Ltd/KY-PRAM 2021-15A A2	1	10,893,743	10,205,257
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,767,648	3,593,620	09/02/2020	09/02/2050	Interest Rate Swap				184690-AA-5	Clearbridge Energy MLP Fd Inc-Senior Secured	1	3,767,648	3,593,620
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,250,000	8,298,665	09/02/2020	09/02/2050	Interest Rate Swap				64131T-AS-3	Neuberger Berman CLO XVI-SERIES 2017 CALSS 16SA	1	9,250,000	8,298,665
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,003,184	2,966,700	09/02/2020	09/02/2050	Interest Rate Swap				486606-J8-6	Kayne Anderson MLP Inves Senior Note Ser	1	3,003,184	2,966,700
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,508,106	1,468,500	09/02/2020	09/02/2050	Interest Rate Swap				84519#-AF-1	Southwest Power Pool, In Senior Note Ser	1	1,508,106	1,468,500
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		738,403	721,740	09/02/2020	09/02/2050	Interest Rate Swap				247358-LL-6	EAIV Delta MSN 15176	1	738,403	721,740
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		756,192	739,127	09/02/2020	09/02/2050	Interest Rate Swap				247358-VV-3	EAIV Delta MSN 15170	1	756,192	739,127
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		430,624	431,166	09/02/2020	09/02/2050	Interest Rate Swap				89838#-AA-5	Dartmouth College Senior Secured	1	430,624	431,166
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,960,596	1,943,461	09/02/2020	09/02/2050	Interest Rate Swap				184690-AA-7	Clearbridge Energy MLP TR Fd Inc-Senior Secured	1	1,960,596	1,943,461
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		50,000,000	47,888,450	09/02/2020	09/02/2050	Interest Rate Swap				03329F-AN-4	Anchorage Capital CLO 15-ANHC 2020-15A AR	1	50,000,000	47,888,450
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,000,000	20,069,994	09/02/2020	09/02/2050	Interest Rate Swap				97316D-AA-4	Wind River CLO Ltd-WINDR 2021-3A A	1	21,000,000	20,069,994
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,425,000	6,178,537	09/02/2020	09/02/2050	Interest Rate Swap				08180X-AQ-5	Benefit Street Partners -BSP 2015-8A A1BR	1	6,425,000	6,178,537
57629*F09	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,450,000	2,256,798	09/02/2020	09/02/2050	Interest Rate Swap				04018X-AG-4	ARES CLO-ARES 2021-ALFA C	1	2,450,000	2,256,798
57629*FT3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	300,000,000	24,971,885	(113,135,399)	07/14/2020	07/14/2050	Interest Rate Swap		(140,209,262)		244199-AW-5	Deere & Co-BOND	1	24,971,885	27,073,863
57629*FT3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,465,000	26,527,500	07/14/2020	07/14/2050	Interest Rate Swap				Z22066-36-8	AUST & NZ BANKING GROUP-SUBORDINATED NOTE	1	21,465,000	26,527,500
57629*FT3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		41,850,349	40,167,162	07/14/2020	07/14/2050	Interest Rate Swap				87305Q-CB-5	TTX CO-UNSECURED NOTE	1	41,850,349	40,167,162
57629*FT3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		36,108,204	32,851,474	07/14/2020	07/14/2050	Interest Rate Swap				594918-CB-8	MICROSOFT CORP-SENIOR UNSECURED	1	36,108,204	32,851,474
57629*FT3	Evergreen Basket 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				500798-MW-6	KREF Lending VII LLC - Term Loan Series 2022-11	1	137,343,949	137,343,949
57629*FT3	Evergreen Basket 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	PORED II HOLDING I LLC, PORED II HOLDING I OFFSHORE LP and PORED II HOLDCO ARGUS S.A R.L., -Term Loan Series 2022-4	1	50,375,000	50,375,000
57629*FT3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		59,181,260	57,981,242	07/14/2020	07/14/2050	Interest Rate Swap				46655H-AB-9	JCP Direct Lending CLO 2022 LLC - Revolving Credit Facility Class A	1	59,181,260	57,981,242
57629*FT3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		64,000,000	59,857,152	07/14/2020	07/14/2050	Interest Rate Swap				186858-AA-0	Cliffwater Corporate Len Senior Secured Notes	1	64,000,000	59,857,152
57629*FT3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,000,000	11,000,000	07/14/2020	07/14/2050	Interest Rate Swap				515095-MM-6	Landmark Equity Partners XVI-D, LLC	1	11,000,000	11,000,000
57629*FU0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	13,760,808	(57,648,827)	07/14/2020	07/14/2050	Interest Rate Swap		(70,628,227)		662325-B8-7	North Shore Gas Co. First Mtg Bond	1	13,760,808	12,979,400
57629*FU0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,300,000	12,877,725	07/14/2020	07/14/2050	Interest Rate Swap				G1108#-AG-3	British Land Company PLC Senior Note Ser	1	13,300,000	12,877,725
57629*FU0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,400,000	11,511,094	07/14/2020	07/14/2050	Interest Rate Swap				720186-F*-1	Piedmont Natural Gas Co. Senior Note Ser	2	12,400,000	11,511,094
57629*FU0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,600,000	11,066,098	07/14/2020	07/14/2050	Interest Rate Swap				41242*-AT-9	Hardwood Funding LLC Senior Note Ser	1	11,600,000	11,066,098
57629*FU0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,042,308	10,862,428	07/14/2020	07/14/2050	Interest Rate Swap				48661E-C8-5	Kayne Anderson Midstream SER H SR UNSECD NT	1	11,042,308	10,862,428
57629*FU0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,534,615	9,950,892	07/14/2020	07/14/2050	Interest Rate Swap				48661E-C#-3	Kayne Anderson Midstream SER I SR UNSECD NT	1	10,534,615	9,950,892

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STATEMENT AS OF SEPTEMBER 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 Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,250,000	10,561,725	07/14/2020	07/14/2050	Interest Rate Swap			151515-XX-6	Bridge Investment Group Senior Secured Notes	1	11,250,000	10,561,725
57629*FU0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,925,000	9,275,488	07/14/2020	07/14/2050	Interest Rate Swap			74170*-AE-9	Prime Property Fund LLC Senior Note Ser	1	9,925,000	9,275,488
57629*FU0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,641,780	07/14/2020	07/14/2050	Interest Rate Swap			57169*-AT-4	Mars, Inc. Senior Note Ser	1	10,000,000	9,641,780
57629*FU0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,874,900	07/14/2020	07/14/2050	Interest Rate Swap			003009-A8-6	Aberdeen Asia-Pacific In Senior Secured	1	10,000,000	9,874,900
57629*FU0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,600,000	8,506,054	07/14/2020	07/14/2050	Interest Rate Swap			05237*-AG-9	Austin Powder Holdings C Senior Note Ser	2	8,600,000	8,506,054
57629*FU0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		105,999,997	106,000,000	07/14/2020	07/14/2050	Interest Rate Swap			57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	105,999,997	106,000,000
57629*FK2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	103,746,342	1,343,668	09/02/2020	09/02/2050	Interest Rate Swap		(102,402,674)	11702@-AA-4	Brunswick Asset Financing LLC - Term A Loan	1	103,746,342	103,746,342
57629*FK2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		61,000,000	61,000,000	09/02/2020	09/02/2050	Interest Rate Swap			515095-MM-6	Landmark Equity Partners XVII-D, LLC	1	61,000,000	61,000,000
57629*FK2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,000,000	23,995,440	09/02/2020	09/02/2050	Interest Rate Swap			910200-AA-4	UNITED ENERGY DISTRIBUTION PTY-GTD SR NT SER A	1	24,000,000	23,995,440
57629*FK2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,000,000	26,866,320	09/02/2020	09/02/2050	Interest Rate Swap			57629Z-YY-6	Barings Corporate Invest Convertible Not	1	30,000,000	26,866,320
57629*FK2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		26,500,000	25,405,047	09/02/2020	09/02/2050	Interest Rate Swap			68233J-AA*-5	Oncor Electric Delivery & Senior Secured	1	26,500,000	25,405,047
57629*FK2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		26,600,000	26,568,426	09/02/2020	09/02/2050	Interest Rate Swap			08194@-AF-4	Transpower New Zealand L Gtd Senior Note	1	26,600,000	26,568,426
57629*FK2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,200,000	11,997,902	09/02/2020	09/02/2050	Interest Rate Swap			Q1297#-AK-4	CSL Finance Pty Ltd Gtd Senior Note	1	13,200,000	11,997,902
57629*FK2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		41,663,620	39,795,232	09/02/2020	09/02/2050	Interest Rate Swap			20030N-AA-3	Comcast Corp-NOTE	1	41,663,620	39,795,232
57629*FK2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,045,000	1,938,488	09/02/2020	09/02/2050	Interest Rate Swap			05616Z-AQ-3	Babson CLO Ltd 2015-I-BABSN 2015-IA BR	1	2,045,000	1,938,488
57629*FK2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,900,000	16,594,616	09/02/2020	09/02/2050	Interest Rate Swap			03464A-AA*-1	Angel Oak Financial Stra Senior Note Series A	1	18,900,000	16,594,616
57629*FK2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,376,000	15,566,976	09/02/2020	09/02/2050	Interest Rate Swap			05707#-AA-9	Baird Financial Corporat Senior Secured Notes	1	16,376,000	15,566,976
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	200,000,000	262,999,992	203,152,145	07/08/2021	07/08/2051	Interest Rate Swap		(59,847,855)	57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	262,999,992	263,000,000
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	150,000,000	6,650,000	(39,209,530)	07/08/2021	07/08/2051	Interest Rate Swap		(45,435,659)	55954Y-AL-9	Magnetite XXVI Ltd-MAGNE 2020-26A BR	1	6,650,000	6,226,129
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,550,000	5,878,127	07/08/2021	07/08/2051	Interest Rate Swap			00190Y-BH-7	Ares XXVII CLO Ltd-ARES 2013-2A CR2	1	6,550,000	5,878,127
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,400,000	5,780,301	07/08/2021	07/08/2051	Interest Rate Swap			278300-AA-8	Eaton Vance CLO 2020-1 L-EATON 2020-1A CR	1	6,400,000	5,780,301
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,400,000	5,887,962	07/08/2021	07/08/2051	Interest Rate Swap			143133-AG-1	CGMS 2021-6A C	1	6,400,000	5,887,962
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,400,000	5,758,662	07/08/2021	07/08/2051	Interest Rate Swap			87168B-AG-5	SYMP 2021-28A C-SYMP 2021-28A C	1	6,400,000	5,758,662
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,400,000	5,791,744	07/08/2021	07/08/2051	Interest Rate Swap			12565E-AE-1	CIFC Funding Ltd-CIFC 2021-5A C	1	6,400,000	5,791,744
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,400,000	5,750,496	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	5,750,496
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,400,000	5,656,250	07/08/2021	07/08/2051	Interest Rate Swap			05685A-AJ-7	Bain Capital Credit CLO-BCC 2021-4A C	1	6,400,000	5,656,250
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,400,000	5,740,787	07/08/2021	07/08/2051	Interest Rate Swap			38136N-AU-0	Goldentree Loan Managem-GLM 2020-BA CR	1	6,400,000	5,740,787
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,100,000	5,497,082	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	5,497,082
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,050,000	5,587,937	07/08/2021	07/08/2051	Interest Rate Swap			05685A-AG-3	Bain Capital Credit CLO-BCC 2021-4A B	1	6,050,000	5,587,937
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,050,000	5,648,697	07/08/2021	07/08/2051	Interest Rate Swap			00119V-AQ-2	AGL CLO 6 LTD-AGL 2020-6A BR	1	6,050,000	5,648,697
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,700,000	5,344,799	07/08/2021	07/08/2051	Interest Rate Swap			13887T-AA-7	Canyon Capital CLO 2019-CANVC 2019-1A BR	1	5,700,000	5,344,799

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STATEMENT AS OF SEPTEMBER 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 Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,650,000	5,258,235	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	5,258,235
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,625,000	5,279,906	07/08/2021	07/08/2051	Interest Rate Swap				037666-AS-1	Apidos CLO XXVI-APID 2017-26A BR	1	5,625,000	5,279,906
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,300,000	4,968,527	07/08/2021	07/08/2051	Interest Rate Swap				48253U-AC-0	KKR-SERIES 34A CLASS B	1	5,300,000	4,968,527
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,300,000	4,925,211	07/08/2021	07/08/2051	Interest Rate Swap				09627F-AQ-3	BlueMountain CLO XXV Ltd-BLUEM 2019-25A BR	1	5,300,000	4,925,211
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,150,000	4,818,484	07/08/2021	07/08/2051	Interest Rate Swap				95023A-AC-4	Wellfleet CLO Ltd-WELF 2021-2A B	1	5,150,000	4,818,484
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,125,000	4,660,916	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	4,660,916
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,650,000	4,402,592	07/08/2021	07/08/2051	Interest Rate Swap				48661A-AL-0	KAYNE CLO I Ltd-KAYNE 2018-1A BR	1	4,650,000	4,402,592
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,600,000	4,223,265	07/08/2021	07/08/2051	Interest Rate Swap				29002V-AE-8	ELM10 2021-3A C-ELM10 2021-3A C	1	4,600,000	4,223,265
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,600,000	4,319,644	07/08/2021	07/08/2051	Interest Rate Swap				67110N-AP-0	OHA Credit Partners XIII-OAKC 2016-13A BR	1	4,600,000	4,319,644
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,500,000	4,037,013	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	4,037,013
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,500,000	3,870,491	07/08/2021	07/08/2051	Interest Rate Swap				83615P-AE-7	Sound Point Clo XXI Ltd-SNDPT 2021-3A C	1	4,500,000	3,870,491
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,500,000	4,174,533	07/08/2021	07/08/2051	Interest Rate Swap				29002H-AQ-2	Elmwood CLO III Ltd-ELMW3 2019-3A CR	1	4,500,000	4,174,533
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,500,000	4,102,173	07/08/2021	07/08/2051	Interest Rate Swap				33835N-AE-1	ASSURANT CLO LTD-MORGN 2018-3A CR	1	4,500,000	4,102,173
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,500,000	4,049,933	07/08/2021	07/08/2051	Interest Rate Swap				97316D-AG-1	Wind River CLO Ltd-WINDR 2021-3A C	1	4,500,000	4,049,933
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,400,000	3,998,000	07/08/2021	07/08/2051	Interest Rate Swap				48255A-AE-8	KKR CLO 36 Ltd-KKR 36A C	1	4,400,000	3,998,000
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,300,000	3,878,303	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	3,878,303
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,072,489	8,097,497	07/08/2021	07/08/2051	Interest Rate Swap				48253W-AA-0	KKR CLO 28 LTD-KKR 28A A	1	8,072,489	8,097,497
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,000,000	4,720,910	07/08/2021	07/08/2051	Interest Rate Swap				94950J-AC-5	Wellfleet CLO Ltd-SERIES 18-1A CLASS B	1	5,000,000	4,720,910
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		25,000,000	22,364,825	07/08/2021	07/08/2051	Interest Rate Swap				886758-AB-3	Tiger Global Management Senior Note Series B	1	25,000,000	22,364,825
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		16,000,000	16,000,000	07/08/2021	07/08/2051	Interest Rate Swap				186858-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	16,000,000	16,000,000
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	350,000,000	50,000,000	(61,256,837)	07/09/2021	07/09/2051	Interest Rate Swap		(109,114,387)		14316W-AA-7	Carlyle Global Market St-CGMS 2021-7A A1	1	50,000,000	47,857,550
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		48,500,000	46,535,944	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	46,535,944
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		45,100,000	43,045,785	07/09/2021	07/09/2051	Interest Rate Swap				05876L-AA-1	Ballyrook CDO Ltd-BALLY 2021-17A A1A	1	45,100,000	43,045,785
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,700,000	12,826,488	07/09/2021	07/09/2051	Interest Rate Swap				87168B-AE-0	SYMP-SYMP 2021-28A B	1	13,700,000	12,826,488
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,700,000	12,798,280	07/09/2021	07/09/2051	Interest Rate Swap				97316D-AC-0	Wind River CLO Ltd-WINDR 2021-3A B1	1	13,700,000	12,798,280
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,720,165	07/09/2021	07/09/2051	Interest Rate Swap				13876G-AL-2	Canyon Capital CLO 2017-CANVC 2017-1A BR	1	9,200,000	8,720,165
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,648,994	07/09/2021	07/09/2051	Interest Rate Swap				03330N-AK-0	Anchorage Capital Clo 11-ANCHC 2019-11A BR	1	9,200,000	8,648,994
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,633,050	07/09/2021	07/09/2051	Interest Rate Swap				03328W-AU-2	Anchorage Capital CLO 9 -ANCHC 2016-9A BR2	1	9,200,000	8,633,050
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,623,362	07/09/2021	07/09/2051	Interest Rate Swap				14316W-AC-3	Carlyle Global Market St-CGMS 2021-7A A2	1	9,200,000	8,623,362
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,588,890	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	8,588,890
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,616,610	07/09/2021	07/09/2051	Interest Rate Swap				04018X-AE-9	ARES CLO-ARES 2021-ALFA B	1	9,200,000	8,616,610

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STATEMENT AS OF SEPTEMBER 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		9,200,000	8,468,076	07/09/2021	07/09/2051	Interest Rate Swap			25255L-AC-6	Diameter Capital Clo 2 L-DCL0 2021-2A A2	1	9,200,000	8,468,076
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,625,248	07/09/2021	07/09/2051	Interest Rate Swap			125550-AS-5	CIFC Funding 2020-1 Ltd-CIFC 2020-1A BR	1	9,200,000	8,625,248
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	8,558,254	07/09/2021	07/09/2051	Interest Rate Swap			48253H-AQ-8	KKR CLO 26 Ltd-KKR 26 BR	1	9,200,000	8,558,254
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,100,000	8,280,418	07/09/2021	07/09/2051	Interest Rate Swap			86271P-AG-0	Strata CLO II Ltd-STRTA 2021-1A C	1	9,100,000	8,280,418
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,725,000	8,140,600	07/09/2021	07/09/2051	Interest Rate Swap			38136N-AS-5	Goldentree Loan Managem-GLM 2020-8A BR	1	8,725,000	8,140,600
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		16,947,070	16,200,026	07/09/2021	07/09/2051	Interest Rate Swap			13876N-AN-3	Canyon CLO 2020-2 Ltd-CANYC 2020-2A BR	1	16,947,070	16,200,026
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,800,000	7,334,239	07/09/2021	07/09/2051	Interest Rate Swap			143133-AE-6	CGMS 2021-6A B-CGMS 2021-6A B	1	7,800,000	7,334,239
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,375,000	6,870,130	07/09/2021	07/09/2051	Interest Rate Swap			13877P-AC-1	CANYC-2021-4A B	1	7,375,000	6,870,130
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,300,000	6,529,200	07/09/2021	07/09/2051	Interest Rate Swap			13875M-AE-6	Canyon CLO 2021-3 Ltd-CANYC 2021-3A C	1	7,300,000	6,529,200
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,300,000	6,970,369	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	6,970,369
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,200,000	6,703,625	07/09/2021	07/09/2051	Interest Rate Swap			97315V-AE-7	Wind River CLO Ltd-WINDR 2021-2A B	1	7,200,000	6,703,625
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,100,000	6,681,327	07/09/2021	07/09/2051	Interest Rate Swap			04019L-AN-4	ARES LI CLO Ltd-ARES 2019-51A BR	1	7,100,000	6,681,327
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,040,000	6,418,488	07/09/2021	07/09/2051	Interest Rate Swap			03328W-AW-8	Anchorage Capital CLO 9 -ANCHC 2016-9A CR2	1	7,040,000	6,418,488
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,000,000	6,491,009	07/09/2021	07/09/2051	Interest Rate Swap			61773K-AC-6	Morgan Stanley Eaton Van-MSEV 2021-1A B	1	7,000,000	6,491,009
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,000,000	6,603,814	07/09/2021	07/09/2051	Interest Rate Swap			00901A-AL-1	AIMCO CLO 10 Ltd-AIMCO 2019-10A BR	1	7,000,000	6,603,814
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,800,000	6,476,687	07/09/2021	07/09/2051	Interest Rate Swap			03762Y-AH-0	Apidos Clo XXV-APID 2016-25A A2R	1	6,800,000	6,476,687
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,750,000	6,275,475	07/09/2021	07/09/2051	Interest Rate Swap			50204A-AE-6	LCM LP-LCM 32A B	1	6,750,000	6,275,475
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		15,000,000	14,302,650	07/09/2021	07/09/2051	Interest Rate Swap			48251M-AS-5	KKR CLO 15 Ltd-KKR 15 A2R	1	15,000,000	14,302,650
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		15,000,000	14,292,045	07/09/2021	07/09/2051	Interest Rate Swap			55952Y-AR-8	Magnetite VIII Ltd-MAGNE 2014-8A BR2	1	15,000,000	14,292,045
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,500,000	8,928,347	07/09/2021	07/09/2051	Interest Rate Swap			48252W-AC-7	KKR CLO LTD 22-SERIES 22A CLASS B	1	9,500,000	8,928,347
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,625,800	8,672,846	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	8,672,846
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,659,409	7,647,124	07/09/2021	07/09/2051	Interest Rate Swap			86208*-AA-3	Stonehenge Cap Fund Conn VI Series 2021B-1	1	8,659,409	7,647,124
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,666,667	6,666,667	07/09/2021	07/09/2051	Interest Rate Swap			87289B-AD-0	TOP DLF VIII 2018 CLO, LLC - Class A-2 Secured Floating Rate Note	1	6,666,667	6,666,667
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,063,868	5,657,692	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	5,657,692
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,547,901	4,286,092	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	4,286,092
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,142,565	6,941,238	07/09/2021	07/09/2051	Interest Rate Swap			46655H-AD-5	JCP Direct Lending CLO 2022 LLC - Revolving Credit Facility Class B	1	7,142,565	6,941,238
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		2,214,838	2,093,022	07/09/2021	07/09/2051	Interest Rate Swap			86208B-AA-5	Stonehenge Capital Fund South Carolina IV, LLC Senior Structured Notes	1	2,214,838	2,093,022
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		2,666,667	2,666,667	07/09/2021	07/09/2051	Interest Rate Swap			87289B-AD-6	TOP DLF VIII 2018 CLO, LLC - Class B Secured Floating Rate Note	1	2,666,667	2,666,667
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		2,222,223	2,242,445	07/09/2021	07/09/2051	Interest Rate Swap			87289B-AE-4	TOP DLF VIII 2018 CLO, LLC - Class C Secured Floating Rate Note	1	2,222,223	2,242,445
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		31,000,000	31,000,000	07/09/2021	07/09/2051	Interest Rate Swap			18685B-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	31,000,000	31,000,000

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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	2Z	200,000,000	267,999,992	203,120,537	07/12/2021	07/12/2051	Interest Rate Swap	(64,879,463)		57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	267,999,992	268,000,000
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	350,000,000	50,000,000	(69,708,400)	07/21/2021	07/21/2051	Interest Rate Swap	(117,070,000)		83615P-AA-5	Sound Point Clo XXXI Ltd-SNDPT 2021-3A	1	50,000,000	47,361,600
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		50,000,000	47,906,550	07/21/2021	07/21/2051	Interest Rate Swap			95023A-AA-8	Wellfleet CLO Ltd-WELF 2021-2A A1	1	50,000,000	47,906,550
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		50,000,000	47,688,250	07/21/2021	07/21/2051	Interest Rate Swap			69702E-AA-3	Palmer Square CLO Ltd-PLMRS 2021-4A	1	50,000,000	47,688,250
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		50,000,000	47,826,800	07/21/2021	07/21/2051	Interest Rate Swap			03328J-AA-5	Anchorage Capital CLO 19-ANCHC 2021-19A A	1	50,000,000	47,826,800
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		50,000,000	47,925,000	07/21/2021	07/21/2051	Interest Rate Swap			42088A-AA-2	Hayfin US XII Ltd-HAYFN 2021-14A A1	1	50,000,000	47,925,000
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		56,201,919	54,080,381	07/21/2021	07/21/2051	Interest Rate Swap			87168B-AC-4	SYMP-SYMP 2021-28A A	1	56,201,919	54,080,381
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		50,000,000	47,710,050	07/21/2021	07/21/2051	Interest Rate Swap			67110N-AM-7	QHA Credit Partners XIII-OAKC 2016-13A AR	1	50,000,000	47,710,050
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		14,312,500	13,372,383	07/21/2021	07/21/2051	Interest Rate Swap			70470M-AE-5	Peace Park CLO Ltd-PCEPK 2021-1A B1	1	14,312,500	13,372,383
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		14,090,000	13,215,279	07/21/2021	07/21/2051	Interest Rate Swap			55822A-AN-7	Madison Park Funding XLV-MDPK 2020-46A B1R	1	14,090,000	13,215,279
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		10,000,000	9,366,120	07/21/2021	07/21/2051	Interest Rate Swap			13876R-AE-4	Canyon CLO 2020-3 Ltd-CANYC 2020-3A	1	10,000,000	9,366,120
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		10,000,000	9,484,680	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	9,484,680
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		10,000,000	9,336,920	07/21/2021	07/21/2051	Interest Rate Swap			13876X-AG-6	Canyon Capital CLO Ltd-CANYC 2021-2A B1	1	10,000,000	9,336,920
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,000,000	3,788,640	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	3,788,640
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,918,410	3,809,464	07/21/2021	07/21/2051	Interest Rate Swap			25255L-AA-0	Diameter Capital Clo 2 L-DCLC 2021-2A A1	1	3,918,410	3,809,464
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,050,000	3,762,887	07/21/2021	07/21/2051	Interest Rate Swap			00120B-AE-0	AGL CLO Ltd-AGL 2021-12A B	1	4,050,000	3,762,887
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,885,000	3,509,981	07/21/2021	07/21/2051	Interest Rate Swap			83012K-AE-7	SIXST-SERIES 2021-19A CLASS C	1	3,885,000	3,509,981
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,750,000	3,524,119	07/21/2021	07/21/2051	Interest Rate Swap			74980Q-AE-1	ALM Ltd/KY-RRAM 2021-17A A2	1	3,750,000	3,524,119
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,550,000	3,399,441	07/21/2021	07/21/2051	Interest Rate Swap			26251B-AN-6	Dryden XXVIII Senior Loa-DRSLF 2013-28A A2LR	1	3,550,000	3,399,441
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,600,000	3,244,604	07/21/2021	07/21/2051	Interest Rate Swap			67110N-AT-2	QHA Credit Partners XIII-OAKC 2016-13A CR	1	3,600,000	3,244,604
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,600,000	3,215,437	07/21/2021	07/21/2051	Interest Rate Swap			92918Q-AG-5	Voya CLO Ltd-VOYA 2021-1A C	1	3,600,000	3,215,437
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,525,000	3,176,018	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	3,176,018
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,500,000	3,200,442	07/21/2021	07/21/2051	Interest Rate Swap			55821L-AE-4	Madison Park Funding XXX-MDPK 2021-39A C	1	3,500,000	3,200,442
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,500,000	3,119,879	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	3,119,879
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,000,000	2,663,778	07/21/2021	07/21/2051	Interest Rate Swap			05684A-AU-3	Bain Capital Credit Clo -BCC 2019-4A CR	1	3,000,000	2,663,778
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		2,800,000	2,518,096	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	2,518,096
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		30,000,000	30,000,000	07/21/2021	07/21/2051	Interest Rate Swap			186858-AC-6	Cliffwater Corporate Lending Fund - Senior Secured Revolving Credit Facility	1	30,000,000	30,000,000
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	200,000,000	266,999,992	202,575,905	08/09/2021	08/09/2051	Interest Rate Swap	(64,424,095)		57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	266,999,992	267,000,000
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	300,000,000	399,999,988	303,501,550	08/09/2021	08/09/2051	Interest Rate Swap	(96,498,450)		57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	399,999,988	400,000,000
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	250,000,000	330,999,990	253,537,583	08/10/2021	08/10/2051	Interest Rate Swap	(77,462,417)		57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	330,999,990	331,000,000
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	200,000,000	264,999,992	203,103,508	08/10/2021	08/10/2051	Interest Rate Swap	(61,896,492)		57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	264,999,992	265,000,000

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STATEMENT AS OF SEPTEMBER 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 Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	300,000,000	395,999,988	302,934,938	08/10/2021	08/10/2051	Interest Rate Swap	(93,065,062)		57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	395,999,988	396,000,000
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	250,000,000	331,999,990	253,757,271	08/10/2021	08/10/2051	Interest Rate Swap	(78,242,729)		57542Z-A9-8	MM Investment Holding Revolver Fixed Line	2	331,999,990	332,000,000
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z	200,000,000	23,791,321	(41,916,585)	08/23/2021	08/23/2051	Interest Rate Swap	(65,707,906)		482480-MM-7	KKR Eagle Asset Term Loan A	1	23,791,321	23,791,321
Need to File with the NAIC	Evergreen Basket 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 Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z		38,495,551	38,495,551	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	38,495,551	38,495,551
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z		29,289,474	29,134,239	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	29,134,239
Need to File with the NAIC	Evergreen Basket 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 Basket 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 Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z		42,267,279	42,267,279	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	42,267,279	42,267,279
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z		27,806,739	26,052,172	08/23/2021	08/23/2051	Interest Rate Swap			22822R-BH-2	Crown Castle Towers LLC-SECURED	1	27,806,739	26,052,172
Need to File with the NAIC	Evergreen Basket 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
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2Z		3,726,545	3,703,436	08/23/2021	08/23/2051	Interest Rate Swap			871980-AE-8	Symphony CLO 35 Ltd-SYMP 2022-35A B1	1	3,726,545	3,703,436
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z	250,000,000	200,000,000	138,711,330	07/13/2022	07/13/2052	Interest Rate Swap	19,661,530		92203F-AY-4	Yanguard Group, Inc. Senior Notes Series K	1	200,000,000	119,049,800
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		100,000,000	68,442,300	07/13/2022	07/13/2052	Interest Rate Swap			45774*-AA-7	Inova Health System Four Senior Unsecured Notes	1	100,000,000	68,442,300
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		81,727,249	65,980,288	07/13/2022	07/13/2052	Interest Rate Swap			36321P-AC-4	Galaxy Pipeline Assets B-SECURED	1	81,727,249	65,980,288
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z	250,000,000	76,179,279	83,218,378	07/13/2022	07/13/2052	Interest Rate Swap	19,590,753		82620K-AT-0	SIEMENS FINANCIERINGSMAT-SENIOR UNSECURED	1	76,179,279	63,627,625
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		72,249,866	57,056,492	07/13/2022	07/13/2052	Interest Rate Swap			585055-BU-9	MEDTRONIC INC-SR UNSECURED	1	72,249,866	57,056,492
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		65,932,516	56,427,688	07/13/2022	07/13/2052	Interest Rate Swap			278865-AM-2	Ecolab Inc-SENIOR UNSECURED NOTE	1	65,932,516	56,427,688
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		62,600,000	52,695,303	07/13/2022	07/13/2052	Interest Rate Swap			955278-C*-5	West Penn Power Company First Mortgage	1	62,600,000	52,695,303
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		15,489,901	15,634,559	07/13/2022	07/13/2052	Interest Rate Swap			582839-AF-3	MEAD JOHNSON NUTRITION C-SENIOR UNSECURED NOTE	1	15,489,901	15,634,559
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z	250,000,000	61,040,631	72,291,404	07/13/2022	07/13/2052	Interest Rate Swap	20,156,966		141781-BF-0	CARGILL INC-SR UNSECURED	1	61,040,631	52,134,438
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		44,851,960	50,021,597	07/13/2022	07/13/2052	Interest Rate Swap			54246#-AA-5	Long Beach Judicial Part Senior Secured	1	44,851,960	50,021,597
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		53,572,425	49,645,623	07/13/2022	07/13/2052	Interest Rate Swap			038222-AG-0	APPLIED MATERIALS INC-SENIOR UNSECURED NOTE	1	53,572,425	49,645,623
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		59,803,046	49,017,420	07/13/2022	07/13/2052	Interest Rate Swap			478165-AG-8	JOHNSON (S.C.) & SON INC-SENIOR UNSECURED NOTE	1	59,803,046	49,017,420
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		37,852,628	33,975,142	07/13/2022	07/13/2052	Interest Rate Swap			110122-DJ-4	Bristol-Myers Squibb Co-SENIOR UNSECURED	1	37,852,628	33,975,142
Need to File with the NAIC	Evergreen Basket of Floating Rate Corporate Bonds	1Z		17,689,467	17,854,666	07/13/2022	07/13/2052	Interest Rate Swap			582839-AF-3	MEAD JOHNSON NUTRITION C-SENIOR UNSECURED NOTE	1	17,689,467	17,854,666
999999999 - Totals				26,000,285,898	20,016,316,600	XXX	XXX	XXX	(1,043,928)	(4,726,464,500)	XXX	XXX	XXX	26,001,329,826	24,742,781,100

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STATEMENT AS OF SEPTEMBER 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	97	18,804,783,424			119	21,873,158,424
2. Add: Opened or Acquired Transactions	4	95,000,000	1	233,593,750	9	2,122,104,049			14	2,450,697,799
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	10	1,466,189,675			37	4,863,158,425
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	96	19,460,697,798			96	19,460,697,798

STATEMENT AS OF SEPTEMBER 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.....	10,317,972,834
2. Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance.....
3. Total (Line 1 plus Line 2).....	10,317,972,834
4. Part D, Section 1, Column 6.....	23,744,148,949
5. Part D, Section 1, Column 7.....	(13,597,414,452)
6. Total (Line 3 minus Line 4 minus Line 5).....	171,238,337
	Fair Value Check
7. Part A, Section 1, Column 16.....	5,592,552,262
8. Part B, Section 1, Column 13.....	(171,238,334)
9. Total (Line 7 plus Line 8).....	5,421,313,928
10. Part D, Section 1, Column 9.....	23,883,179,634
11. Part D, Section 1, Column 10.....	(18,461,865,707)
12. Total (Line 9 minus Line 10 minus Line 11).....	1
	Potential Exposure Check
13. Part A, Section 1, Column 21.....	4,680,239,937
14. Part B, Section 1, Column 20.....	136,719,406
15. Part D, Section 1, Column 12.....	4,816,959,342
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	139,576,560,634	187,354,954,014
3. Accrual of discount		
4. Unrealized valuation increase (decrease)	24,710,378	5,476,968
5. Total gain (loss) on disposals	(5,059,542)	589,492
6. Deduct consideration received on disposals	138,208,796,207	188,839,821,599
7. Deduct amortization of premium		
8. Total foreign exchange change in book/adjusted carrying value		
9. Deduct current year's other than temporary impairment recognized		
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9)	3,161,524,136	1,774,108,873
11. Deduct total nonadmitted amounts		
12. Statement value at end of current period (Line 10 minus Line 11)	3,161,524,136	1,774,108,873