



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

QUARTERLY STATEMENT

AS OF SEPTEMBER 30, 2020
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 Cheryl Kohlenberger 617-235-0122
(Name) (Area Code) (Telephone Number)
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(E-mail Address) (FAX Number)

OFFICERS

President and Chief Executive Officer Roger William Crandall Treasurer Todd Garrett Picken
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 Pia Denise Flanagan, Chief Operating Officer of CARE
Susan Marie Cicco, Head of Human Resources & Employee Experience Michael James O'Connor, General Counsel Gareth Fielding Ross, Head of Enterprise Technology & Experience

DIRECTORS OR TRUSTEES

Roger William Crandall - Chairman Karen Hall Bechtel Mark Thomas Bertolini
Kathleen Ann Corbet James Henry DeGraffenreidt, Jr. Isabella Davidov Goren
Jeffrey Marc Leiden Laura Jeanne Sen William Taylor Spitz
Howard Todd Stitzer - Lead Director Shelley Beth Leibowitz

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

Todd Garrett Picken
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, 2020 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	119,579,830,510		119,579,830,510	101,906,630,889
2. Stocks:				
2.1 Preferred stocks	550,010,495		550,010,495	748,884,136
2.2 Common stocks	19,132,662,659	189,047	19,132,473,612	18,155,623,985
3. Mortgage loans on real estate:				
3.1 First liens	28,095,368,983		28,095,368,983	27,472,894,866
3.2 Other than first liens				
4. Real estate:				
4.1 Properties occupied by the company (less \$ encumbrances)	237,488,453		237,488,453	209,287,678
4.2 Properties held for the production of income (less \$ 950,615,045 encumbrances)	102,473,018		102,473,018	148,924,938
4.3 Properties held for sale (less \$ encumbrances)				
5. Cash (\$ 484,895,140), cash equivalents (\$ 3,584,238,849) and short-term investments (\$ 5,480,358,939)	9,549,492,928		9,549,492,928	3,793,098,998
6. Contract loans (including \$ premium notes)	15,499,214,780	487,038	15,498,727,742	14,724,907,074
7. Derivatives	25,348,246,291		25,348,246,291	12,063,706,294
8. Other invested assets	9,238,730,991	55,579,228	9,183,151,763	9,011,826,432
9. Receivables for securities	895,858,667		895,858,667	2,037,001,924
10. Securities lending reinvested collateral assets				
11. Aggregate write-ins for invested assets				
12. Subtotals, cash and invested assets (Lines 1 to 11)	228,229,377,775	56,255,313	228,173,122,462	190,272,787,214
13. Title plants less \$ charged off (for Title insurers only)				
14. Investment income due and accrued	2,937,758,907	4,728,090	2,933,030,818	2,686,542,135
15. Premiums and considerations:				
15.1 Uncollected premiums and agents' balances in the course of collection	153,332,350	17,489,412	135,842,938	166,485,191
15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due (including \$ earned but unbilled premiums)	778,057,646		778,057,646	848,612,345
15.3 Accrued retrospective premiums (\$) and contracts subject to redetermination (\$)				
16. Reinsurance:				
16.1 Amounts recoverable from reinsurers	71,043,868	25,208	71,018,660	37,140,266
16.2 Funds held by or deposited with reinsured companies				
16.3 Other amounts receivable under reinsurance contracts	33,148,855		33,148,855	40,267,993
17. Amounts receivable relating to uninsured plans				
18.1 Current federal and foreign income tax recoverable and interest thereon				
18.2 Net deferred tax asset	355,944,324		355,944,324	1,108,192,574
19. Guaranty funds receivable or on deposit	15,550,472		15,550,472	16,042,391
20. Electronic data processing equipment and software	281,005,076	261,697,926	19,307,150	16,516,928
21. Furniture and equipment, including health care delivery assets (\$)	58,761,407	58,761,407		
22. Net adjustment in assets and liabilities due to foreign exchange rates				
23. Receivables from parent, subsidiaries and affiliates	56,287,633		56,287,633	80,437,664
24. Health care (\$) and other amounts receivable				
25. Aggregate write-ins for other than invested assets	3,489,098,716	1,004,564,097	2,484,534,618	2,745,562,008
26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)	236,459,367,030	1,403,521,453	235,055,845,577	198,018,586,709
27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts	72,005,402,184		72,005,402,184	70,230,699,186
28. Total (Lines 26 and 27)	308,464,769,214	1,403,521,453	307,061,247,761	268,249,285,895
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	2,321,654,051		2,321,654,051	2,289,698,680
2502. Fully refundable deposits, prepayments and miscellaneous assets	141,039,980	44,771,697	96,268,283	387,073,981
2503. Employee insurance plan advances	41,013,872	12,175	41,001,697	41,116,887
2598. Summary of remaining write-ins for Line 25 from overflow page	985,390,813	959,780,226	25,610,587	27,672,460
2599. Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	3,489,098,716	1,004,564,097	2,484,534,618	2,745,562,008

STATEMENT AS OF SEPTEMBER 30, 2020 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 \$ 135,343,599,315 less \$ included in Line 6.3 (including \$ 135,462,340 Modco Reserve)	135,343,599,315	127,404,910,418
2. Aggregate reserve for accident and health contracts (including \$ Modco Reserve)	3,195,545,718	3,074,252,813
3. Liability for deposit-type contracts (including \$ Modco Reserve)	17,931,536,630	15,296,773,875
4. Contract claims:		
4.1 Life	555,794,555	395,457,118
4.2 Accident and health	31,009,991	28,571,378
5. Policyholders' dividends/refunds to members \$ 1,743,851 and coupons \$ due and unpaid	1,743,851	5,418,002
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)	1,749,024,144	1,678,330,958
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 \$ 10,023,271 accident and health premiums	56,543,686	38,780,694
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	16,780,023	10,737,816
9.3 Other amounts payable on reinsurance, including \$ 16,950,675 assumed and \$ 44,016,068 ceded	60,966,743	32,432,419
9.4 Interest Maintenance Reserve	1,726,931,981	438,181,103
10. Commissions to agents due or accrued-life and annuity contracts \$ 29,868,342 , accident and health \$ 316,254 and deposit-type contract funds \$ 12,891,904	43,076,501	31,267,218
11. Commissions and expense allowances payable on reinsurance assumed	3,592,876	3,509,387
12. General expenses due or accrued	1,157,534,483	1,213,851,888
13. Transfers to Separate Accounts due or accrued (net) (including \$ (99,086,081) accrued for expense allowances recognized in reserves, net of reinsured allowances)	(110,698,500)	(134,499,953)
14. Taxes, licenses and fees due or accrued, excluding federal income taxes	54,800,808	74,722,727
15.1 Current federal and foreign income taxes, including \$ (236,821,944) on realized capital gains (losses)	75,674,178	22,586,267
15.2 Net deferred tax liability		
16. Unearned investment income	309,314,950	194,435,521
17. Amounts withheld or retained by reporting entity as agent or trustee	41,003,192	38,020,441
18. Amounts held for agents' account, including \$ agents' credit balances	376,218,501	392,163,578
19. Remittances and items not allocated	(291,553,392)	777,472,078
20. Net adjustment in assets and liabilities due to foreign exchange rates		
21. Liability for benefits for employees and agents if not included above	201,480,094	198,284,548
22. Borrowed money \$ 249,982,000 and interest thereon \$	249,982,000	249,869,729
23. Dividends to stockholders declared and unpaid		
24. Miscellaneous liabilities:		
24.01 Asset valuation reserve	5,281,003,607	4,670,184,316
24.02 Reinsurance in unauthorized and certified (\$) companies	5,901,134	162,371
24.03 Funds held under reinsurance treaties with unauthorized and certified (\$) reinsurers	6,309,030,698	
24.04 Payable to parent, subsidiaries and affiliates	22,511,356	32,575
24.05 Drafts outstanding		
24.06 Liability for amounts held under uninsured plans		
24.07 Funds held under coinsurance	4,405,120,750	4,252,254,372
24.08 Derivatives	19,313,331,974	9,608,418,011
24.09 Payable for securities	689,797,422	
24.10 Payable for securities lending		
24.11 Capital notes \$ and interest thereon \$		
25. Aggregate write-ins for liabilities	13,636,325,848	9,129,094,870
26. Total liabilities excluding Separate Accounts business (Lines 1 to 25)	212,442,925,117	179,125,676,538
27. From Separate Accounts Statement	72,005,402,184	70,230,699,186
28. Total liabilities (Lines 26 and 27)	284,448,327,302	249,356,375,724
29. Common capital stock		
30. Preferred capital stock		
31. Aggregate write-ins for other than special surplus funds		
32. Surplus notes	3,772,729,993	2,235,399,709
33. Gross paid in and contributed surplus		
34. Aggregate write-ins for special surplus funds	3,150,294	3,256,298
35. Unassigned funds (surplus)	18,837,040,172	16,654,254,164
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 \$ in Separate Accounts Statement)	22,612,920,459	18,892,910,171
38. Totals of Lines 29, 30 and 37	22,612,920,459	18,892,910,171
39. Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3)	307,061,247,761	268,249,285,895
DETAILS OF WRITE-INS		
2501. Derivative collateral	6,435,999,994	3,285,024,061
2502. Repurchase agreements	5,144,838,180	3,845,289,040
2503. Derivative accrued interest	1,956,697,168	1,894,857,257
2598. Summary of remaining write-ins for Line 25 from overflow page	98,790,507	103,924,512
2599. Totals (Lines 2501 through 2503 plus 2598)(Line 25 above)	13,636,325,848	9,129,094,870
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. Miscellaneous	(99,706)	6,298
3498. Summary of remaining write-ins for Line 34 from overflow page		
3499. Totals (Lines 3401 through 3403 plus 3498)(Line 34 above)	3,150,294	3,256,298

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	19,965,555,337	16,454,608,645	22,752,212,483
2. Considerations for supplementary contracts with life contingencies	33,860,634	17,462,747	28,590,209
3. Net investment income	5,459,458,171	5,352,985,106	7,682,463,670
4. Amortization of Interest Maintenance Reserve (IMR)	40,052,139	15,754,476	10,699,953
5. Separate Accounts net gain from operations excluding unrealized gains or losses			
6. Commissions and expense allowances on reinsurance ceded	278,063,048	176,202,165	287,604,065
7. Reserve adjustments on reinsurance ceded	(10,324,992)	(13,089,420)	(33,004,043)
8. Miscellaneous Income:			
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	300,694,605	298,607,524	402,141,262
8.2 Charges and fees for deposit-type contracts			
8.3 Aggregate write-ins for miscellaneous income	407,152,065	531,609,458	724,320,590
9. Totals (Lines 1 to 8.3)	26,474,511,006	22,834,140,701	31,855,028,189
10. Death benefits	1,683,682,943	1,571,967,229	2,032,965,426
11. Matured endowments (excluding guaranteed annual pure endowments)	11,958,902	13,083,646	17,173,120
12. Annuity benefits	1,785,106,481	1,618,125,010	2,198,346,477
13. Disability benefits and benefits under accident and health contracts	288,232,648	280,486,261	373,206,297
14. Coupons, guaranteed annual pure endowments and similar benefits			
15. Surrender benefits and withdrawals for life contracts	12,967,931,868	14,721,381,534	19,529,326,111
16. Group conversions			
17. Interest and adjustments on contract or deposit-type contract funds	355,146,807	303,785,561	416,137,455
18. Payments on supplementary contracts with life contingencies	15,781,673	12,312,831	17,210,071
19. Increase in aggregate reserves for life and accident and health contracts	8,116,008,075	5,063,130,882	8,429,331,327
20. Totals (Lines 10 to 19)	25,223,849,397	23,584,272,954	33,013,696,284
21. Commissions on premiums, annuity considerations, and deposit-type contract funds (direct business only)	768,017,611	717,018,030	995,608,854
22. Commissions and expense allowances on reinsurance assumed	43,403,059	54,376,578	71,517,738
23. General insurance expenses and fraternal expenses	1,659,850,748	1,699,747,103	2,387,273,112
24. Insurance taxes, licenses and fees, excluding federal income taxes	201,355,651	203,929,874	271,331,349
25. Increase in loading on deferred and uncollected premiums	34,603,130	(26,102,125)	(11,544,534)
26. Net transfers to or (from) Separate Accounts net of reinsurance	(1,364,493,708)	(3,682,704,205)	(6,020,187,105)
27. Aggregate write-ins for deductions	(427,016,017)	(789,493,644)	(969,782,095)
28. Totals (Lines 20 to 27)	26,139,569,871	21,761,044,564	29,737,913,603
29. Net gain from operations before dividends to policyholders and federal income taxes (Line 9 minus Line 28)	334,941,135	1,073,096,135	2,117,114,586
30. Dividends to policyholders and refunds to members	1,227,299,841	1,236,750,225	1,671,109,490
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	(892,358,706)	(163,654,090)	446,005,096
32. Federal and foreign income taxes incurred (excluding tax on capital gains)	(236,382,897)	(76,001,287)	(14,965,399)
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	(655,975,810)	(87,652,803)	460,970,495
34. Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital gains tax of \$ 75,536,723 (excluding taxes of \$ 102,125,624 transferred to the IMR)	(394,139,037)	132,031,186	(36,723,981)
35. Net income (Line 33 plus Line 34)	(1,050,114,847)	44,378,383	424,246,514
CAPITAL AND SURPLUS ACCOUNT			
36. Capital and surplus, December 31, prior year	18,892,910,171	15,609,786,669	15,609,786,669
37. Net income (Line 35)	(1,050,114,847)	44,378,383	424,246,514
38. Change in net unrealized capital gains (losses) less capital gains tax of \$ 704,449,025	3,537,541,491	5,174,249,031	3,433,085,448
39. Change in net unrealized foreign exchange capital gain (loss)	200,135,871	(467,521,787)	282,236,801
40. Change in net deferred income tax	4,676,525	(47,280,215)	(55,178,457)
41. Change in nonadmitted assets	72,184,091	750,656,665	747,091,623
42. Change in liability for reinsurance in unauthorized and certified companies	(5,738,762)	13,567	26,971
43. Change in reserve on account of change in valuation basis, (increase) or decrease	17,700,000		
44. Change in asset valuation reserve	(610,819,291)	(1,760,455,562)	(1,363,364,249)
45. Change in treasury stock			
46. Surplus (contributed to) withdrawn from Separate Accounts during period			
47. Other changes in surplus in Separate Accounts Statement			
48. Change in surplus notes	1,537,330,284	360,907	(32,696,502)
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	17,114,926	(67,641,561)	(152,324,647)
54. Net change in capital and surplus for the year (Lines 37 through 53)	3,720,010,288	3,626,759,429	3,283,123,502
55. Capital and surplus, as of statement date (Lines 36 + 54)	22,612,920,459	19,236,546,098	18,892,910,171
DETAILS OF WRITE-INS			
08.301. Management and administrative fees	222,488,557	218,055,401	296,192,756
08.302. Experience refunds on reinsurance contracts	78,193,610	101,737,407	139,598,736
08.303. Change in corporate owned life insurance	39,363,943	127,827,585	174,697,108
08.398. Summary of remaining write-ins for Line 8.3 from overflow page	67,105,955	83,989,065	113,831,990
08.399. Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above)	407,152,065	531,609,458	724,320,590
2701. Change in reserves due reinsurance agreement	(695,829,528)	(1,004,362,315)	(1,271,061,635)
2702. Market value adjustment transfer	(12,435,593)	(4,562,564)	(8,147,124)
2703. Reinsurance ceded adjustment	(10,385,812)	(10,359,059)	(13,812,078)
2798. Summary of remaining write-ins for Line 27 from overflow page	291,634,916	229,790,294	323,238,742
2799. Totals (Lines 2701 through 2703 plus 2798)(Line 27 above)	(427,016,017)	(789,493,644)	(969,782,095)
5301. Other changes in surplus	27,600,444	(57,288,800)	(70,447,207)
5302. Reinsurance ceded adjustment	(10,385,812)	(10,359,059)	(13,812,078)
5303. Miscellaneous	(99,706)	6,298	6,298
5398. Summary of remaining write-ins for Line 53 from overflow page			(68,071,660)
5399. Totals (Lines 5301 through 5303 plus 5398)(Line 53 above)	17,114,926	(67,641,561)	(152,324,647)

STATEMENT AS OF SEPTEMBER 30, 2020 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	15,953,581,072	15,978,461,200	21,735,866,524
2. Net investment income	5,490,758,083	6,390,522,793	8,303,151,927
3. Miscellaneous income	930,217,772	846,297,563	1,243,499,726
4. Total (Lines 1 to 3)	22,374,556,927	23,215,281,556	31,282,518,177
5. Benefit and loss related payments	17,532,650,560	18,608,973,997	24,526,302,847
6. Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts	(1,706,228,958)	(3,691,788,186)	(5,814,454,588)
7. Commissions, expenses paid and aggregate write-ins for deductions	2,070,415,379	1,738,601,583	2,545,220,039
8. Dividends paid to policyholders	1,162,607,149	1,182,617,004	1,700,081,097
9. Federal and foreign income taxes paid (recovered) net of \$ 123,378,234 tax on capital gains (losses)	(101,095,685)	(328,492,022)	(551,870,216)
10. Total (Lines 5 through 9)	18,958,348,445	17,509,912,376	22,405,279,179
11. Net cash from operations (Line 4 minus Line 10)	3,416,208,482	5,705,369,180	8,877,238,998
Cash from Investments			
12. Proceeds from investments sold, matured or repaid:			
12.1 Bonds	15,073,059,698	16,607,576,083	22,233,455,081
12.2 Stocks	480,607,992	762,692,533	844,400,761
12.3 Mortgage loans	2,335,166,834	1,774,192,875	2,418,102,264
12.4 Real estate	952,949	190,962,861	191,891,888
12.5 Other invested assets	830,011,525	666,940,848	1,206,661,774
12.6 Net gains or (losses) on cash, cash equivalents and short-term investments	(2,705,591)	12,263,443	(12,802,156)
12.7 Miscellaneous proceeds	2,936,361,982	866,903,605	12,959,009
12.8 Total investment proceeds (Lines 12.1 to 12.7)	21,653,455,389	20,881,532,248	26,894,668,621
13. Cost of investments acquired (long-term only):			
13.1 Bonds	27,944,687,401	19,637,381,958	25,866,569,075
13.2 Stocks	295,814,179	1,574,604,408	1,647,109,000
13.3 Mortgage loans	3,334,222,028	4,213,033,622	6,210,548,424
13.4 Real estate	75,314,251	77,845,469	119,647,233
13.5 Other invested assets	1,056,498,071	901,588,542	1,368,483,874
13.6 Miscellaneous applications	(344,616,625)	138,058,882	384,097,084
13.7 Total investments acquired (Lines 13.1 to 13.6)	32,361,919,305	26,542,512,881	35,596,454,690
14. Net increase (or decrease) in contract loans and premium notes	773,587,417	683,467,845	851,895,379
15. Net cash from investments (Line 12.8 minus Line 13.7 and Line 14)	(11,482,051,333)	(6,344,448,478)	(9,553,681,448)
Cash from Financing and Miscellaneous Sources			
16. Cash provided (applied):			
16.1 Surplus notes, capital notes	697,116,000		(39,146,661)
16.2 Capital and paid in surplus, less treasury stock			
16.3 Borrowed funds	357,715	149,410	187,979
16.4 Net deposits on deposit-type contracts and other insurance liabilities	2,670,361,795	(358,451,336)	867,590,741
16.5 Dividends to stockholders			
16.6 Other cash provided (applied)	10,454,401,271	1,793,126,940	(677,094,357)
17. Net cash from financing and miscellaneous sources (Line 16.1 through Line 16.4 minus Line 16.5 plus Line 16.6)	13,822,236,781	1,434,825,014	151,537,702
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)	5,756,393,930	795,745,716	(524,904,748)
19. Cash, cash equivalents and short-term investments:			
19.1 Beginning of year	3,793,098,998	4,318,003,746	4,318,003,746
19.2 End of period (Line 18 plus Line 19.1)	9,549,492,928	5,113,749,462	3,793,098,998

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

20.0001. Premium income recognized for individual annuity contracts	3,735,959,600		
20.0002. Bonds received as consideration for individual annuity contracts	3,720,041,355		
20.0003. Premium income recognized for a group annuity contracts	923,956,529	598,727,705	916,910,574
20.0004. Bonds received as consideration for group annuity contract	923,956,529	641,637,984	1,241,901,840
20.0005. Surplus notes issued in exchange for bonds	837,205,167		
20.0006. Bonds received as consideration for surplus notes	837,205,167		
20.0007. Bond conversions and refinancing	583,990,675	672,857,729	1,025,338,604
20.0008. Transfer of mortgage loans to partnerships and LLCs	353,344,560	95,320,520	96,116,616
20.0009. Stock conversion	62,351,123	63,847,077	67,534,530
20.0010. Assets received in-kind for bond maturity	56,730,564		

STATEMENT AS OF SEPTEMBER 30, 2020 OF THE Massachusetts Mutual Life Insurance Company

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

20.0011. Change in market value of corporate owned life insurance	39,762,440	128,203,773	175,204,250
20.0012. Partnerships and LLCs received as consideration for individual annuity contracts	14,990,245		
20.0013. Net investment income payment in-kind bonds	7,693,671	5,321,348	5,399,567
20.0014. Preferred stock received as consideration for individual annuity contracts	928,000		
20.0015. Transfer of stocks to partnerships	406,070		
20.0016. Dividend reinvestment	93,790	2,891,602	2,891,602
20.0017. Transfer of other invested assets to other than invested assets		506,621	
20.0018. Stock distributions to other than invested assets		268,168	268,168
20.0019. Net investment income payment in-kind stocks		78,219	78,219
20.0020. Transfer of common stocks - subsidiaries and affiliated to other than invested assets		52,176	52,176

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	6,260,496,730	6,360,441,489	9,249,446,921
3. Ordinary individual annuities	5,504,451,858	2,374,408,590	3,776,196,851
4. Credit life (group and individual)			
5. Group life insurance	87,611,528	78,888,587	102,931,648
6. Group annuities	12,064,428,823	8,156,189,272	11,488,234,506
7. A & H - group	308,658	291,093	347,479
8. A & H - credit (group and individual)			
9. A & H - other	569,860,825	565,462,043	761,476,127
10. Aggregate of all other lines of business			
11. Subtotal (Lines 1 through 10)	24,487,158,422	17,535,681,074	25,378,633,532
12. Fraternal (Fraternal Benefit Societies Only)			
13. Subtotal (Lines 11 through 12)	24,487,158,422	17,535,681,074	25,378,633,532
14. Deposit-type contracts	5,868,271,485	3,892,267,385	5,736,348,965
15. Total (Lines 13 and 14)	30,355,429,907	21,427,948,459	31,114,982,497
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 #	2020	2019
NET INCOME					
(1) State basis (Page 4, Line 35, Columns 1 & 3)	XXX	XXX	XXX	\$ (1,050,114,847)	\$ 424,246,514
(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>(1,050,114,847)</u>	\$ <u>424,246,514</u>
SURPLUS					
(5) State basis (Page 3, Line 38, Columns 1 & 2)	XXX	XXX	XXX	\$ 22,612,920,459	\$ 18,892,910,171
(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>22,612,920,459</u>	\$ <u>18,892,910,171</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, 2020, 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	\$ 30,267,444	\$ 30,267,444	\$ (30,267,444)
Total	<u>\$ 30,267,444</u>	<u>\$ 30,267,444</u>	

Of the \$30,267,444 increase to surplus for prior years' errors, \$30,267,444 was recorded as prior period adjustments, net of taxes.

NOTES TO FINANCIAL STATEMENTS

For the nine months ended September 30, 2019, 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
Contract claims and other benefits	(5,200,429)	(5,200,429)	5,200,429
Liabilities for deposit-type contracts	42,188,338	42,188,338	(42,188,338)
Other than invested assets	(4,564,234)	113,935,766	113,935,766
Policyholders' reserves	(82,225,275)	(82,225,275)	82,225,275
Other liabilities	(7,282,586)	(7,282,586)	7,282,586
Total	<u>\$ (57,084,186)</u>	<u>\$ 61,415,814</u>	

Of the \$61,415,814 increase to surplus for prior years' errors, \$57,084,186 was recorded as prior period adjustments with an additional amount of \$118,500,000 that was recorded as a change in nonadmitted assets, net of taxes.

b. Adoption of new accounting standards:

In June 2016, the NAIC adopted modifications to Statements of Statutory Accounting Principles (SSAP) No. 51R, Life Contracts, to incorporate references to the Valuation Manual and to facilitate the implementation of principles-based reserving (PBR), which were effective on January 1, 2017. The adoption of PBR only applies to new life insurance policies issued after January 1, 2017, however the Company adopted these revisions to SSAP No. 51R using the 3-year phased in approach as of January 1, 2020. Prior to adoption, the Company used formulas and assumptions to determine reserves as prescribed by state laws and regulations. Under PBR, the Company is required to hold the higher of (a) the reserve using prescribed factors and (b) the PBR reserve which considers a wide range of future economic conditions, computed using justified company experience factors, such as mortality, policyholder behavior and expenses. At the time of adoption, the modifications did not have a material effect on the Company's total life reserves and surplus in the financial statements.

In April 2019, the NAIC adopted modifications to SSAP No. 16R, Electronic Data Processing Equipment and Software, effective January 1, 2020, the Company elected to early adopt effective April 1, 2019. This guidance aligns and clarifies the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract, with the requirement for capitalizing implementation costs incurred to develop or obtain internal-use software. Costs for implementation activities in the application development stage is capitalized, depending on the nature of the costs and would be nonadmitted, while costs incurred during preliminary project or post implementation stages are expensed as incurred. The amendments also require the entity to expense the capitalized implementation costs of a hosting arrangement that is a service contract over the lesser of the expected term of the hosting arrangement or five years. The Company adopted this guidance on a prospective basis and the adoption did not have a material impact to its financial statements.

In August 2019, the NAIC adopted modifications to SSAP No. 51R, Life Contracts, to incorporate references to the Valuation Manual and to facilitate the implementation of PBR. The adoption, effective January 1, 2020, only applies to certain annuity products and includes enforce policies issued after 1980. Prior to adoption, the Company used formulas and assumptions to determine reserves as prescribed by state laws and regulations. Under PBR, the aggregate reserve for contracts falling within the scope of these requirements shall equal the stochastic reserve plus the additional standard projection amount less the projected interest maintenance reserve included in the starting assets. These requirements constitute the Commissioners Annuity Reserve Valuation Method for all contracts encompassed by the scope. The modifications did not have a material effect on the Company's total annuity reserves and surplus in the financial statements.

In April 2020, the NAIC adopted modifications to SSAP Nos. 15, 22R and 86. These revisions adopt Financial Accounting Standards Board Accounting Standard Update No. 2020-04 Reference Rate Reform, which applies only to contracts, hedging relationships, and other transactions that reference London Inter-Bank Offered Rate (LIBOR) or another reference rate expected to be discontinued because of reference rate reform. Optional expedients allow entities (under certain circumstances) to avoid having to remeasure contracts or reassess a previous accounting determination for hedged items. The guidance is effective through December 31, 2022. The Company has adopted this guidance and the adoption did not have a material impact on its financial statements.

In April 2020, the NAIC adopted modifications to SSAP Nos. 6, 47, 51R and 65. This guidance extends the 90-Day Rule due to the impacts of COVID-19 and provides exception to the 90-day past due rule for nonadmittance required in SSAP No. 6 for premiums, SSAP No. 47 for uncollected uninsured plan receivables, SSAP No. 51R for life premiums and SSAP No. 65 for high deductible policies. It was applicable only for the first and second quarters of 2020 and expired on September 29, 2020. The Company has adopted this guidance and the adoption did not have a material impact on its financial statements.

In April 2020, the NAIC adopted modifications to SSAP No. 36. This guidance notes a mortgage loan or bank loan modification due to the impacts of COVID-19 on the borrower will not automatically be categorized as a troubled debt restructuring (TDR). To qualify for relief, the borrower must have been in good standing as of December 31, 2019 (not more than 30 days past due). This guidance expires at the earlier of 60 days after the date of termination of the National Emergency or December 31, 2020. The Company has adopted this guidance and the adoption did not have a material impact on its financial statements.

In April 2020, the NAIC adopted modifications to SSAP Nos. 26R, 30R, 37, 43R and 48. This guidance provides limited time exceptions for impairment assessments related to mortgage loans, bank loans and other investments that predominantly invest in mortgage loans and does not require an impairment classification under SSAP No. 37 for mortgage loans or SSAP No. 26R for bank loans that are deferred/modified in response to the impacts of COVID-19. It also provides limited-scope provisions for assessing impairment for other investments (e.g., mutual funds, limited liability companies) that predominantly invest in mortgage loans impacted due to fair value declines if the entity does not intend to sell. This guidance only defers the assessment of impairment due to situations caused by the forbearance or modification of mortgage loan or bank loan payments for borrowers who are or may be unable to meet their contractual payment obligations because they are experiencing short-term financial or operational problems due to the effects of COVID-19. This guidance is only applicable for the first, second and third quarters of 2020 and will expire in the fourth quarter of 2020. The Company has adopted this guidance and the adoption did not have a material impact on its financial statements.

In May 2020, the NAIC adopted modifications to SSAP No. 34. This guidance notes if investments have been impacted by forbearance or other modification provisions, a reporting entity shall assess whether the investment income has been earned in accordance with the modified terms. This guidance was applicable for the second quarter of 2020 and it expired on September 29, 2020. The Company has adopted this guidance and the adoption did not have a material impact on its financial statements.

In May 2020, the NAIC adopted modifications to SSAP Nos. 26R, 36, 43R and 103R. This guidance clarifies how to determine when restructuring or modification of certain debt investments due to COVID-19 are a TDR. The guidance also clarifies whether a modification that is not a TDR needs to be assessed as an exchange under SSAP No. 103R. This guidance has the same end date as the Coronavirus Aid, Relief, and Economic Security (CARES) Act and is effective for the specific purpose to provide practical expedients in

NOTES TO FINANCIAL STATEMENTS

assessing whether modifications in response to COVID-19 are insignificant under SSAP No. 36 and in assessing whether a change is substantive under SSAP No. 103R. The Company has adopted this guidance and the adoption did not have a material impact on its financial statements.

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

- (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	All Other		
a. 2020							
1. With allowance for credit losses	\$ -	\$ -	\$ -	\$ -	26,652,983	\$ -	26,652,983
2. No allowance for credit losses	-	-	-	-	32,775,000	-	32,775,000
3. Total (1+2)	-	-	-	-	59,427,983	-	59,427,983
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. 2019							
1. With allowance for credit losses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
2. No allowance for credit losses	-	-	-	-	-	-	-
3. Total (1+2)	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-

- (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. 2020							
1. Average recorded investment	\$ -	\$ -	\$ -	\$ -	79,790,987	\$ -	79,790,987
2. Interest income recognized	-	-	-	-	1,867,880	-	1,867,880
3. Recorded investment on nonaccrual status	-	-	-	-	-	-	-
4. Amount of interest income recognized using a cash-basis method of accounting	-	-	-	-	1,874,581	-	1,874,581
b. 2019							
1. Average recorded investment	-	-	-	-	-	-	-
2. Interest income recognized	-	-	-	-	-	-	-
3. Recorded investment on nonaccrual status	-	-	-	-	-	-	-
4. Amount of interest income recognized using a cash-	-	-	-	-	-	-	-

	Nine Month Ended September 30,	
	2020	2019
(7) Allowance for credit losses:		
a. Balance at beginning of period	\$ -	\$ -
b. Additions charged to operations	(36,495,229)	-
c. Direct write-downs charged against the allowances	8,625,000	-
d. Recoveries of amounts previously charged off	-	-
e. Balance at end of period	<u>\$ (27,870,229)</u>	<u>\$ -</u>

- (8) As of September 30, 2020, the Company did not have any mortgage loans derecognized as a result of foreclosure.

b. Debt restructuring - No change

NOTES TO FINANCIAL STATEMENTS

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		<u>24,799,788</u>		-	<u>4,602,442</u>	<u>20,197,346</u>
c. Total first quarter	<u>\$</u>	<u>24,799,788</u>	<u>\$</u>	-	<u>\$</u>	<u>20,197,346</u>

OTTI recognized in the second quarter

d. Intent to sell	\$	-	\$	-	\$	-
e. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis		<u>10,180,123</u>		-	<u>1,187,513</u>	<u>8,992,610</u>
f. Total second quarter	<u>\$</u>	<u>10,180,123</u>	<u>\$</u>	-	<u>\$</u>	<u>1,187,513</u>

OTTI recognized in the third quarter

g. Intent to sell	\$	-	\$	-	\$	-
h. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis		<u>21,375,383</u>		-	<u>2,215,134</u>	<u>19,160,249</u>
i. Total third quarter	<u>\$</u>	<u>21,375,383</u>	<u>\$</u>	-	<u>\$</u>	<u>2,215,134</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>	<u>\$</u>	<u>-</u>

m. Annual aggregate total

\$ - \$ 8,005,089

All impairments were taken due to the present value of cash flows expected to be collected being less than the amortized cost basis.

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

NOTES TO FINANCIAL STATEMENTS

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
05535DCF9	\$ 3,012,907	\$ 2,862,429	\$ (150,478)	\$ 2,862,429	\$ 2,528,432	March 31, 2020
24763LFY1	147,758	146,827	(931)	146,827	180,454	March 31, 2020
45071KDD3	575,329	510,787	(64,542)	510,787	491,576	March 31, 2020
07384YPP5	33,493	28,061	(5,431)	28,061	46,723	March 31, 2020
12667GKG7	93,290	83,622	(9,668)	83,622	98,905	March 31, 2020
17307GRU4	114,325	112,699	(1,625)	112,699	157,144	March 31, 2020
362290AC2	316,883	225,907	(90,976)	225,907	322,987	March 31, 2020
59020UW43	214,183	182,719	(31,463)	182,719	200,181	March 31, 2020
65535VRK6	716,497	699,498	(16,998)	699,498	646,333	March 31, 2020
75115DAH8	6,842	6,564	(279)	6,564	6,397	March 31, 2020
76112BUE8	181,578	148,845	(32,733)	148,845	129,998	March 31, 2020
79548KXQ6	187,063	182,973	(4,090)	182,973	137,728	March 31, 2020
92926UAC5	136,220	130,734	(5,486)	130,734	130,957	March 31, 2020
23332UBW3	46,195	32,143	(14,052)	32,143	24,852	March 31, 2020
12669GWN7	889,281	871,126	(18,155)	871,126	863,235	March 31, 2020
32051DCK6	88,205	86,848	(1,358)	86,848	89,678	March 31, 2020
362334CN2	14,634	11,177	(3,457)	11,177	13,996	March 31, 2020
466247K93	7,584	6,335	(1,249)	6,335	7,318	March 31, 2020
57645LAA2	18,017,521	13,868,050	(4,149,471)	13,868,050	18,607,055	March 31, 2020
17307GRU4	107,326	77,392	(29,934)	77,392	160,449	June 30, 2020
18974BAA7	245,427	235,230	(10,197)	235,230	201,416	June 30, 2020
18974BAN9	119,509	114,571	(4,938)	114,571	107,924	June 30, 2020
362290AC2	220,776	219,541	(1,235)	219,541	307,360	June 30, 2020
79548KXQ6	172,175	170,007	(2,168)	170,007	130,248	June 30, 2020
855541AC2	508,940	384,558	(124,383)	384,558	460,800	June 30, 2020
9393365V1	433,313	415,261	(18,053)	415,261	356,247	June 30, 2020
45660LY94	28,987	13,258	(15,729)	13,258	21,174	June 30, 2020
57643QAE5	2,203,118	1,819,560	(383,558)	1,819,560	2,367,000	June 30, 2020
74951PBT4	260,811	143,231	(117,579)	143,231	157,616	June 30, 2020
86359DMC8	5,799,490	5,333,524	(465,966)	5,333,524	4,907,737	June 30, 2020
92990GAE3	80,251	66,477	(13,773)	66,477	71,880	June 30, 2020
US05618HAE53	555,162	387,040	(168,122)	387,040	162,575	September 30, 2020
00442FAB8	144,957	79,275	(65,682)	79,275	112,060	September 30, 2020
05535DCF9	2,755,413	2,649,186	(106,228)	2,649,186	2,553,142	September 30, 2020
46630KAA4	191,718	184,342	(7,376)	184,342	179,699	September 30, 2020
61749BAB9	105,432	91,620	(13,812)	91,620	88,204	September 30, 2020
61750MAB1	4,837	4,672	(165)	4,672	3,421	September 30, 2020
92926SAB2	604	588	(16)	588	438	September 30, 2020
07384YPP5	12,990	9,466	(3,524)	9,466	35,174	September 30, 2020
073879QF8	45,111	43,889	(1,222)	43,889	39,772	September 30, 2020
17307GRU4	104,250	55,590	(48,659)	55,590	91,680	September 30, 2020
18974BAA7	215,833	212,231	(3,602)	212,231	183,053	September 30, 2020
18974BAN9	106,359	104,851	(1,507)	104,851	97,631	September 30, 2020
9393365V1	399,194	394,263	(4,932)	394,263	364,935	September 30, 2020
23332UBW3	31,650	29,218	(2,432)	29,218	22,244	September 30, 2020
12669GWN7	849,557	799,224	(50,333)	799,224	782,638	September 30, 2020
12669GXW6	244,251	233,647	(10,604)	233,647	223,233	September 30, 2020
32051DCK6	79,208	61,819	(17,389)	61,819	82,998	September 30, 2020
36298XAA0	7,738,893	7,511,130	(227,763)	7,511,130	7,120,125	September 30, 2020
36298XAB8	7,666,120	6,250,751	(1,415,369)	6,250,751	6,539,292	September 30, 2020
45660LY94	13,115	6,394	(6,721)	6,394	26,528	September 30, 2020
74951PBT4	110,729	51,052	(59,676)	51,052	153,185	September 30, 2020
Totals	\$ 56,355,294	\$ 48,350,202	\$ (8,005,089)	\$ 48,350,202	\$ 52,795,827	

(4) As of September 30, 2020, 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 \$ (414,077,433)
 2. 12 months or longer \$ (154,260,349)
- b. The aggregate related fair value of securities with unrealized losses:
 1. Less than 12 months \$ 7,301,785,235
 2. 12 months or longer \$ 3,392,095,520

NOTES TO FINANCIAL STATEMENTS

(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, 2020.

f. Repurchase agreements transactions accounted for as secured borrowing:

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

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

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

(2) Type of Repo Trades Used

	1 FIRST QUARTER	2 SECOND QUARTER	3 THIRD QUARTER	4 FOURTH QUARTER
a. Bilateral (YES/NO)	YES	YES	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	-	-	-	-
5. > 1 Month to 3 Months	\$ 926,468,750	\$ 780,112,750	\$ 780,112,750	\$ -
6. > 3 Months to 1 Year	\$ 3,836,527,302	\$ 4,385,487,093	\$ 5,143,316,871	\$ -
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	-	-	-	-
5. > 1 Month to 3 Months	\$ 558,137,359	\$ 780,112,750	\$ 338,505,000	\$ -
6. > 3 Months to 1 Year	\$ 3,207,000,957	\$ 4,385,487,093	\$ 5,143,316,871	\$ -
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, 2020.

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

	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
a. Maximum Amount				
1. BACV	XXX	XXX	XXX	XXX
2. Nonadmitted - Subset of BACV	XXX	XXX	XXX	XXX
3. Fair Value	\$ 4,378,460,718	\$ 5,165,599,843	\$ 5,143,316,871	\$ -

	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
b. Ending Balance				
1. BACV	\$ 3,765,138,316	\$ 5,165,599,843	\$ 5,143,316,871	\$ -
2. Nonadmitted - Subset of BACV	-	-	-	-
3. Fair Value	\$ 3,765,138,316	\$ 5,165,599,843	\$ 5,143,316,871	\$ -

(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	\$ -	\$ 5,143,316,871	\$ -	\$ -
b.	Bonds - FV	\$ -	\$ 5,143,316,871	\$ -	\$ -
c.	LB & SS - BACV	-	-	-	-
d.	LB & SS - FV	-	-	-	-
e.	Preferred Stock - BACV	-	-	-	-
f.	Preferred Stock - FV	-	-	-	-
g.	Common Stock	-	-	-	-

NOTES TO FINANCIAL STATEMENTS

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	\$ -	\$ 5,143,316,871	\$ -	\$ -
q.	Total Assets - FV	\$ -	\$ 5,143,316,871	\$ -	\$ -

ENDING BALANCE

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

p=a+c+e+g+h+j+l+n
q=b+d+f+g+i+k+m+o

(7) Collateral Received - Secured Borrowing

		FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
a.	Maximum Amount				
1.	Cash	\$ 15,549,000	\$ 40,904,411	\$ 28,195,900	\$ -
2.	Securities (FV)	\$ 3,866,889,023	\$ 4,491,840,993	\$ 4,103,612,768	\$ -

b.	Ending Balance				
1.	Cash	\$ 1,521,411	\$ 16,398,411	\$ 20,416,900	\$ -
2.	Securities (FV)	\$ 3,776,490,795	\$ 4,491,840,993	\$ 4,103,612,768	\$ -

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

ENDING BALANCE

		1	2	3	4
		NONE	NAIC 1	NAIC 2	NAIC 3
a.	Cash	\$ 20,416,900	\$ -	\$ -	\$ -
b.	Bonds - FV	-	4,103,612,768	-	-
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)	\$ 20,416,900	\$ 4,103,612,768	\$ -	\$ -

ENDING BALANCE

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

(9) Allocation of Aggregate Collateral by Remaining Contractual Maturity

		FAIR VALUE
a.	Overnight and Continuous	\$ 719,926,658
b.	30 Days or Less	\$ 1,771,718,076
c.	31 to 90 Days	\$ 1,609,957,762
d.	> 90 Days	\$ 1,041,714,375

(10) The company did not have any repurchase agreements where cash collateral received was reinvested as of September 30, 2020.

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

NOTES TO FINANCIAL STATEMENTS

	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
a. Maximum Amount				
1. Cash (Collateral – All)	\$ 15,549,000	\$ 40,904,411	\$ 28,195,900	\$ -
2. Securities Collateral (FV)	\$ 3,866,889,023	\$ 4,491,840,993	\$ 4,103,612,768	\$ -
b. Ending Balance				
1. Cash (Collateral – All)	\$ 1,521,411	\$ 16,398,411	\$ 20,416,900	\$ -
2. Securities Collateral (FV)	\$ 3,776,490,795	\$ 4,491,840,993	\$ 4,103,612,768	\$ -

- 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, 2020.
- 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, 2020.
- 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, 2020.
- 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, 2020.
- 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, 2020.
- 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	106	99	\$838,863,011	\$768,788,743	\$836,221,068	\$766,977,099
(2) LB&SS - AC	2	2	12,519,311	13,654,948	11,499,210	12,071,185
(3) Preferred Stock - AC	4	3	12,657,300	12,685,809	21,645,635	19,827,090
(4) Preferred Stock - FV	-	1	-	598,111	-	598,111
(5) Total (1+2+3+4)	112	105	\$864,039,622	\$795,727,611	\$869,365,913	\$799,473,485

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, 2020	
	General Account	Separate Account
1. Number of CUSIPS	37	25
2. Aggregate amount of investment income	\$ 35,629,144	\$ 4,561,931

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

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

Note 9 – Income Taxes – In response to the COVID-19 pandemic, the CARES Act was signed into law on March 27, 2020. The CARES Act, among other things, permits net operating loss (NOL) carryovers and carrybacks to offset 100% of taxable income for taxable years beginning before 2021. In addition, the CARES Act allows NOLs incurred in 2018, 2019, and 2020 to be carried back to each of the five preceding taxable years to generate a refund of previously paid income taxes. The Company is currently evaluating the impact of the CARES Act, but does not expect that the business tax provisions of the CARES Act to have a material impact on the financial statements.

Note 10 – Information Concerning Parent, Subsidiaries and Affiliates

- a-c. MassMutual Holding LLC (MMHLLC) paid \$200,000,000 in dividends to MassMutual for the nine months ended September 30, 2020, which were declared in 2019, and declared and paid \$300,000,000 in dividends for the nine months ended September 30, 2019. MMHLLC declared \$66,000,000 in dividends to MassMutual for the nine months ended September 30, 2020.

MassMutual contributed capital of \$64,194,836 to MMHLLC for the nine months ended September 30, 2020 and \$282,327,443 for the nine months ended September 30, 2019.

In March 2020, MassMutual contributed capital of \$37,000,000 to MassMutual Mortgage Lending LLC.

In April 2020, MassMutual contributed capital of \$15,000,000 to MassMutual MCAM Insurance Company, Inc.

In May 2020, MassMutual transferred \$335,000,000 of mortgage loans to Barings Multifamily TEBS 2020 LLC, a wholly owned subsidiary. Subsequently, MassMutual received a \$287,986,140 return of capital distribution.

In June 2020, Insurance Road LLC, a wholly owned subsidiary, issued a return of capital of \$90,000,000 to MassMutual for the six months ended June 30, 2020, which was paid in August 2020.

NOTES TO FINANCIAL STATEMENTS

C.M. Life, a wholly owned subsidiary, declared \$173,000,000 of dividends to MassMutual for the six months ended June 30, 2020, which was paid in August 2020.

In September 2020, MassMutual Retirement Services LLC paid a \$50,000,000 dividend to MassMutual.

On September 30, 2020, MassMutual announced it will purchase, through an indirect, wholly owned subsidiary, an additional investment in Rothesay Holdco UK Limited (RHUK) for £1.39 billion. RHUK wholly owns Rothesay Life. The purchase will increase MassMutual's indirect ownership in Rothesay Life from 24.9% to 48.9% and is expected to close in the fourth quarter of 2020 subject to regulatory approvals.

d-f. No change

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

The Company has no parent.

h-n. No change

Note 11 – Debt

a. No change

b. Federal Home Loan Bank agreements:

(1) The Company is a member of the Federal Home Loan Bank of Boston (FHLB Boston). Through its membership, the Company has conducted business activity (borrowings) with the FHLB Boston. The Company uses these funding agreements with the FHLB Boston in an investment spread strategy, consistent with its other investment spread operations. The Company has determined the actual maximum borrowing capacity as \$6,000,000,000. The Company's unused capacity was \$4,312,721,836 as of September 30, 2020.

(2) FHLB Boston capital stock

a. Aggregate totals:

		September 30, 2020		
		1 Total 2+3	2 General Account	3 Separate Account
1. Current Year:				
(a) Membership stock - Class A	\$	-	-	-
(b) Membership stock - Class B		10,000,000	10,000,000	-
(c) Activity Stock		67,200,000	67,200,000	-
(d) Excess Stock		2,850,000	2,850,000	-
(e) Aggregate Total		<u>\$ 80,050,000</u>	<u>\$ 80,050,000</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		44,000,000	44,000,000	-
(d) Excess Stock		5,400,000	5,400,000	-
(e) Aggregate Total		<u>\$ 59,400,000</u>	<u>\$ 59,400,000</u>	<u>\$ -</u>
(f) Actual or Estimated Borrowing Capacity as determined by the Insurer	\$	2,000,000,000	2,000,000,000	-

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

		Nine Months Ended September 30, 2020					
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

NOTES TO FINANCIAL STATEMENTS

2. Class B \$ 10,000,000 \$ 10,000,000 \$ - \$ - \$ - \$ -

(3) Collateral pledged to FHLB:

a. Amount pledged as of September 30, 2020:

1. Current year total general and separate accounts:

	Fair Value	Carrying Value	Aggregate Total Borrowing
Total collateral pledged	\$ 2,497,159,108	\$ 1,911,219,658	\$ 1,687,278,164

2. Current year general account:

	Fair Value	Carrying Value	Aggregate Total Borrowing
Total collateral pledged	\$ 2,497,159,108	\$ 1,911,219,658	\$ 1,687,278,164

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	\$ 1,671,947,715	\$ 1,301,089,185	\$ 1,104,094,100

b. Maximum amount pledged for the nine months ended September 30, 2020:

1. Current year total general and separate accounts:

	Fair Value	Carrying Value	Amount Borrowed at Time of Maximum Collateral
Maximum collateral pledged	\$ 2,671,319,515	\$ 2,028,370,164	\$ 1,688,985,997

2. Current year general account:

	Fair Value	Carrying Value	Amount Borrowed at Time of Maximum Collateral
Maximum collateral pledged	\$ 2,671,319,515	\$ 2,028,370,164	\$ 1,688,985,997

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	\$ 1,707,233,260	\$ 1,328,588,172	\$ 1,108,636,992

NOTES TO FINANCIAL STATEMENTS

(4) Borrowing from FHLB:

a. Amount:

1. Current year:

	September 30, 2020			
	1 Total 2+3	2 General Account	3 Separate Account	4 Funding Agreements Reserves Established
(a) Debt	\$ -	\$ -	\$ -	\$ -
(b) Funding agreements	1,687,278,164	1,687,278,164	-	1,687,278,164
(c) Other	-	-	-	-
(d) Aggregate total	<u>\$ 1,687,278,164</u>	<u>\$ 1,687,278,164</u>	<u>\$ -</u>	<u>\$ 1,687,278,164</u>

2. Prior Year-end:

	December 31, 2019			
	1 Total 2+3	2 General Account	3 Separate Account	4 Funding Agreements Reserves Established
(a) Debt	\$ -	\$ -	\$ -	\$ -
(b) Funding agreements	1,104,094,100	1,104,094,100	-	1,104,094,100
(c) Other	-	-	-	-
(d) Aggregate total	<u>\$ 1,104,094,100</u>	<u>\$ 1,104,094,100</u>	<u>\$ -</u>	<u>\$ 1,104,094,100</u>

b. Maximum Amount:

	Nine Months Ended September 30, 2020		
	1 Total 2+3	2 General Account	3 Separate Account
1. Debt	\$ -	\$ -	\$ -
2. Funding agreements	1,688,985,997	1,688,985,997	-
3. Other	-	-	-
4. Aggregate total	<u>\$ 1,688,985,997</u>	<u>\$ 1,688,985,997</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

	Nine Months Ended September 30,					
	2020		2019		2019	
	Pension Benefits		Postretirement Benefits		Special or Contractual Benefits per SSAP No 11	
(4)						
a. Service cost	\$ 85,720,776	\$ 83,203,472	\$ 10,777,476	\$ 9,664,639	\$ -	\$ -
b. Interest cost	73,166,237	88,244,886	8,398,760	9,836,248	-	-
c. Expected return on plan assets	(132,498,900)	(119,630,318)	(37,433)	(47,672)	-	-
d. Transition asset or obligation	-	-	-	-	-	-
e. Gains and losses	39,144,951	42,370,103	1,399,331	(799,190)	-	-
f. Prior service cost or (credit)	-	-	(4,139,625)	(4,139,625)	-	-
g. Gain or loss recognized due to settlement or curtailment	-	-	-	-	-	-
h. Total net periodic benefit cost	<u>\$ 65,533,064</u>	<u>\$ 94,188,143</u>	<u>\$ 16,398,509</u>	<u>\$ 14,514,400</u>	<u>\$ -</u>	<u>\$ -</u>

(5-21) No change

b-i. No change

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

(1-3) No change

NOTES TO FINANCIAL STATEMENTS

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

(5-10) No change

(11) On April 16, 2020, MassMutual issued \$700,000,000 of surplus notes at a fixed 3.375% coupon rate maturing in 2050.

On June 26, 2020, MassMutual executed a drawdown of \$600,000,000 from its pre-capitalized surplus notes (P-Caps) facility and received \$837,205,167 in market value proceeds, at a fixed 5.077% coupon rate, maturing in 2069 and callable beginning in 2049. As of September 30, 2020, there was a remaining capacity of raising \$200,000,000 of capital through the P-Caps facility.

The following table summarizes the surplus notes issued and outstanding as of September 30, 2020:

Issue Date	Interest Rate	Par Value (Face Amount of Notes)	Carrying Value of Note*	Interest and/or Principal Paid Current Year	Total Interest and/or Principal Paid	Unapproved Interest and/or Principal	Date of Maturity
11/15/1993	7.625%	\$ 250,000,000	\$ 250,000,000	\$ 9,531,250	\$ 505,156,250	\$ 7,148,438	11/15/2023
03/01/1994	7.500%	100,000,000	100,000,000	7,500,000	198,750,000	604,167	03/01/2024
05/12/2003	5.625%	193,184,000	192,805,015	5,433,300	237,279,903	4,074,975	05/15/2033
06/01/2009	8.875%	129,597,000	128,542,836	5,750,866	597,540,759	3,801,962	06/01/2039
01/17/2012	5.375%	263,369,000	262,740,214	7,078,042	175,310,832	4,679,372	12/01/2041
04/15/2015	4.500%	258,212,000	253,995,634	5,809,770	106,938,876	-	04/15/2065
03/23/2017	4.900%	475,000,000	470,942,363	11,637,500	70,342,222	-	04/01/2077
10/11/2019	3.729%	838,475,000	581,753,065	15,980,775	15,980,774	-	10/15/2070
04/16/2020	3.375%	700,000,000	697,164,066	-	-	-	04/15/2050
06/26/2020	5.077%	600,000,000	834,786,800	15,231,000	15,231,000	3,807,750	02/15/2069
Total		\$ 3,807,837,000	\$ 3,772,729,993	\$ 83,952,503	\$ 1,922,530,616	\$ 24,116,664	

These notes are unsecured and subordinate to all present and future indebtedness of the Company, all policy claims and all prior claims against the Company as provided by the Massachusetts General Laws. The surplus notes are all held by bank custodians for unaffiliated investors. All issuances were approved by the Division.

All payments of interest and principal are subject to the prior approval of the Division. Anticipated sinking fund payments are due for the notes issued in 1993 and 1994 as follows: \$62,500,000 in 2021, \$87,500,000 in 2022, \$150,000,000 in 2023 and \$50,000,000 in 2024. There are no sinking fund requirements for the notes issued in 2003, 2009, 2012 or 2015. Scheduled interest on the notes issued in 1993 and 2003 is payable on May 15 and November 15 of each year to holders of record on the preceding May 1 or November 1, respectively. Scheduled interest on the note issued in 1994 is payable on March 1 and September 1 of each year to holders of record on the preceding February 15 or August 15, respectively. Scheduled interest on the notes issued in 2009 and 2012 is payable on June 1 and December 1 of each year to holders of record on the preceding May 15 and November 15, respectively. Scheduled interest on the note issued in 2015 is payable on April 15 and October 15 of each year to holders of record on the preceding April 1 and October 1, respectively. Interest expense is not recorded until approval for payment is received from the Division. As of September 30, 2020, the unapproved interest was \$24,116,664. Through September 30, 2020, the Company paid cumulative interest of \$1,922,530,616 on surplus notes. Interest of \$83,952,503 was approved and paid during the nine months ended September 30, 2020. Interest of \$131,746,065 was approved and paid during the twelve months ended December 31, 2019.

(12-13) No change

Note 14 – Liabilities, Contingencies and Assessments

- Contingent commitments - No change
- Assessments - No change
- Gain contingencies - No change
- Claims related to extra contractual obligations - No change
- 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

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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:
 - (1) No change
 - (2) The Company did not have any servicing assets or liabilities in 2020 or 2019.
 - (3) No change
 - (4) The Company did not have interests that continue to be held by a transferor in securitized financial assets in 2020 or 2019.
 - (5-7) No change
- 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, 2020 that were reacquired within 30 days of the sale date.

Note 18 – Gain or Loss to the Reporting Entity from Uninsured Plans and the Uninsured Portion of Partially Insured Plans - No change

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

Note 20 – Fair Value Measurements

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

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

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

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

When available, the Company generally uses unadjusted quoted market prices from independent sources to determine the fair value of investments, and classifies such items within Level 1 of the fair value hierarchy. If quoted prices are not available, prices are derived from observable market data for similar assets in an active market or obtained directly from brokers for identical assets traded in inactive markets. Investments that are priced using these inputs are classified within Level 2 of the fair value hierarchy. When some of the necessary observable inputs are unavailable, fair value is based upon internally developed models. These models use inputs 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.

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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, 2020				
	Level 1	Level 2	Level 3	Net Asset Value (NAV)	Total
Financial assets:					
Bonds:					
Special revenue	\$ -	\$ 1,394,613	\$ -	\$ -	\$ 1,394,613
Industrial and miscellaneous	110,089,765	172,194,792	98,495,028	-	380,779,585
Preferred stocks	-	-	18,237,762	-	18,237,762
Common stock - subsidiaries and affiliates	158,181,172	-	175,081,156	-	333,262,328
Common stock - unaffiliated	633,066,192	-	347,994,282	-	981,060,474
Derivatives:					
Interest rate swaps	-	23,322,688,958	-	-	23,322,688,958
Options	77,894,730	465,256,197	-	-	543,150,927
Currency swaps	-	1,407,124,329	-	-	1,407,124,329
Forward contracts	-	68,298,521	-	-	68,298,521
Financial futures	6,925,977	-	-	-	6,925,977
Separate account assets	47,655,471,748	23,138,658,136	1,211,272,300	-	72,005,402,184
Total financial assets carried at fair value	\$ 48,641,629,584	\$ 48,575,615,546	\$ 1,851,080,528	\$ -	\$ 99,068,325,658
Financial liabilities:					
Interest rate swaps	\$ -	\$ 19,019,896,783	\$ -	\$ -	\$ 19,019,896,783
Options	12,883,398	-	-	-	12,883,398
Currency swaps	-	165,244,688	-	-	165,244,688
Forward contracts	-	72,732,134	-	-	72,732,134
Financial futures	41,399,285	-	-	-	41,399,285
Total financial liabilities carried at fair value	\$ 54,282,683	\$ 19,257,873,605	\$ -	\$ -	\$ 19,312,156,288

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, 2020, 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.

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December 31, 2019

	December 31, 2019				
	Level 1	Level 2	Level 3	Net Asset Value (NAV)	Total
Financial assets:					
Bonds:					
Industrial and miscellaneous	\$ 10,059,967	\$ 143,325,225	\$ 110,728,451	\$ -	\$ 264,113,643
Preferred stocks	-	-	12,738,794	-	12,738,794
Common stock - subsidiaries and affiliates	162,056,329	-	119,810,155	-	281,866,484
Common stock - unaffiliated	916,943,969	-	267,976,515	-	1,184,920,484
Derivatives:					
Interest rate swaps	-	10,571,406,154	-	-	10,571,406,154
Options	40,446,258	534,068,767	-	-	574,515,025
Currency swaps	-	879,667,787	-	-	879,667,787
Forward contracts	-	11,413,071	-	-	11,413,071
Financial futures	5,333,000	-	-	-	5,333,000
Separate account assets	48,151,046,994	21,112,660,457	966,991,735	-	70,230,699,186
Total financial assets carried at fair value	\$ 49,285,886,517	\$ 33,252,541,461	\$ 1,478,245,650	\$ -	\$ 84,016,673,628

Financial liabilities:

Derivatives:

Interest rate swaps	\$ -	\$ 9,122,852,015	\$ -	\$ -	\$ 9,122,852,015
Options	2,121,215	-	-	-	2,121,215
Currency swaps	-	212,243,023	-	-	212,243,023
Forward contracts	-	157,870,365	-	-	157,870,365
Credit default swaps	-	41,515	-	-	41,515
Financial futures	113,113,033	-	-	-	113,113,033
Total financial liabilities carried at fair value	\$ 115,234,248	\$ 9,493,006,918	\$ -	\$ -	\$ 9,608,241,166

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

	Balance as of 6/30/2020		Transfers ⁽¹⁾		Gains (Losses) in Net Income	Gains (Losses) in Surplus	Purchases	Issuances	Sales	Settlements	Balance as of 9/30/2020
	In	Out									
Financial assets:											
Bonds:											
Industrial and miscellaneous	\$ 169,156,775	\$ -	\$ (80,983,387)	\$ (15,645)	\$ 9,472,542	\$ 3,276,490	\$ (1,168,537)	\$ -	\$ -	\$ (1,243,210)	\$ 98,495,028
Preferred stock	8,648,779	39,751	-	-	2,553,759	6,995,473	-	-	-	-	18,237,762
Common stock - subsidiaries and affiliates	-	-	-	-	-	-	-	-	-	-	-
Common stock - unaffiliated	130,361,034	-	-	(23,487,605)	22,966,040	38,405,941	30,757,915	467,270	(5,434,841)	(233,635)	175,081,156
Separate account assets	259,285,008	-	-	9,517,149	-	72,849,962	-	-	6,617,824	(46,174)	347,994,282
	1,122,333,539	-	-	-	-	-	-	-	-	-	1,211,272,300
Total financial assets	\$ 1,689,785,135	\$ 39,751	\$ (80,983,387)	\$ 9,264,745	\$ 11,504,736	\$ 192,709,065	\$ 30,056,648	\$ 1,182,983	\$ (2,479,148)	\$ -	\$ 1,851,080,528

⁽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. Industrial and miscellaneous bonds in other transfers are assets that are no longer carried at fair value.

	Balance as of 01/01/2019		Transfers ⁽¹⁾		Gains (Losses) in Net Income	Gains (Losses) in Surplus	Purchases	Issuances	Sales	Settlements	Balance as of 12/31/2019
	In	Out									
Financial assets:											
Bonds:											
Industrial and miscellaneous	\$ 63,859,896	\$ 25,906,103	\$ -	\$ (1,460,481)	\$ (1,955,477)	\$ 28,413,133	\$ 867,449	\$ -	\$ -	\$ (4,902,172)	\$ 110,728,451
Parent, subsidiaries, and affiliates	65,576,875	(57,456,875)	(8,120,000)	-	-	-	-	-	-	-	-
Preferred Stock	287,758	11,586,927	-	-	(666,240)	1,530,348	-	-	-	-	12,738,793
Common stock - subsidiaries and affiliates	164,920,846	-	-	824,411	(40,158,005)	534,956	-	-	-	(6,312,052)	119,810,156
Common stock - unaffiliated	305,537,860	-	(155,168)	18,461,974	9,072,337	4,344,119	-	(60,172,286)	-	(9,112,321)	267,976,515
Separate account assets	550,652,512	-	-	42,008,099	-	797,174,041	-	-	(422,641,710)	(201,208)	966,991,734
Total financial assets	\$ 1,150,835,747	\$ (19,963,845)	\$ (8,275,166)	\$ 59,834,003	\$ (33,707,385)	\$ 831,996,597	\$ 867,449	\$ (482,813,996)	\$ (20,527,753)	\$ -	\$ 1,478,245,649

⁽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.

(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

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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".

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

	September 30, 2020						Net Asset Value (NAV)	Not Practicable (Carrying Value)
	Aggregate	Admitted						
	Fair Value	Assets	Level 1	Level 2	Level 3			
Financial assets:								
Bonds:								
U. S. government and agencies	\$ 5,302,146,977	\$ 4,273,339,320	\$ -	\$ 5,301,938,147	\$ 208,830	\$ -	\$ -	-
All other governments	2,010,159,659	1,818,988,223	-	1,886,354,226	123,805,433	-	-	-
States, territories and possessions	541,476,652	465,833,549	-	541,476,652	-	-	-	-
Political subdivisions	533,860,636	456,868,341	-	533,860,636	-	-	-	-
Special revenue	7,863,043,832	6,779,618,369	-	7,852,869,859	10,173,973	-	-	-
Industrial and miscellaneous	107,213,933,970	99,857,311,480	110,089,765	61,594,286,941	45,509,557,264	-	-	-
Parent, subsidiaries and affiliates	6,167,874,454	5,927,871,227	-	-	6,167,874,454	-	-	-
Preferred stocks	574,620,857	550,010,495	1,467,000	(425,614)	573,579,471	-	-	-
Common stocks - subsidiaries and affiliates ⁽¹⁾								
	333,262,328	333,262,328	158,181,173	-	175,081,155	-	-	-
Common stocks - unaffiliated	981,060,474	981,060,474	633,066,192	-	347,994,282	-	-	-
Mortgage loans - commercial	25,451,577,402	24,642,545,579	-	-	25,451,577,402	-	-	-
Mortgage loans - residential	3,450,155,838	3,452,823,405	-	-	3,450,155,838	-	-	-
Cash, cash equivalents and short-term investments								
	9,549,492,928	9,549,492,928	484,895,140	9,064,597,788	-	-	-	-
Derivatives:								
Interest rate swaps	27,629,888,756	23,322,688,958	-	27,629,888,756	-	-	-	-
Options	543,150,927	543,150,927	77,894,730	465,256,197	-	-	-	-
Currency swaps	1,407,124,329	1,407,124,329	-	1,407,124,329	-	-	-	-
Forward contracts	68,298,521	68,298,521	-	68,298,521	-	-	-	-
Credit default swaps	58,843	57,581	-	58,843	-	-	-	-
Financial futures	6,925,977	6,925,977	6,925,977	-	-	-	-	-
Separate account assets	72,005,402,184	72,005,402,184	47,655,471,748	23,138,658,136	1,211,272,300	-	-	-
Financial liabilities:								
Repurchase agreements	5,143,316,871	5,143,316,871	-	5,143,316,871	-	-	-	-
Commercial paper	249,982,000	249,982,000	-	249,982,000	-	-	-	-
Guaranteed interest contracts	13,159,365,804	12,578,592,039	-	-	13,159,365,804	-	-	-
Group annuity contracts and other deposits								
	21,888,418,166	19,574,868,716	-	-	21,888,418,166	-	-	-
Individual annuity contracts	12,601,296,771	10,289,864,030	-	-	12,601,296,771	-	-	-
Supplementary contracts	1,118,566,366	1,117,394,481	-	-	1,118,566,366	-	-	-
Derivatives:								
Interest rate swaps	20,623,401,842	19,019,896,783	-	20,623,401,842	-	-	-	-
Options	12,883,398	12,883,398	12,883,398	-	-	-	-	-
Currency swaps	165,244,688	165,244,688	-	165,244,688	-	-	-	-
Forward contracts	72,732,134	72,732,134	-	72,732,134	-	-	-	-
Credit default swaps	1,948,501	1,175,687	-	1,948,501	-	-	-	-
Financial futures	41,399,285	41,399,285	41,399,285	-	-	-	-	-

⁽¹⁾ Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had a statutory carrying value of \$17,818,150,809.

NOTES TO FINANCIAL STATEMENTS

December 31, 2019

	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	\$ 4,944,813,863	\$ 4,361,446,504	\$ -	\$ 4,944,512,040	\$ 301,823	\$ -	\$ -
All other governments	1,761,768,394	1,588,793,740	-	1,692,560,006	69,208,388	-	-
States, territories and possessions	603,388,261	547,324,998	-	603,388,261	-	-	-
Political subdivisions	568,413,976	516,803,983	-	568,413,976	-	-	-
Special revenue	6,593,876,709	5,806,872,690	-	6,584,065,715	9,810,995	-	-
Industrial and miscellaneous	88,204,808,602	82,585,620,351	10,059,967	48,713,480,044	39,481,268,591	-	-
Parent, subsidiaries and affiliates	6,657,136,590	6,499,768,623	-	380,424,135	6,276,712,455	-	-
Preferred stocks	786,700,614	748,884,136	11,139,411	-	775,561,204	-	-
Common stock - subsidiaries and affiliates ⁽¹⁾	281,866,483	281,866,483	162,056,328	-	119,810,155	-	-
Common stock - unaffiliated	1,184,920,484	1,184,920,484	916,943,969	-	267,976,515	-	-
Mortgage loans - commercial	25,090,464,649	24,162,347,747	-	-	25,090,464,649	-	-
Mortgage loans - residential	3,304,250,994	3,310,547,119	-	-	3,304,250,994	-	-
Cash, cash equivalents and short-term investments	3,793,098,998	3,793,098,998	205,877,895	3,587,221,103	-	-	-
Derivatives:							
Interest rate swaps	11,983,096,154	10,571,406,154	-	11,983,096,154	-	-	-
Options	574,515,025	574,515,025	40,446,258	534,068,767	-	-	-
Currency swaps	879,667,787	879,667,787	-	879,667,787	-	-	-
Forward contracts	11,413,071	11,413,071	-	11,413,071	-	-	-
Credit default swaps	30,061,258	21,371,258	-	30,061,258	-	-	-
Financial futures	5,333,000	5,333,000	5,333,000	-	-	-	-
Separate account assets	70,230,699,186	70,230,699,186	48,151,046,994	21,112,660,457	966,991,735	-	-
Financial liabilities:							
Repurchase agreements	3,833,921,752	3,833,921,752	-	3,833,921,752	-	-	-
Commercial paper	249,869,729	249,869,729	-	249,869,729	-	-	-
Guaranteed investment contracts	9,909,448,856	9,815,338,001	-	-	9,909,448,856	-	-
Group annuity contracts and other deposits	18,600,168,805	17,962,775,303	-	-	18,600,168,805	-	-
Individual annuity contracts	10,317,102,621	8,337,781,385	-	-	10,317,102,621	-	-
Supplementary contracts	1,185,876,391	1,184,785,524	-	-	1,185,876,391	-	-
Derivatives:							
Interest rate swaps	9,970,742,015	9,122,852,015	-	9,970,742,015	-	-	-
Options	2,121,215	2,121,215	2,121,215	-	-	-	-
Currency swaps	212,243,023	212,243,023	-	212,243,023	-	-	-
Forward contracts	157,870,365	157,870,365	-	157,870,365	-	-	-
Credit default swaps	218,360	218,360	-	218,360	-	-	-
Financial futures	113,113,033	113,113,033	113,113,033	-	-	-	-

⁽¹⁾Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had statutory carrying values of \$16,688,837,017.

- d. As of September 30, 2020 and December 31, 2019, the Company had no investments where it was not practicable to estimate fair value.

Note 21 – Other Items

- Unusual or infrequent items - No change
- Troubled debt restructuring - No change
- 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 2019 Annual Statement.

Insurance and underwriting risks

NOTES TO FINANCIAL STATEMENTS

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, around the world in 2020 has caused significant volatility in U.S. and international markets. There is significant uncertainty around the breadth and duration of business disruptions related to COVID-19, as well as its impact on the U.S. and international economies. At this time, the Company is not able to reliably estimate the length and severity of the COVID-19 public health crises and, as such, cannot quantify its impact on the financial results, liquidity and capital resources and its operations in future periods.

Political Uncertainties

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

Other Disclosures

On July 1, 2020, MassMutual recaptured a coinsurance agreement and ceded the recaptured inforce business to a subsidiary of the initial reinsurer through a coinsurance funds withheld agreement. This resulted in an increase of invested assets of \$4,986,250,134 with an offsetting funds withheld liability in the Condensed Statutory Statements of Financial Position and a decrease in premium and other income collected with an offset in other cash provided from financing and miscellaneous sources in the Condensed Statutory Statements of Cash Flows.

On September 8, 2020, the Company entered into a definitive agreement in which the Company's retirement plan business will be ceded to Empower Retirement through a series of reinsurance agreements for a ceding commission of \$2,350,000,000, subject to adjustments at closing. Pending regulatory approval, the transaction is expected to close during the fourth quarter of 2020.

- d. Business interruption insurance recoveries - No change
- e. State transferrable tax credits - No change

NOTES TO FINANCIAL STATEMENTS

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

	September 30, 2020			Nine Months Ended September 30, 2020
	Actual Cost	Carrying Value	Fair Value	OTTI
Alt-A:				
a. Residential mortgage-backed securities	\$ 316,992,904	\$ 352,168,670	\$ 369,113,823	\$ 468,888
b. Commercial mortgage-backed securities	-	-	-	-
c. Collateralized debt obligations	-	-	-	-
d. Structured securities	-	-	-	-
e. Equity investments in SCAs *	\$ 14,644,434	\$ 16,907,212	\$ 17,410,437	\$ 1,837
f. Other assets	-	-	-	-
g. Total	<u>\$ 331,637,338</u>	<u>\$ 369,075,882</u>	<u>\$ 386,524,260</u>	<u>\$ 470,725</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.

	December 31, 2019			Year Ended December 31, 2019
	Actual Cost	Carrying Value	Fair Value	OTTI
Alt-A:				
a. Residential mortgage-backed securities	\$ 286,967,179	\$ 323,109,149	\$ 355,764,199	\$ 955,232
b. Commercial mortgage-backed securities	-	-	-	-
c. Collateralized debt obligations	-	-	-	-
d. Structured securities	-	-	-	-
e. Equity investments in SCAs *	13,275,749	15,608,817	17,280,669	42,030
f. Other assets	-	-	-	-
g. Total	<u>\$ 300,242,928</u>	<u>\$ 338,717,966</u>	<u>\$ 373,044,868</u>	<u>\$ 997,262</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 13, 2020, 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, except for:

On October 9, 2020, MassMutual issued a \$750,000,000 funding agreement with a 1.55% fixed rate and a 10-year maturity.

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 2020 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

NOTES TO FINANCIAL STATEMENTS

Note 34 – Premium and Annuity Considerations Deferred and Uncollected - No change

Note 35 – Separate Accounts - No change

Note 36 – Loss/Claim Adjustment Expenses - No change

GENERAL INTERROGATORIES

PART 1 - COMMON INTERROGATORIES

GENERAL

- 1.1 Did the reporting entity experience any material transactions requiring the filing of Disclosure of Material Transactions with the State of Domicile, as required by the Model Act? Yes [] No [X]
- 1.2 If yes, has the report been filed with the domiciliary state? Yes [] No []
- 2.1 Has any change been made during the year of this statement in the charter, by-laws, articles of incorporation, or deed of settlement of the reporting entity? Yes [] No [X]
- 2.2 If yes, date of change:
- 3.1 Is the reporting entity a member of an Insurance Holding Company System consisting of two or more affiliated persons, one or more of which is an insurer? Yes [X] No []
If yes, complete Schedule Y, Parts 1 and 1A.
- 3.2 Have there been any substantial changes in the organizational chart since the prior quarter end? Yes [] No [X]
- 3.3 If the response to 3.2 is yes, provide a brief description of those changes.
- 3.4 Is the reporting entity publicly traded or a member of a publicly traded group? Yes [] No [X]
- 3.5 If the response to 3.4 is yes, provide the CIK (Central Index Key) code issued by the SEC for the entity/group.
- 4.1 Has the reporting entity been a party to a merger or consolidation during the period covered by this statement? Yes [] No [X]
If yes, complete and file the merger history data file with the NAIC.
- 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. 12/31/2014
- 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). 06/30/2016
- 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	Enfield, CT				YES
MML Investment Advisers, LLC	Enfield, CT				YES
MML Investors Services, LLC	Springfield, MA				YES
MML Strategic Distributors, LLC	Springfield, MA				YES
MMLISI Financial Alliances, LLC	Springfield, MA				YES
The MassMutual Trust Company, OCC	Enfield, CT		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 [X] No []
 (a) Honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships;
 (b) Full, fair, accurate, timely and understandable disclosure in the periodic reports required to be filed by the reporting entity;
 (c) Compliance with applicable governmental laws, rules and regulations;
 (d) The prompt internal reporting of violations to an appropriate person or persons identified in the code; and
 (e) Accountability for adherence to the code.
- 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 [X]
- 9.21 If the response to 9.2 is Yes, provide information related to amendment(s).
- 9.3 Have any provisions of the code of ethics been waived for any of the specified officers? Yes [] No [X]
- 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 [X] No []
- 10.2 If yes, indicate any amounts receivable from parent included in the Page 2 amount: \$0

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 [X] 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: \$1,265,787,421
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 [X] No []
- 14.2 If yes, please complete the following:
- | | 1 | 2 |
|---|---|--|
| | Prior Year-End
Book/Adjusted
Carrying Value | Current Quarter
Book/Adjusted
Carrying Value |
| 14.21 Bonds | \$ 6,499,768,623 | \$ 5,929,871,227 |
| 14.22 Preferred Stock | \$ | \$ |
| 14.23 Common Stock | \$ 16,713,885,643 | \$ 18,151,413,138 |
| 14.24 Short-Term Investments | \$ | \$ |
| 14.25 Mortgage Loans on Real Estate | \$ | \$ |
| 14.26 All Other | \$ 5,768,552,842 | \$ 5,587,421,974 |
| 14.27 Total Investment in Parent, Subsidiaries and Affiliates (Subtotal Lines 14.21 to 14.26) | \$ 28,982,207,108 | \$ 29,668,706,339 |
| 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 [X] No []
- 15.2 If yes, has a comprehensive description of the hedging program been made available to the domiciliary state? Yes [X] No [] N/A []
 If no, attach a description with this statement.
16. For the reporting entity's security lending program, state the amount of the following as of the current statement date:
- 16.1 Total fair value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2. \$
- 16.2 Total book adjusted/carrying value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2 \$
- 16.3 Total payable for securities lending reported on the liability page. \$

STATEMENT AS OF SEPTEMBER 30, 2020 OF THE Massachusetts Mutual Life Insurance Company
GENERAL INTERROGATORIES

17. Excluding items in Schedule E - Part 3 - Special Deposits, real estate, mortgage loans and investments held physically in the reporting entity's offices, vaults or safety deposit boxes, were all stocks, bonds and other securities, owned throughout the current year held pursuant to a custodial agreement with a qualified bank or trust company in accordance with Section 1, III - General Examination Considerations, F. Outsourcing of Critical Functions, Custodial or Safekeeping Agreements of the NAIC Financial Condition Examiners Handbook? Yes [X] No []
- 17.1 For all agreements that comply with the requirements of the NAIC Financial Condition Examiners Handbook, complete the following:

1 Name of Custodian(s)	2 Custodian Address
Citibank, N.A.	333 West 34th Street, New York, NY 10001
JP Morgan Chase Bank N.A.	1 Chase Manhattan Plaza, 19th Floor, New York, NY 10005
Northern Trust	50 South LaSalle Street, Chicago, IL 60603
State Street Global Services	801 Pennsylvania Avenue, Kansas City, MO 64105
Citibank, N.A.	2 Park Street Sydney, NSW 2000

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

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

- 17.3 Have there been any changes, including name changes, in the custodian(s) identified in 17.1 during the current quarter? Yes [] No [X]

- 17.4 If yes, give full information relating thereto:

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

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

1 Name of Firm or Individual	2 Affiliation
Carlyle Aviation Group Capital Markets LLC	U
Invesco Ltd.	U
Barings LLC	A
Franklin Advisers, Inc.	U
Tortoise Capital Advisors, L.L.C.	U
PIMCO- Pacific Investment Management Company LLC	U
Earnest Partners LLC	U
IFM Investors Pty Ltd	U
Ashmore Investment Management Limited	U
Jefferies Finance LLC	A
20 Gates Management, LLC	U
Apollo Insurance Solutions Group LP	U

- 17.5097 For those firms/individuals listed in the table for Question 17.5, do any firms/individuals unaffiliated with the reporting entity (i.e. designated with a "U") manage more than 10% of the reporting entity's invested assets? Yes [] No [X]

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

- 17.6 For those firms or individuals listed in the table for 17.5 with an affiliation code of "A" (affiliated) or "U" (unaffiliated), provide the information for the table below.

1 Central Registration Depository Number	2 Name of Firm or Individual	3 Legal Entity Identifier (LEI)	4 Registered With	5 Investment Management Agreement (IMA) Filed
168456	Carlyle Aviation Group Capital Markets LLC		SEC	NO
110363	Invesco Ltd.		SEC	DS
106006	Barings LLC		SEC	DS
104517	Franklin Advisers, Inc.		SEC	NO
123711	Tortoise Capital Advisors, L.L.C.		SEC	NO
104559	PIMCO- Pacific Investment Management Company LLC		SEC	NO
107926	Earnest Partners LLC		SEC	NO
162754	IFM Investors Pty Ltd		SEC	NO
185402	Ashmore Investment Management Limited		SEC	NO
162264	Jefferies Finance LLC		SEC	DS
155480	20 Gates Management, LLC		SEC	NO
143161	Apollo Insurance Solutions Group LP		SEC	NO

STATEMENT AS OF SEPTEMBER 30, 2020 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 09/30/2020, 17 issues for 15 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 \$265,338,119 or 0.19% 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 [X] No []

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #1

(1) Dates of Transactions:	start date:	7/29/2020
	maturity date:	10/29/2020
(2) Description of securities/collateral involved:		
	carry value:	\$25,414,087.69
	accrued interest:	15,803.38
	maturity interest rates:	0.35%
	weighted average interest rates:	N/A
(3) Number of shares or amount of bond or other security:		25,398,284.31
(4) Market value on date securities were delivered:	N/A Rolling Transaction	
(5) Market value on date securities were returned/Payback amount (Due at maturity)	N/A not returned yet	
(6) Collateral value held/Underlying asset value		24,933,479.49
(7) Form of collateral:	US Treasury #912828PX2	
(8) Collateral held by:	Credit Agricole Corporate and Investment Bank	
(9) Names and addresses of all other persons involved in transaction:	Credit Agricole CIB 194 Wood Avenue South, 7th Floor Iselin, NJ 08830	

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #2

(1) Dates of Transactions:	start date:	7/1/2020
	maturity date:	10/1/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$94,555,948
	accrued interest:	66,877.26
	maturity interest rates:	0.28%
	weighted average interest rates:	N/A
(3) Number of shares or amount of bond or other security:		94,489,071.14
(4) Market value on date securities were delivered:	N/A Rolling Transaction	
(5) Market value on date securities were returned/Payback amount (Due at maturity)	N/A not returned yet	
(6) Collateral value held/Underlying asset value		\$94,756,875
(7) Form of collateral:	US Treasury #912803BJ1	
(8) Collateral held by:	JP Morgan Chase	
(9) Names and addresses of all other persons involved in transaction:	JP Morgan Chase 50 Rowes Wharf, 4th Floor Boston, MA 02110	

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #3

(1) Dates of Transactions:	start date:	10/1/2020
	maturity date:	1/4/2021
 (2) Description of securities/collateral involved:		
	carry value:	\$0
	accrued interest:	(94,500,000.00)
	maturity interest rates:	0.25%
	weighted average interest rates:	N/A
(3) Number of shares or amount of bond or other security:		94,500,000.00
(4) Market value on date securities were delivered:	N/A Rolling Transaction	
(5) Market value on date securities were returned/Payback amount (Due at maturity)	N/A not returned yet	
(6) Collateral value held/Underlying asset value		\$0
(7) Form of collateral:	US Treasury #912803BJ1	
(8) Collateral held by:	JP Morgan Chase	
(9) Names and addresses of all other persons involved in transaction:	JP Morgan Chase 50 Rowes Wharf, 4th Floor Boston, MA 02110	

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #4

(1) Dates of Transactions:	start date:	8/4/2020
	maturity date:	11/4/2020
(2) Description of securities/collateral involved:		
	carry value:	\$104,384,114.25
	accrued interest:	33,624.05
	maturity interest rates:	0.20%
	weighted average interest rates:	N/A
(3) Number of shares or amount of bond or other security:		\$104,350,490.20
(4) Market value on date securities were delivered:	N/A Rolling Transaction	
(5) Market value on date securities were returned/Payback amount (Due at maturity)	N/A not returned yet	
(6) Collateral value held/Underlying asset value		\$102,018,728
(7) Form of collateral:	US Treasury #912810QQ4	
(8) Collateral held by:	HSBC Securities, Inc.	
(9) Names and addresses of all other persons involved in transaction:	HSBC Securities, Inc. 452 5th Avenue New York, NY 10018	

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #5

(1) Dates of Transactions:	start date:	7/7/2020
	maturity date:	10/9/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$233,115,609.32
	accrued interest:	139,138.73
	maturity interest rates:	0.25%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		
		\$232,976,471
 (4) Market value on date securities were delivered:		
		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		
		N/A not returned yet
 (6) Collateral value held/Underlying asset value		
		\$228,989,076
 (7) Form of collateral:		
		US Treasury # 912828PX2
 (8) Collateral held by:		
		HSBC Securities, Inc.
 (9) Names and addresses of all other persons involved in transaction:		
		HSBC Securities, Inc. 452 5th Avenue New York, NY 10018

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #6

(1) Dates of Transactions:	start date:	7/2/2020
	maturity date:	10/2/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$34,801,471
	accrued interest:	20,221
	maturity interest rates:	0.23%
	weighted average interest rates:	N/A
(3) Number of shares or amount of bond or other security:		\$34,781,250
(4) Market value on date securities were delivered:	N/A Rolling Transaction	
(5) Market value on date securities were returned/Payback amount (Due at maturity)	N/A not returned yet	
(6) Collateral value held/Underlying asset value		\$34,141,898
(7) Form of collateral:	US Treasury #912833LL2	
(8) Collateral held by:	Daiwa Securities America Inc.	
(9) Names and addresses of all other persons involved in transaction:	Daiwa Securities America Inc. Financial Square 32 Old Slip, 14th Floor New York, NY 10005-3538	

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #7

(1) Dates of Transactions:	start date:	8/14/2020
	maturity date:	11/13/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$567,376,562.50
	accrued interest:	189,062.50
	maturity interest rates:	0.25%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		
		\$567,187,500
 (4) Market value on date securities were delivered:		
		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		
		N/A not returned yet
 (6) Collateral value held/Underlying asset value		
		\$557,734,818
 (7) Form of collateral:		
		US Treasury #912810QK7
 (8) Collateral held by:		
		Bank of Montreal
 (9) Names and addresses of all other persons involved in transaction:		
		Bank of Montreal 115 South LaSalle Street Chicago, IL 60603

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #8

(1) Dates of Transactions:	start date:	7/7/2020
	maturity date:	10/9/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$44,064,536
	accrued interest:	26,301
	maturity interest rates:	0.25%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		
		\$44,038,235
 (4) Market value on date securities were delivered:		
		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		
		N/A not returned yet
 (6) Collateral value held/Underlying asset value		
		\$43,284,520
 (7) Form of collateral:		
		US Treasury #912828PX2
 (8) Collateral held by:		
		HSBC Securities, Inc.
 (9) Names and addresses of all other persons involved in transaction:		
		HSBC Securities, Inc. 452 5th Avenue New York, NY 10018

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #9

(1) Dates of Transactions:	start date:	10/1/2020
	maturity date:	1/4/2021
(2) Description of securities/collateral involved:		
	carry value:	\$0
	accrued interest:	-57,989,375
	maturity interest rates:	0.25%
	weighted average interest rates:	N/A
(3) Number of shares or amount of bond or other security:		\$57,989,375
(4) Market value on date securities were delivered:	N/A Rolling Transaction	
(5) Market value on date securities were returned/Payback amount (Due at maturity)	N/A not returned yet	
(6) Collateral value held/Underlying asset value		\$0
(7) Form of collateral:	US Treasury #912803AY9	
(8) Collateral held by:	JP Morgan Chase	
(9) Names and addresses of all other persons involved in transaction:	JP Morgan Chase 50 Rowes Wharf, 4th Floor Boston, MA 02110	

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #10

(1) Dates of Transactions:	start date:	7/27/2020
	maturity date:	10/27/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$201,917,503
	accrued interest:	92,503
	maturity interest rates:	0.25%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		
		\$201,825,000
 (4) Market value on date securities were delivered:		
		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		
		N/A not returned yet
 (6) Collateral value held/Underlying asset value		
		\$198,431,718
 (7) Form of collateral:		
		US Treasury #912828PX2
 (8) Collateral held by:		
		MUFG Securities Americas, Inc.
 (9) Names and addresses of all other persons involved in transaction:		
		MUFG Securities Americas, Inc. 1221 6th Ave New York, NY 10020

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #11

(1) Dates of Transactions:	start date:	7/30/2020
	maturity date:	10/30/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$190,262,647.06
	accrued interest:	66,568.63
	maturity interest rates:	0.20%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		
		\$190,196,078.43
 (4) Market value on date securities were delivered:		
		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		
		N/A not returned yet
 (6) Collateral value held/Underlying asset value		
		\$189,691,250
 (7) Form of collateral:		
		US Treasury #912803BM4
 (8) Collateral held by:		
		HSBC Securities, Inc.
 (9) Names and addresses of all other persons involved in transaction:		
		HSBC Securities, Inc. 452 5th Avenue New York, NY 10018

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #12

(1) Dates of Transactions:	start date:	8/6/2020
	maturity date:	11/5/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$50,820,274
	accrued interest:	23,705
	maturity interest rates:	0.30%
	weighted average interest rates:	N/A
(3) Number of shares or amount of bond or other security:		\$50,796,569
(4) Market value on date securities were delivered:	N/A Rolling Transaction	
(5) Market value on date securities were returned/Payback amount (Due at maturity)	N/A not returned yet	
(6) Collateral value held/Underlying asset value		\$49,866,959
(7) Form of collateral:	US Treasury #912828PX2	
(8) Collateral held by:	Credit Agricole Corporate and Investment Bank	
(9) Names and addresses of all other persons involved in transaction:	Credit Agricole CIB 194 Wood Avenue South, 7th Floor Iselin, NJ 08830	

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #13

(1) Dates of Transactions:	start date:	8/4/2020
	maturity date:	11/4/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$118,910,852
	accrued interest:	38,303
	maturity interest rates:	0.20%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		
		\$118,872,549
 (4) Market value on date securities were delivered:		
		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		
		N/A not returned yet
 (6) Collateral value held/Underlying asset value		
		\$118,557,031
 (7) Form of collateral:		
		US Treasury #912803BM4
 (8) Collateral held by:		
		HSBC Securities, Inc.
 (9) Names and addresses of all other persons involved in transaction:		
		HSBC Securities, Inc. 452 5th Avenue New York, NY 10018

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #14

(1) Dates of Transactions:	start date:	10/2/2020
	maturity date:	1/13/2021
 (2) Description of securities/collateral involved:		
	carry value:	\$0.00
	accrued interest:	(68,250,000.00)
	maturity interest rates:	0.19%
	weighted average interest rates:	N/A
(3) Number of shares or amount of bond or other security:		\$68,250,000
(4) Market value on date securities were delivered:	N/A Rolling Transaction	
(5) Market value on date securities were returned/Payback amount (Due at maturity)	N/A not returned yet	
(6) Collateral value held/Underlying asset value		\$0
(7) Form of collateral:	US Treasury #912833LN8	
(8) Collateral held by:	Daiwa Securities America Inc.	
(9) Names and addresses of all other persons involved in transaction:	Daiwa Securities America Inc. Financial Square 32 Old Slip, 14th Floor New York, NY 10005-3538	

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #15

(1) Dates of Transactions:	start date:	8/4/2020
	maturity date:	11/4/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$198,340,651
	accrued interest:	70,276
	maturity interest rates:	0.22%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		
		\$198,270,375
 (4) Market value on date securities were delivered:		
		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		
		N/A not returned yet
 (6) Collateral value held/Underlying asset value		
		\$194,580,874
 (7) Form of collateral:		
		US Treasury #912828PX2
 (8) Collateral held by:		
		Morgan Stanley & Co. Inc.
 (9) Names and addresses of all other persons involved in transaction:		
		Morgan Stanley & Co. Inc. 1 International Place Suite 1300 Boston, MA 02110

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #16

(1) Dates of Transactions:	start date:	7/29/2020
	maturity date:	10/29/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$237,984,997
	accrued interest:	147,987
	maturity interest rates:	0.35%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		
		\$237,837,010
 (4) Market value on date securities were delivered:		
		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		
		N/A not returned yet
 (6) Collateral value held/Underlying asset value		
		\$228,977,109
 (7) Form of collateral:		
		US Treasury #912810RU4
 (8) Collateral held by:		
		Credit Agricole Corporate and Investment Bank
 (9) Names and addresses of all other persons involved in transaction:		
		Credit Agricole CIB 194 Wood Avenue South, 7th Floor Iselin, NJ 08830

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #17

(1) Dates of Transactions:	start date:	8/6/2020
	maturity date:	11/4/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$92,409,673
	accrued interest:	35,923
	maturity interest rates:	0.25%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		\$92,373,750
 (4) Market value on date securities were delivered:		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		N/A not returned yet
 (6) Collateral value held/Underlying asset value		\$90,820,671
 (7) Form of collateral:		US Treasury # 912828PX2
 (8) Collateral held by:		RBC Capital Markets
 (9) Names and addresses of all other persons involved in transaction:		RBC Capital Markets 3 World Financial Ctr 200 Vesey Street New York, NY 10281

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #18

(1) Dates of Transactions:	start date:	7/29/2020
	maturity date:	10/29/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$24,132,654
	accrued interest:	15,007
	maturity interest rates:	0.35%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		
		\$24,117,647
 (4) Market value on date securities were delivered:		
		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		
		N/A not returned yet
 (6) Collateral value held/Underlying asset value		
		\$23,542,783
 (7) Form of collateral:		
		US Treasury # 912810QQ4
 (8) Collateral held by:		
		Credit Agricole Corporate and Investment Bank
 (9) Names and addresses of all other persons involved in transaction:		
		Credit Agricole CIB 194 Wood Avenue South, 7th Floor Iselin, NJ 08830

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #19

(1) Dates of Transactions:	start date:	7/29/2020
	maturity date:	10/29/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$27,566,161
	accrued interest:	17,142
	maturity interest rates:	0.35%
	weighted average interest rates:	N/A
(3) Number of shares or amount of bond or other security:		\$27,549,020
(4) Market value on date securities were delivered:	N/A Rolling Transaction	
(5) Market value on date securities were returned/Payback amount (Due at maturity)	N/A not returned yet	
(6) Collateral value held/Underlying asset value		\$26,607,005
(7) Form of collateral:	US Treasury # 912810RP5	
(8) Collateral held by:	Credit Agricole Corporate and Investment Bank	
(9) Names and addresses of all other persons involved in transaction:	Credit Agricole CIB 194 Wood Avenue South, 7th Floor Iselin, NJ 08830	

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #20

(1) Dates of Transactions:	start date:	7/29/2020
	maturity date:	10/29/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$29,407,993
	accrued interest:	18,287
	maturity interest rates:	0.35%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		\$29,389,706
 (4) Market value on date securities were delivered:		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		N/A not returned yet
 (6) Collateral value held/Underlying asset value		\$27,976,010
 (7) Form of collateral:		US Treasury # 912810RV2
 (8) Collateral held by:		Credit Agricole Corporate and Investment Bank
 (9) Names and addresses of all other persons involved in transaction:		Credit Agricole CIB 194 Wood Avenue South, 7th Floor Iselin, NJ 08830

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #21

(1) Dates of Transactions:	start date:	7/21/2020
	maturity date:	10/21/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$203,520,795
	accrued interest:	130,170
	maturity interest rates:	0.32%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		\$203,390,625
 (4) Market value on date securities were delivered:		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		N/A not returned yet
 (6) Collateral value held/Underlying asset value		\$200,238,281
 (7) Form of collateral:		US Treasury #912810RU4
 (8) Collateral held by:		Canadian Imperial Bank of Commerce
 (9) Names and addresses of all other persons involved in transaction:		Canadian Imperial Bank of Commerce 161 Bay Street, Brookfield Place, 10th Floor Toronto, Ontario Canada M5J 2S8

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #22

(1) Dates of Transactions:	start date:	7/1/2020
	maturity date:	10/1/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$284,236,094
	accrued interest:	201,033.70
	maturity interest rates:	0.28%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		\$284,035,060
 (4) Market value on date securities were delivered:		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		N/A not returned yet
 (6) Collateral value held/Underlying asset value		\$284,270,625
 (7) Form of collateral:		US Treasury # 912803BH5
 (8) Collateral held by:		JP Morgan Chase
 (9) Names and addresses of all other persons involved in transaction:		JP Morgan Chase 50 Rowes Wharf, 4th Floor Boston, MA 02110

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #23

(1) Dates of Transactions:	start date:	9/2/2020
	maturity date:	12/2/2020
 (2) Description of securities/collateral involved:		
carry value:		\$243,808,906
accrued interest:		58,906
maturity interest rates:		0.30%
weighted average interest rates:		N/A
 (3) Number of shares or amount of bond or other security:		\$243,750,000
 (4) Market value on date securities were delivered:		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		N/A not returned yet
 (6) Collateral value held/Underlying asset value		\$243,886,725
 (7) Form of collateral:		US Treasury # 912803BJ1
 (8) Collateral held by:		Canadian Imperial Bank of Commerce
 (9) Names and addresses of all other persons involved in transaction:		Canadian Imperial Bank of Commerce 161 Bay Street, Brookfield Place, 10th Floor Toronto, Ontario Canada M5J 2S8

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #24

(1) Dates of Transactions:	start date:	7/2/2020
	maturity date:	10/2/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$218,176,772
	accrued interest:	126,772
	maturity interest rates:	0.23%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		\$218,050,000
 (4) Market value on date securities were delivered:		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		N/A not returned yet
 (6) Collateral value held/Underlying asset value		\$219,732,644
 (7) Form of collateral:		US Treasury # 912810QQ4
 (8) Collateral held by:		Daiwa Securities America Inc.
 (9) Names and addresses of all other persons involved in transaction:		Daiwa Securities America Inc. Financial Square 32 Old Slip, 14th Floor New York, NY 10005-3538

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #25

(1) Dates of Transactions:	start date:	8/6/2020
	maturity date:	11/5/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$140,138,897
	accrued interest:	65,368
	maturity interest rates:	0.30%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		\$140,073,529
 (4) Market value on date securities were delivered:		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		N/A not returned yet
 (6) Collateral value held/Underlying asset value		\$133,219,095
 (7) Form of collateral:		US Treasury # 912810RV2
 (8) Collateral held by:		Credit Agricole Corporate and Investment Bank
 (9) Names and addresses of all other persons involved in transaction:		Credit Agricole CIB 194 Wood Avenue South, 7th Floor Iselin, NJ 08830

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #26

(1) Dates of Transactions:	start date:	7/27/2020
	maturity date:	10/27/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$234,201,043
	accrued interest:	107,293
	maturity interest rates:	0.25%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		\$234,093,750
 (4) Market value on date securities were delivered:		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		N/A not returned yet
 (6) Collateral value held/Underlying asset value		\$224,284,553
 (7) Form of collateral:		US Treasury # 912810RV2
 (8) Collateral held by:		MUFG Securities Americas, Inc.
 (9) Names and addresses of all other persons involved in transaction:		MUFG Securities Americas, Inc. 1221 6th Ave New York, NY 10020

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #27

(1) Dates of Transactions:	start date:	9/2/2020
	maturity date:	12/2/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$94,305,785
	accrued interest:	22,785
	maturity interest rates:	0.30%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		\$94,283,000
 (4) Market value on date securities were delivered:		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		N/A not returned yet
 (6) Collateral value held/Underlying asset value		\$95,151,023
 (7) Form of collateral:		US Treasury # 912810RV2
 (8) Collateral held by:		Canadian Imperial Bank of Commerce
 (9) Names and addresses of all other persons involved in transaction:		Canadian Imperial Bank of Commerce 161 Bay Street, Brookfield Place, 10th Floor Toronto, Ontario Canada M5J 2S8

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #28

(1) Dates of Transactions:	start date:	7/2/2020
	maturity date:	10/2/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$68,114,578
	accrued interest:	39,578
	maturity interest rates:	0.23%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		\$68,075,000
 (4) Market value on date securities were delivered:		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		N/A not returned yet
 (6) Collateral value held/Underlying asset value		\$68,230,205
 (7) Form of collateral:		US Treasury # 912833LN8
 (8) Collateral held by:		Daiwa Securities America Inc.
 (9) Names and addresses of all other persons involved in transaction:		Daiwa Securities America Inc. Financial Square,32 Old Slip, 14th Floor New York, NY 10005-3538

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #29

(1) Dates of Transactions:	start date:	7/1/2020
	maturity date:	10/1/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$57,976,318
	accrued interest:	41,005
	maturity interest rates:	0.28%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		\$57,935,313
 (4) Market value on date securities were delivered:		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		N/A not returned yet
 (6) Collateral value held/Underlying asset value		\$57,964,399
 (7) Form of collateral:		US Treasury # 912803AY9
 (8) Collateral held by:		J.P. Morgan Securities Inc.
 (9) Names and addresses of all other persons involved in transaction:		JP Morgan Chase 50 Rowes Wharf, 4th Floor Boston, MA 02110

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #30

(1) Dates of Transactions:	start date:	10/2/2020
	maturity date:	1/13/2021
 (2) Description of securities/collateral involved:		
	carry value:	\$0
	accrued interest:	-219,100,000
	maturity interest rates:	0.19%
	weighted average interest rates:	N/A
(3) Number of shares or amount of bond or other security:		\$219,100,000
(4) Market value on date securities were delivered:	N/A Rolling Transaction	
(5) Market value on date securities were returned/Payback amount (Due at maturity)	N/A not returned yet	
(6) Collateral value held/Underlying asset value		\$0
(7) Form of collateral:	US Treasury # 912810QQ4	
(8) Collateral held by:	Daiwa Securities America Inc.	
(9) Names and addresses of all other persons involved in transaction:	Daiwa Securities America Inc. Financial Square,32 Old Slip, 14th Floor New York, NY 10005-3538	

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #31

(1) Dates of Transactions:	start date:	10/2/2020
	maturity date:	1/13/2021
 (2) Description of securities/collateral involved:		
	carry value:	\$0
	accrued interest:	-34,125,000
	maturity interest rates:	0.19%
	weighted average interest rates:	N/A
(3) Number of shares or amount of bond or other security:		\$34,125,000
(4) Market value on date securities were delivered:	N/A Rolling Transaction	
(5) Market value on date securities were returned/Payback amount (Due at maturity)	N/A not returned yet	
(6) Collateral value held/Underlying asset value		\$0
(7) Form of collateral:	US Treasury # 912833LL2	
(8) Collateral held by:	Daiwa Securities America Inc.	
(9) Names and addresses of all other persons involved in transaction:	Daiwa Securities America Inc. Financial Square,32 Old Slip, 14th Floor New York, NY 10005-3538	

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #32

(1) Dates of Transactions:	start date:	7/1/2020
	maturity date:	10/1/2020
 (2) Description of securities/collateral involved:		
	carry value:	\$283,667,845
	accrued interest:	200,631.79
	maturity interest rates:	0.28%
	weighted average interest rates:	N/A
 (3) Number of shares or amount of bond or other security:		\$283,467,213.42
 (4) Market value on date securities were delivered:		N/A Rolling Transaction
 (5) Market value on date securities were returned/Payback amount (Due at maturity)		N/A not returned yet
 (6) Collateral value held/Underlying asset value		\$284,793,523
 (7) Form of collateral:		US Treasury # 912803BJ1
 (8) Collateral held by:		J.P. Morgan Securities Inc.
 (9) Names and addresses of all other persons involved in transaction:		JP Morgan Chase 50 Rowes Wharf, 4th Floor Boston, MA 02110

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #33

(1) Dates of Transactions:	start date:	10/1/2020
	maturity date:	1/4/2021
 (2) Description of securities/collateral involved:		
	carry value:	\$0
	accrued interest:	(283,500,000.00)
	maturity interest rates:	0.25%
	weighted average interest rates:	N/A
(3) Number of shares or amount of bond or other security:		\$283,500,000.00
(4) Market value on date securities were delivered:	N/A Rolling Transaction	
(5) Market value on date securities were returned/Payback amount (Due at maturity)	N/A not returned yet	
(6) Collateral value held/Underlying asset value		\$0
(7) Form of collateral:	US Treasury # 912803BJ1	
(8) Collateral held by:	J.P. Morgan Securities Inc.	
(9) Names and addresses of all other persons involved in transaction:	JP Morgan Chase 50 Rowes Wharf, 4th Floor Boston, MA 02110	

Repurchase Agreements

**Schedule for Q3 2020 General Interrogatory

Transaction #34

(1) Dates of Transactions:	start date:	10/1/2020
	maturity date:	1/4/2021
 (2) Description of securities/collateral involved:		
	carry value:	\$0
	accrued interest:	-284,250,000
	maturity interest rates:	0.25%
	weighted average interest rates:	N/A
(3) Number of shares or amount of bond or other security:		\$284,250,000
(4) Market value on date securities were delivered:	N/A Rolling Transaction	
(5) Market value on date securities were returned/Payback amount (Due at maturity)	N/A not returned yet	
(6) Collateral value held/Underlying asset value		\$0
(7) Form of collateral:	US Treasury # 912803BH5	
(8) Collateral held by:	J.P. Morgan Securities Inc.	
(9) Names and addresses of all other persons involved in transaction:	JP Morgan Chase 50 Rowes Wharf, 4th Floor Boston, MA 02110	

GENERAL INTERROGATORIES

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

Life and Accident Health Companies/Fraternal Benefit Societies:

1. Report the statement value of mortgage loans at the end of this reporting period for the following categories: 1
Amount
- 1.1 Long-Term Mortgages In Good Standing
- 1.11 Farm Mortgages \$
 1.12 Residential Mortgages \$ 3,452,823,405
 1.13 Commercial Mortgages \$ 24,642,545,575
 1.14 Total Mortgages in Good Standing \$ 28,095,368,979
- 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) \$ 28,095,368,979
- 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, 2020 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	AA-3190982	.07/01/2020	Athene Life Re LTD (TH20)	BMJ	COFW/I	IA	Certified	3	01/01/2020
.80659	82-4533188	.01/01/2020	Canada Life Assurance Co. (CRH3)	MI	YRT/I	OL	Authorized		
.86258	13-2572994	.09/01/2019	General Re Life Corp. (GRPL)	CT	YRT/I	OL	Authorized		
.88340	59-2859797	.01/01/2020	Hannover Life Reassurance (HAS3)	FL	YRT/G	OL	Authorized		
.66346	58-0828824	.01/01/2020	Munich American Reassurance (MAH3)	GA	YRT/I	OL	Authorized		
.66346	58-0828824	.02/22/2020	Munich American Reassurance (MUT3)	GA	CO/I	XXXL	Authorized		
.66346	58-0828824	.02/22/2020	Munich American Reassurance (MUT3)	GA	YRT/I	OL	Authorized		
.66346	58-0828824	.02/22/2020	Munich American Reassurance (MUTB)	GA	CO/I	XXXL	Authorized		
.66346	58-0828824	.02/22/2020	Munich American Reassurance (MUTB)	GA	YRT/I	OL	Authorized		
.66346	58-0828824	.02/22/2020	Munich American Reassurance (MUTR)	GA	CO/I	XXXL	Authorized		
.66346	58-0828824	.02/22/2020	Munich American Reassurance (MUTR)	GA	YRT/I	OL	Authorized		
.88099	75-1608507	.11/23/2019	Optimum Re Insurance Company (OPB8)	TX	YRT/I	OL	Authorized		
.88099	75-1608507	.11/23/2019	Optimum Re Insurance Company (OPD9)	TX	YRT/I	OL	Authorized		
.74900	63-0483783	.02/22/2020	Partner Re (PRT5)	AR	CO/I	XXXL	Authorized		
.74900	63-0483783	.02/22/2020	Partner Re (PRT5)	AR	YRT/I	OL	Authorized		
.74900	63-0483783	.02/22/2020	Partner Re (PRT9)	AR	CO/I	XXXL	Authorized		
.74900	63-0483783	.02/22/2020	Partner Re (PRT9)	AR	YRT/I	XXXL	Authorized		
.93572	43-1235868	.11/23/2019	RGA Reinsurance Co. (GAW3)	MO	YRT/I	OL	Authorized		
.93572	43-1235868	.11/23/2019	RGA Reinsurance Co. (RGB8)	MO	YRT/I	OL	Authorized		
.93572	43-1235868	.11/23/2019	RGA Reinsurance Co. (RGD9)	MO	YRT/I	OL	Authorized		
.93572	43-1235868	.01/01/2020	RGA Reinsurance Co. (RGH3)	MO	YRT/I	OL	Authorized		
.64688	75-6020048	.11/23/2019	SCOR Global Life Americas Reins Co (SCB8)	DE	YRT/I	OL	Authorized		
.64688	75-6020048	.11/23/2019	SCOR Global Life Americas Reins Co (SCD9)	DE	YRT/I	OL	Authorized		
.64688	75-6020048	.01/01/2020	SCOR Global Life Americas Reins Co (XLH3)	DE	YRT/I	OL	Authorized		
.97071	13-3126819	.11/23/2019	SCOR Global Life USA Reins Co (GIB8)	DE	YRT/I	OL	Authorized		
.97071	13-3126819	.11/23/2019	SCOR Global Life USA Reins Co (GID9)	DE	YRT/I	OL	Authorized		
.82627	06-0839705	.11/23/2019	Swiss Re Life & Health America (SRB8)	MO	YRT/I	OL	Authorized		
.82627	06-0839705	.01/01/2020	Swiss Re Life & Health America (SREA)	MO	YRT/I	OL	Authorized		
.82627	06-0839705	.01/01/2020	Swiss Re Life & Health America (SREC)	MO	YRT/I	OL	Authorized		
.82627	06-0839705	.01/01/2020	Swiss Re Life & Health America (SRH3)	MO	YRT/I	OL	Authorized		
.82627	06-0839705	.01/01/2020	Swiss Re Life & Health America (SRS3)	MO	YRT/G	OL	Authorized		

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 II LLC	None		Delaware
MM Global Capabilities III LLC	None		Delaware
MM/Barings Multifamily TEBS 2020 LLC	None		Delaware
Barings Ascend LLC	None		Delaware
Berkshire Way LLC	04-1590850		Delaware
MML Special Situations Investor LLC	None		Delaware
Timberland Forest Holding LLC	47-5322979		Delaware
Lyme Adirondack Forest Company, LLC	None		Delaware
Lyme Adirondack Timberlands I, LLC	None		Delaware
Lyme Adirondack Timberlands II, LLC	None		Delaware
MSP-SC, LLC	04-1590850		Delaware
Insurance Road LLC	04-1590850		Delaware
MassMutual Trad Private Equity LLC	04-1590850		Delaware
MassMutual Private Equity Funds LLC	04-1590850		Delaware
MassMutual Intellectual Property LLC	04-1590850		Delaware
Trad Investments I LLC	None		Delaware
EM Opportunities LLC	None		Delaware
MassMutual MCAM Insurance Company, Inc.	None		Vermont
Jefferies Finance LLC	27-0105644		Delaware
APEX Credit Partners LLC	None		Delaware
Jefferies Credit Partners LLC	None		Delaware
Jefferies Credit Management LLC	None		Delaware
Jefferies Private Credit GP LLC	None		Maryland
Jefferies Private Credit Fund LP	None		Delaware
Jefferies Private Credit BDC Inc.	None		Delaware
JFIN GP Adviser LLC	None		Delaware
JFIN Fund III LLC	None		Delaware
JFIN Fund VI LLC	None		Delaware
JFIN Asset 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 Domicile</u>
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
JFIN Revolver Holdings LLC	None		Delaware
JFIN Revolver Holdings II LLC	None		Delaware
JFIN Revolver Holdings III LLC	None		Delaware
JFIN Revolver SPE III 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 High Yield Investments LLC	None		Delaware
JFIN LC Fund LLC	None		Delaware
JFIN Revolver CLO 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
Apex Credit CLO 2015-II Ltd.*	None		Cayman Islands
JFIN Revolver CLO 2015 Ltd.	None		Cayman Islands
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 Fund, L.P.	None		Delaware
Apex Credit CLO 2016 Ltd.	None		Cayman Islands
Apex Credit CLO 2017 Ltd.	None		Cayman Islands
Apex Credit CLO 2017-II Ltd.	None		Cayman Islands
Apex Credit CLO 2019-II Ltd.*	None		Cayman Islands
Apex Credit CLO 2020 Ltd.	None		Cayman Islands
MassMutual Mortgage Lending LLC	None		Delaware
MassMutual Retirement Services, LLC	04-1590850		Delaware
MM Copper Hill Road LLC	04-1590850		Delaware

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

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

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
MM Investment Holding	None		Cayman Islands
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
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
Rozier LLC	None		Delaware
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
Sleeper Street LLC	None		Delaware
Haven Life Insurance Agency, LLC	46-2252944		Delaware
MassMutual Assignment Company	06-1597528		North Carolina
MassMutual Capital Partners LLC	04-1590850		Delaware
MassMutual Ventures Holding LLC	None		Delaware
Athens Fund Management LLC	None		Delaware
Crane Venture Partners LLP	None		United Kingdom
MassMutual Ventures Management LLC	None		Delaware
MassMutual Ventures SEA Management Private Limited	None		Singapore
MassMutual Ventures Southeast Asia I LLC	None		Delaware
MassMutual Ventures Southeast Asia II LLC	None		Delaware
MassMutual Ventures UK LLC	None		Delaware
MassMutual Ventures US I LLC	47-1296410		Delaware
MassMutual Ventures US II LLC	None		Delaware
MassMutual Ventures US III LLC	None		Delaware
Open Alternatives LLC	None		Delaware
MM Rothesay Holdco US LLC	04-1590850		Delaware
MML Investors Services, LLC	04-1590850		Massachusetts
MML Insurance Agency, LLC	04-1590850		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>
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 Japan Limited	98-0236449		Japan
Barings Australia Holding Company Pty Ltd	None		Australia
Barings Australia Pty Ltd	98-0457456		Australia
Barings Finance LLC	80-0875475		Delaware
BCF Europe Funding Limited	None		Ireland
BCF Senior Funding I LLC	None		Delaware
BCF Senior Funding I Designated Activity Company	None		Ireland
Barings Securities LLC	04-3238351		Delaware
Barings Guernsey Limited	98-0437588		Guernsey
Barings Europe Limited	None		United Kingdom
Barings Asset Management Spain SL	None		Spain
Barings Italy S.r.l.	None		Italy
Barings Sweden AB	None		Sweden
Barings Finland Oy	None		Finland
Barings Netherlands B.V.	None		Netherlands
Barings Real Estate UK Holdings Limited	None		Delaware
BREAE AIFM LLP	None		United Kingdom
Barings Real Estate Advisers (Continental Europe) Limited	98-0654401		United Kingdom
Barings Real Estate Advisers Europe LLP	98-0654388		United Kingdom
Barings Real Estate Advisers Europe Finance LLP	98-0654412		United Kingdom
Barings Real Estate GmbH	98-1194368		Germany
Baring Asset Management Limited	98-0241935		United Kingdom
Barings European Direct Lending 1 GP LLP	None		United Kingdom
Barings Global Advisors Limited	98-1012393		United Kingdom
Baring International Investment Limited	98-0457328		United Kingdom
Baring International Investment Management Holdings	98-0457587		United Kingdom
Baring Asset Management UK Holdings Limited	98-0457576		United Kingdom
Baring Asset Management GmbH	98-0465031		Germany
Baring International Fund Managers (Ireland) Limited	98-0524272		Ireland
Baring Asset Management Switzerland Sàrl	None		Switzerland

*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>
Baring France SAS	98-0497550		France
Baring Fund Managers Limited	98-0457586		United Kingdom
BCGSS 2 GP LLP	None		United Kingdom
Baring Pension Trustees Limited	98-0457574		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 S.à.r.l	None		United Kingdom
Barings Umbrella Fund (LUX) GP S.à.r.l.	None		Luxembourg
PREIF Holdings Limited Partnership	None		United Kingdom
Almack Mezzanine GP III Limited	None		United Kingdom
Almack Holding Partnership GP Limited	None		United Kingdom
Almack Mezzanine Fund Limited	None		United Kingdom
Almack Mezzanine Fund II Limited	None		United Kingdom
Barings (U.K.) Limited	98-0432153		United Kingdom
Barings Multifamily Capital Holdings LLC	None		Delaware
Barings Multifamily Capital LLC	None		Michigan
Barings Multifamily Capital Corporation	None		Delaware
Barings Real Estate Advisers Inc.	04-3238351		California
Chassis Acquisition Holding LLC	81-2244465		Delaware
CRA Aircraft Holding LLC*	81-4258759		Delaware
Aland Royalty Holdings LP	None		Delaware
ASM SIP, LP	None		Cayman Islands
Intermodal Holding II LLC	46-2344300		Delaware
Milestone Acquisition Holding, LLC.	47-3055009		Delaware
Novation Companies, Inc.	None		Maryland
Red Lake Ventures, LLC	46-5460309		Delaware
Remington L & W Holdings LLC*	81-4065378		Connecticut
Tamiami Citrus, LLC	None		Delaware
Teaktree Acquisition, LLC	None		Delaware
Techquity, LP	None		Delaware
U.S. Pharmaceuticals Holdings I, LLC	46-0687392		Delaware
U.S. Pharmaceuticals Holdings II, LLC	47-5436800		Delaware
Validus Pharmaceuticals LLC	None		Delaware
VGS Acquisition Holding, LLC	None		Delaware
Aland Royalty GP, LLC	None		Delaware
Alaska Future Fund GP, LLC	None		Delaware
BAI Funds SLP, LLC	None		Delaware
BAI GP, LLC	None		Delaware

*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>
Barings Alternative Investments SLP, LLC	None		Delaware
Baring Asset-Based Income Fund (US) GP, LLC	None		Delaware
Barings Investment Series LLC	None		Delaware
Barings Capital Investment LLC	None		Maryland
Barings Emerging Generation Fund GP, LLC	None		Delaware
Barings Global Investment Funds (U.S.) Management LLC	04-1590850		Delaware
Barings ABIF SLP, LLC	None		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 Global Energy Infrastructure Advisors, LLC	None		Delaware
Barings Global Real Assets Fund GP, LLC	None		Delaware
Barings GPSF	None		Delaware
Barings Multi Asset Income Fund	None		Hong Kong
Barings North American Private Loan Fund Management, LLC	None		Delaware
Barings North American Private Loan Fund Management II, LLC	None		Delaware
Barings/LAZ Parking Fund GP LLC	None		Delaware
Barings Small Business Fund LLC	None		Delaware
Benton Street Advisors, Inc.	98-0536233		Cayman Islands
BRECS VII GP LLC	None		Delaware
CCM Fund I REIT Manager LLC	None		Delaware
CEMF I GP LLC	None		Delaware
CHY Venture GP LLC	None		Delaware
CREF X GP LLC	None		Delaware
Great Lakes III GP, LLC	04-1590850		Delaware
Lake Jackson LLC	None		Delaware
Loan Strategies Management LLC	04-1590850		Delaware
Mezzco III LLC	41-2280126		Delaware
Mezzco IV LLC	80-0920285		Delaware
Mezzco Australia II LLC	None		Delaware
RECSA-NY GP LLC	None		Delaware
SBNP SIA II LLC	None		Delaware
SBNP SIA III LLC	None		Delaware
Somerset Special Opportunities Management LLC	04-1590850		Delaware
MassMutual International LLC	04-3313782		Delaware
MassMutual Solutions LLC	None		Delaware
HarborTech (Asia) Limited	None		Hong Kong
Yunfeng Financial Group Limited	None		Hong Kong
MassMutual Asia Limited (SPV)	None		Hong Kong
MML Management Corporation	04-2443240		Massachusetts
MassMutual International Holding MSC, Inc.	04-3548444		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 Holding MSC, Inc.	04-3341767		Massachusetts
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 I LP*	None		United Kingdom
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 Asset-Based Income Fund (US) LP	36-4868350		Delaware
Barings Emerging Markets Corporate Bond Fund	None		Ireland
Barings European Real Estate Debt Income Fund	None		Luxembourg
Babson Capital Global Special Situation Credit Fund 2*	98-1206017		Delaware
Babson Capital Loan Strategies Fund, L.P.*	37-1506417		Delaware
Barings US High Yield Bond Fund*	None		Ireland
Babson CLO Ltd. 2012-II	None		Cayman Islands
Babson CLO Ltd. 2013-I	None		Cayman Islands
Babson CLO Ltd. 2014-I	None		Cayman Islands
Babson CLO Ltd. 2015-I	None		Cayman Islands
Babson CLO Ltd. 2015-II	None		Cayman Islands
Babson CLO Ltd. 2016-I	None		Cayman Islands
Babson CLO Ltd. 2016-II	None		Cayman Islands
Barings CLO Ltd. 2017-I	None		Cayman Islands
Barings CLO 2018-III	None		Cayman Islands
Barings CLO 2018-IV	None		Cayman Islands
Barings CLO 2019-I	None		Cayman Islands
Barings CLO 2019-II	98-1473665		Cayman Islands
Barings CLO 2019-III	None		Cayman Islands
Barings CLO 2019-IV	None		Cayman Islands
Babson Euro CLO 2014-I BV	None		Netherlands
Babson Euro CLO 2014-II BV	None		Netherlands
Babson Euro CLO 2015-I BV	None		Netherlands
Babson Euro CLO 2016-I BV	None		Netherlands
Barings Euro CLO 2019-I	3603726OH		Ireland
Barings Euro CLO 2019-II	None		Ireland
Barings Global Em. Markets Equity Fund	82-5330194		North Carolina
Barings Global Energy Infrastructure Fund I LP	98-1332384		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 Global Inv. Grade Strat Fund	None		Ireland
Barings Global Private Loan Fund	None		Luxembourg
Barings Global Real Assets Fund LP	82-3867745		Delaware
Barings Global Special Situations Credit Fund 3	None		Ireland
Barings Global Dividends Champion Fund	None		Ireland
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 North American Private Loan Fund LP	38-4010344		Delaware
Barings RE Credit Strategies VII LP	98-1332384		Delaware
Baring International Small Cap Equity Fund	26-4142796		Delaware
Barings CLO Investment Partners LP	81-0841854		Delaware
Barings Real Estate European Value Add I SCSp*	None		United Kingdom
Braemar Energy Ventures I, L.P. *	None		Delaware
Barings European Core Property Fund SCSp	None		Luxembourg
Benchmark 2018-B2 Mortgage Trust	38-4059932		New York
Benchmark 2018-B4	None		New York
Benchmark 2018-B8	38-4096530		New York
Braselton Point LLC	04-1590850		Delaware
Barings Core Property Fund LP	20-5578089		Delaware
Cornerstone Real Estate Fund VIII LP	27-0547156		Delaware
Cornerstone Real Estate Fund X LP	46-5432619		Delaware
Cornerstone Permanent Mortgage Fund III LLC	35-2531693		Massachusetts
Cornerstone Permanent Mortgage Fund IV LLC	61-1793735		Massachusetts
GASL Holdings, LLC	82-2932156		Delaware
Gateway Mezzanine Partners II LP*	90-0991195		Delaware
Great Lakes III, L.P.	37-1708623		Delaware
JPMCC Commercial Mortgage Securities Trust 2017-JP7	38-4041011; 38-4041012		New York
JPMDB Commercial Mortgage Securities Trust 2017-C5	38-4032059		New York
KKR-MM Vector LP	82-1512591		Delaware
Marco Hotel LLC	46-4255307		Delaware
Miami Douglas One GP LLC*	04-1590850		Delaware
Miami Douglas Two GP LLC*	04-1590850		Delaware
Miami Douglas Two LP*	04-1590850		Delaware
HB Naples Golf Owner LLC	45-3623262		Delaware
MM Debt Participations LLC	81-3000420		Delaware
RB Apartments LLC	82-4411267		Delaware
Reston Arboretum LLC	75-2901061		Delaware
Rockville Town Center LLC	54-2055778		Virginia
Somerset Special Opportunities Fund L.P.*	20-8856877		Delaware
SouthPointe Industrial LLC	04-1590850		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>
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
Tower Square Capital Partners IV-A, L.P.	80-0920367		Delaware
Trailside MM Member LLC*	04-1590850		Delaware
Washington Gateway Two LLC*	83-1325764		Delaware
Washington Gateway Three LLC*	32-0574045		Delaware
West 46 th Street Hotel LLC	05-1590850		Delaware
Barings Affiliates & Funds:			
Barings Emerging Markets Debt Short Duration Fund	None		Ireland
Babson Capital Loan Strategies Master Fund LP	None		Cayman Islands
Barings Global High Yield Fund	47-3790192		Massachusetts
Barings Total Return Bond Fund	47-3734770		Massachusetts
CCIC Fund	None		Peoples Republic of China
Great Lakes II LLC*	71-1018134		Delaware
Barings Real Estate Affiliates & Funds:			
Wood Creek Venture Fund LLC	04-1590850		Delaware
50 Liberty LLC*	36-4823011		Delaware
One Harbor Shore LLC*	80-0948028		Delaware
Budapester Strasse LLC	81-4382111		Delaware
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 Madison Member LLC	81-0890084		Delaware
CCB Montford Park LLC*	82-1563809		Delaware
Danville Riverwalk Venture, LLC	82-2783393		Delaware
Fan Pier Development LLC*	20-3347091		Delaware
Landmark Manchester Holdings LLC	81-5360103		Delaware
MM Island Member LLC	04-1590850		Delaware
NoHo West Venture LLC	83-0881588		Delaware
PACO France Logistics 2 LLC	04-1590850		Delaware
Portland 400 Sixth Manager LLC	82-3393166		Delaware
Salomon Brothers Commercial Mortgage Trust 2001-MM	None		Delaware
Sawgrass Village Shopping Center LLC*	27-2977720		Delaware

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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>
Spain Avalon Holding LLC	04-1590850		Delaware
Three PW Office Holding LLC	81-5273574		Delaware
Twenty Two Liberty LLC*	35-2484550		Massachusetts
Unna, Dortmund Holding LLC	82-3250684		Delaware
Washington Gateway Apartments Venture LLC*	45-5401109		Delaware
MassMutual Premier Funds:			
MassMutual Barings Dynamic Allocation Fund	45-3168892		Massachusetts
MassMutual Premier Focused International Fund	02-0754273		Massachusetts
MassMutual Premier Main Street Fund	51-0529328		Massachusetts
MassMutual Premier Strategic Emerging Markets Fund	26-3229251		Massachusetts
MassMutual Premier Value Fund	04-3277550		Massachusetts
MassMutual Select Funds:			
MassMutual Select Diversified International Fund	14-1980900		Massachusetts
MassMutual Select Diversified Value Fund	01-0821120		Massachusetts
MassMutual Select Fundamental Growth Fund	04-3512593		Massachusetts
MassMutual Select Large Cap Value Fund	04-3513019		Massachusetts
MassMutual Select Mid-Cap Value Fund	42-1710935		Massachusetts
MassMutual Select Small Capital Value Equity Fund	02-0769954		Massachusetts
MassMutual Select Small Company Value Fund	04-3584140		Massachusetts
MassMutual Select T. Rowe Price Retirement 2005 Fund	82-3347422		Massachusetts
MassMutual Select T. Rowe Price Retirement 2010 Fund	82-3355639		Massachusetts
MassMutual Select T. Rowe Price Retirement 2015 Fund	82-3382389		Massachusetts
MassMutual Select T. Rowe Price Retirement 2020 Fund	82-3396442		Massachusetts
MassMutual Select T. Rowe Price Retirement 2025 Fund	82-3417420		Massachusetts
MassMutual Select T. Rowe Price Retirement 2030 Fund	82-3430358		Massachusetts
MassMutual Select T. Rowe Price Retirement 2035 Fund	82-3439837		Massachusetts
MassMutual Select T. Rowe Price Retirement 2040 Fund	82-3451779		Massachusetts
MassMutual Select T. Rowe Price Retirement 2045 Fund	82-3472295		Massachusetts
MassMutual Select T. Rowe Price Retirement 2050 Fund	82-3481715		Massachusetts
MassMutual Select T. Rowe Price Retirement 2055 Fund	82-3502011		Massachusetts
MassMutual Select T. Rowe Price Retirement 2060 Fund	82-3525148		Massachusetts
MassMutual Select T. Rowe Price Retirement Balanced Fund	82-3533944		Massachusetts
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 2015 Fund	27-1933828		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 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 RetireSMART Conservative Fund	45-1618155		Massachusetts
MassMutual RetireSMART Growth Fund	45-1618222		Massachusetts
MassMutual RetireSMART In Retirement Fund	03-0532464		Massachusetts
MassMutual RetireSMART Moderate Fund	45-1618262		Massachusetts
MassMutual RetireSMART Moderate Growth Fund	45-1618046		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.

STATEMENT AS OF SEPTEMBER 30, 2020 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? (Y/N)	*
.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	GM Life Ins Co	93432	06-1041383				C.M. Life Insurance Company	CT	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0435	MML Baystate 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	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Global Capabilities (Netherlands) B.V.	NLD	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MassMutual Global Business Services Romania S.R.L.	ROU	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Global Capabilities II LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Global Capabilities III LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM/Barings Multifamily TEBS 2020 LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MML Special Situations Investor LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			47-5322979				Timberland Forest Holding LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			47-5322979				Timberland Forest Holding LLC	DE	DS	C.M. Life Insurance Company	Ownership	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	Timberland Forest Holding LLC	Ownership	100.000	MMLIC		
.0000							Lyme Adirondack Timberlands II, LLC	DE	DS	Timberland Forest Holding LLC	Ownership	100.000	MMLIC		
.0000							Barings Ascend LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				Berkshire Way LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MSP-SC, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							EM Opportunities LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MassMutual MCAM Insurance Company, Inc.	VT	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				Insurance Road LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Trad Private Equity LLC	DE	NIA	Insurance Road LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Private Equity Funds LLC	DE	NIA	MassMutual Trad Private Equity 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			27-0105644				Jefferies Finance LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	50.000	MMLIC		1
.0000							MassMutual Mortgage Lending LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Apex Credit Partners LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Credit Partners LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		

STATEMENT AS OF SEPTEMBER 30, 2020 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? (Y/N)	*
.0000							Jefferies Credit Management LLC	DE	NIA	Jefferies Credit Partners LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Private Credit GP LLC	DE	NIA	Jefferies Credit Management LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Private Credit Fund LP	DE	NIA	Jefferies Private Credit GP LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Private Credit BDC Inc.	MD	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN GP Adviser LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Fund III LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Fund VI LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Asset Management LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFAM GP LLC	DE	NIA	JFIN Asset Management, LLC	Ownership	100.000	MMLIC		
.0000							JFAM GP LP	DE	NIA	JFIN Asset Management, LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Direct Lending Fund C LP	DE	NIA	JFIN Asset Management, LLC	Ownership	100.000	MMLIC		
.0000							Jefferies DLF C Holdings LLC	DE	NIA	Jefferies Direct Lending Fund C LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Direct Lending Fund C SPE LLC	DE	NIA	Jefferies DLF C Holdings LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Holdings LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Holdings II LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Holdings III LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver SPE III LLC	DE	NIA	JFIN Revolver Fund Holdings III LLC	Ownership	100.000	MMLIC		
.0000							JFIN Co-Issuer Corporation	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Europe GP, S.a.r.l.	LUX	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Finance Europe, S.L.P.	LUX	NIA	JFIN Europe GP, S.a.r.l.	Ownership	100.000	MMLIC		
.0000							Jefferies Finance Europe, SCSp	LUX	NIA	JFIN Europe GP, S.a.r.l.	Ownership	100.000	MMLIC		
.0000							Jefferies Finance Business Credit LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Business Credit Fund I LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN High Yield Investments LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN LC Fund LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO Holdings LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2012 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2013 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2014-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2015 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	44.000	MMLIC		
.0000							JFIN CLO 2015 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	56.000	MMLIC		
.0000							JFIN Revolver Fund, L.P.	DE	NIA	Jefferies Finance LLC	Ownership	90.000	MMLIC		
.0000							Apex Credit CLO 2015-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	33.000	MMLIC		
.0000							Apex Credit CLO 2015-II Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	53.000	MMLIC		
.0000							JFIN Revolver CLO 2014 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2015 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2017 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2017-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2017-III Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2018 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2019 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2019-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2020 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Apex Credit CLO 2016 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Apex Credit CLO 2017 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Apex Credit CLO 2017-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Apex Credit CLO 2019-II Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	74.000	MMLIC		
.0000							Apex Credit CLO 2020 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Retirement Services, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	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 Investment Holding	CYM	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		

STATEMENT AS OF SEPTEMBER 30, 2020 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? (Y/N)	*
.0000			04-3356880				MML Distributors LLC	MA	DS	Massachusetts Mutual Life Insurance Company	Ownership	99.000	MMLIC		
.0000			04-3356880				MML Distributors LLC	MA	DS	MassMutual Holding LLC	Ownership	1.000	MMLIC		
.0000							MML Investment Advisers, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			46-3238013				MML Strategic Distributors, LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			06-1563535	2881445			The MassMutual Trust Company, FSB	CT	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	Y	
.0000			26-0073611				MassMutual Asset Finance LLC	DE	DS	Massachusetts Mutual Life Insurance Company	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							Rozier LLC	DE	DS	MassMutual Asset Finance LLC	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	MML Private Equity Fund Investor LLC	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	Y	
.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							Sleeper Street LLC	DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			46-2252944				Haven Life Insurance Agency, LLC	DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Capital Partners LLC	DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Holding LLC	DE	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							Athens Fund Management LLC	DE	DS	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							Crane Venture Partners LLP	GBR	DS	MassMutual Ventures Holding LLC	Ownership	33.000	MMLIC		
.0000							MassMutual Ventures Management LLC	DE	DS	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures SEA Management Private Limited	DE	DS	MassMutual Ventures Holding 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 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							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			47-1466022				LifeScore Labs, LLC	MA	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Investors Services, LLC	MA	DS	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Insurance Agency, LLC	MA	DS	MML Investors Services, LLC	Ownership	100.000	MMLIC		

STATEMENT AS OF SEPTEMBER 30, 2020 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? (Y/N)	*
.0000			41-2011634				MMLISI Financial Alliances, LLC	DE	DS	MML Investors Services, LLC	Ownership	100.000	MMLIC		
.0000			45-4000072				MM Asset Management Holding LLC	DE	DS	MassMutual Holding 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	Baring Asset Management (Asia) 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			98-0236449				Barings Japan Limited	JPN	DS	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Australia Holding Company Pty Ltd	AUS	DS	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0457456				Barings Australia Pty Ltd	AUS	DS	Baring Australia Holding Company Pty Ltd	Ownership	100.000	MMLIC		
.0000			80-0875475				Barings Finance LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							BCF Europe Funding Limited	IRL	DS	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							BCF Senior Funding I LLC	DE	DS	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							BCF Senior Funding I Designated Activity Company	IRL	DS	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000			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 Italy S.r.l.	ITA	DS	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Sweden AB	SWE	DS	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Finland Oy	FIN	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							BREAE AIFM LLP	GBR	DS	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0654401				Barings Real Estate Advisers (Continental Europe) Limited	GBR	DS	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0654388				Barings Real Estate Advisers Europe LLP	GBR	DS	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0654412				Barings Real Estate Advisers Europe Finance LLP	GBR	DS	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-1194368				Barings Real Estate GmbH	DEU	DS	Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0241935				Baring Asset Management Limited	GBR	DS	MassMutual Holdings (Bermuda) Limited	Ownership	100.000	MMLIC		
.0000							Barings European Direct Lending 1 GP LLP	GBR	DS	Barings Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-1012393				Barings Global Advisors Limited	GBR	DS	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		
.0000							Baring International Investment Management Holdings	GBR	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457587							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										Baring Asset Management UK Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0465031				Baring Asset Management GmbH	DEU	DS	Baring Asset Management UK Holdings Limited	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		

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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? (Y/N)	*
.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			98-0457574				Baring Pension Trustees Limited	GBR	DS	Baring Asset Management 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 I GP S.a.r.l.	LUX	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings BME GP S.a.r.l.	GBR	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings GPC GP S.a.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.a.r.l.	LUX	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings Umbrella Fund (LUX) GP S.a.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							Almack Mezzanine GP III Limited	GBR	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0432153				Almack Mezzanine Fund II Limited	GBR	DS	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings (U.K.) Limited	GBR	DS	Barings Guernsey Limited	Ownership	100.000	MMLIC		
.0000							Barings Multifamily Capital Holdings LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Multifamily Capital LLC	WI	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Multifamily Capital Corporation	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-3238351	3456895			Barings Real Estate Advisers Inc.	CA	DS	Barings Real Estate Advisers 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			81-2244465				Chassis Acquisition Holding LLC	DE	NIA	Barings LLC	Influence		MMLIC		
.0000			81-4258759				CRA Aircraft Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	40.000	MMLIC		
.0000			81-4258759				CRA Aircraft Holding LLC	DE	NIA	Barings LLC	Influence		MMLIC		
.0000			83-0560183				Aland Royalty Holdings LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	26.600	MMLIC		
.0000			83-0560183				Aland Royalty Holdings LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000							ASM SIP, LP	CYM	NIA	Massachusetts Mutual Life Insurance Company	Ownership	13.200	MMLIC		
.0000							ASM SIP, LP	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000			46-2344300				Intermodal Holdings II LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	18.000	MMLIC		
.0000			47-3055009				Milestone Acquisition Holding, LLC	DE	NIA	MassMutual Holding LLC	Ownership/Influence	19.700	MMLIC		
.0000			47-3055009				Milestone Acquisition Holding, LLC	DE	NIA	Barings LLC	Influence		MMLIC		
.0000							Novation Companies, Inc.	MD	NIA	Massachusetts Mutual Life Insurance Company	Ownership	17.100	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	CT	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	66.300	MMLIC		
.0000			81-4065378				Remington L & W Holdings LLC	CT	NIA	Barings LLC	Influence		MMLIC		
.0000							Tamiami Citrus, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	15.700	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		

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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? (Y/N)	*
.0000			46-0687392				US Pharmaceutical Holdings I, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Management		MMLIC		
.0000			20-2970495				US Pharmaceutical Holdings II, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	42.400	MMLIC		
.0000			20-2970495				US Pharmaceutical Holdings II, LLC	DE	NIA	Barings LLC	Influence		MMLIC		
.0000							Validus Pharmaceuticals LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	70.000	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 Investment Series LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Capital Investment LLC	MD	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Emerging Generation Fund 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 ABIF SLP, 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							Barings Global Energy Infrastructure Advisors, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Multi Asset Income Fund	HKG	DS	Barings LLC	Management		MMLIC		
.0000							Barings North American Private Loan Fund Management, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings North American Private Loan Fund Management II, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings 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							Barings/LAZ Parking Fund GP LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Small Business Fund LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0536233				Benton Street Advisors, Inc.	CYM	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							BRECS VII GP LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							CCM Fund I REIT Manager LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							CHY Venture GP LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000							CREX X GP LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Great Lakes III GP, LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Lake Jackson LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			41-2280126				Loan Strategies Management LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			80-0920285				Mezzco III LLC	DE	DS	Barings LLC	Ownership	99.300	MMLIC		
.0000							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			04-1590850				Somerset Special Opportunities Management LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				SouthPointe Industrial LLC	DE	DS	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-3313782				MassMutual International LLC	DE	DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	Y	
.0000							MassMutual Solutions LLC	DE	DS	MassMutual International LLC	Ownership	100.000	MMLIC		

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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? (Y/N)	*
.0000							HarborTech (Asia) Limited	.HKG	.DS	MassMutual International LLC	Ownership	100.000	MMLIC		
.0000							Yunfeng Financial Group Limited	.HKG	.DS	MassMutual International LLC	Ownership	24.900	MMLIC		
.0000							MassMutual Asia Limited (SPV)	.HKG	.DS	MassMutual International LLC	Ownership	100.000	MMLIC		
.0000			04-2443240				MML Management Corporation	.MA	.DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC	Y	
.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			04-1590850				MML Mezzanine Investor II, LLC	.DE	.DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Mezzanine Investor III, LLC	.DE	.DS	Massachusetts Mutual Life Insurance Company	Ownership	11.100	MMLIC		
.0000			27-3576835				MassMutual External Benefits Group LLC	.DE	.DS	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				100 w. 3rd Street LLC	.DE	.NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				2160 Grand Manager LLC	.DE	.NIA	Massachusetts Mutual Life Insurance Company	Ownership	98.100	MMLIC		
.0000			82-2432216				300 South Tryon Hotel LLC	.DE	.NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				300 South Tryon LLC	.DE	.NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Almack Mezzanine Fund I LP	.GBR	.NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	41.400	MMLIC		
.0000							Almack Mezzanine Fund I LP	.GBR	.NIA	C.M. Life Insurance Company	Ownership	4.600	MMLIC		
.0000							Almack Mezzanine Fund II Unleveraged LP	.GBR	.NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	72.900	MMLIC		
.0000							Barings Affordable Housing Mortgage Fund I LLC	.DE	.NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Barings Affordable Housing Mortgage Fund I LLC	.DE	.NIA	Barings LLC	Management		MMLIC		
.0000			61-1902329				Barings Affordable Housing Mortgage Fund II LLC	.DE	.NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			61-1902329				Barings Affordable Housing Mortgage Fund II LLC	.DE	.NIA	Barings LLC	Management		MMLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP	.DE	.NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	11.200	MMLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP	.DE	.NIA	C.M. Life Insurance Company	Ownership/Influence	1.100	MMLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP	.DE	.NIA	Barings LLC	Management		MMLIC		
.0000							Barings Emerging Markets Corporate Bond Fund	.IRL	.NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	95.700	MMLIC		
.0000							Barings Emerging Markets Corporate Bond Fund	.IRL	.NIA	Barings LLC	Management		MMLIC		
.0000							Barings European Real Estate Debt Income Fund	.LUX	.NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	14.000	MMLIC		
.0000							Barings European Real Estate Debt Income Fund	.LUX	.NIA	Barings LLC	Influence		MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	.DE	.NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	22.100	MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	.DE	.NIA	C.M. Life Insurance Company	Ownership	1.400	MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2	.DE	.NIA	Barings LLC	Management		MMLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	.DE	.NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	75.800	MMLIC		

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.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	3.800	MMLIC		
.0000			37-1506417				Babson Capital Loan Strategies Fund, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings US High Yield Bond Fund	IRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	57.200	MMLIC		
.0000							Barings US High Yield Bond Fund	IRL	NIA	Barings LLC	Management		MMLIC		
.0000							Babson CLO Ltd. 2013-I	CYM	NIA	Barings LLC	Influence		MMLIC		3
.0000							Babson CLO Ltd. 2014-I	CYM	NIA	Barings LLC	Influence		MMLIC		2
.0000							Babson CLO Ltd. 2015-I	CYM	NIA	Barings LLC	Influence		MMLIC		4
.0000							Babson CLO Ltd. 2015-II	CYM	NIA	Barings LLC	Influence		MMLIC		5
.0000							Babson CLO Ltd. 2016-I	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson CLO Ltd. 2016-II	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO Ltd. 2017-I	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2018-III	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2018-IV	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2019-I	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000			98-1473665				Barings CLO 2019-II	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2019-III	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2019-IV	CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson Euro CLO 2014-I BV	NLD	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson Euro CLO 2014-II BV	NLD	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson Euro CLO 2015-I BV	NLD	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson Euro CLO 2016-I BV	NLD	NIA	Barings LLC	Influence		MMLIC		
.0000			36-037260H				Babson Euro CLO 2019-I BV	IRL	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson Euro CLO 2019-II BV	IRL	NIA	Barings LLC	Influence		MMLIC		
.0000							Massachusetts Mutual Life Insurance Company			Massachusetts Mutual Life Insurance Company	Ownership/Influence	99.300	MMLIC		
.0000			81-0841854				Barings CLO Investment Partners LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000			81-0841854				Barings CLO Investment Partners LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Management		MMLIC		
.0000							Barings Real Estate European Value Add I SCSp	GBR	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	44.700	MMLIC		
.0000							Barings Real Estate European Value Add I SCSp	GBR	NIA	C.M. Life Insurance Company	Ownership	5.000	MMLIC		
.0000							Barings Real Estate European Value Add I SCSp	GBR	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Em. Markets Equity Fund	NC	NIA	Barings LLC	Management		MMLIC		
.0000			82-5330194				Barings Global Energy Infrastructure Fund I LP			Massachusetts Mutual Life Insurance Company	Ownership/Influence	96.300	MMLIC		
.0000			98-1332384				Barings Global Energy Infrastructure Fund I LP	CYM	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	96.300	MMLIC		
.0000			98-1332384				Barings Global Energy Infrastructure Fund I LP	CYM	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000							Barings Global Dividends Champion Fund	IRL	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Inv. Grade Strat Fund	IRL	NIA	Barings LLC	Management		MMLIC		
.0000							Massachusetts Mutual Life Insurance Company			Massachusetts Mutual Life Insurance Company	Ownership/Influence	13.100	MMLIC		
.0000							Barings Global Private Loan Fund	LUX	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Private Loan Fund	LUX	NIA	Massachusetts Mutual Life Insurance Company	Management		MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	DE	NIA	Company	Ownership/Influence	43.000	MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	DE	NIA	C.M. Life Insurance Company	Ownership	7.600	MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP	DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Special Situations Credit Fund 3			Massachusetts Mutual Life Insurance Company	Ownership/Influence	20.100	MMLIC		
.0000							Barings Global Special Situations Credit Fund 3	IRL	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	20.100	MMLIC		
.0000							Barings Global Special Situations Credit Fund 3	IRL	NIA	Barings LLC	Management		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		

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.0000			38-4010344				Barings North American Private Loan Fund LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	45.600	MLLIC		
.0000			38-4010344				Barings North American Private Loan Fund LP	DE	NIA	Barings Asset Management Limited	Management		MLLIC		
.0000			98-1332384				Barings RE Credit Strategies VII LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	34.200	MLLIC		
.0000			98-1332384				Barings RE Credit Strategies VII LP	DE	NIA	Barings Asset Management Limited	Management		MLLIC		
.0000			26-4142796				Baring International Small Cap Equity Fund	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	8.200	MLLIC		
.0000			26-4142796				Baring International Small Cap Equity Fund	DE	NIA	Barings Asset Management Limited	Management		MLLIC		
.0000							Braemar Energy Ventures I, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	88.500	MLLIC		
.0000							Braemar Energy Ventures I, L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	1.300	MLLIC		
.0000							Braemar Energy Ventures I, L.P.	DE	NIA	Barings LLC	Management		MLLIC		
.0000							Barings European Core Property Fund SCSp	LUX	NIA	MassMutual Holding LLC	Ownership/Influence	11.600	MLLIC		
.0000							Barings European Core Property Fund SCSp	LUX	NIA	C.M. Life Insurance Company	Ownership	0.700	MLLIC		
.0000							Barings European Core Property Fund SCSp	LUX	NIA	Barings Real Estate Advisers LLC	Management		MLLIC		
.0000			38-4059932				Benchmark 2018-B2 Mortgage Trust	NY	NIA	Barings LLC	Influence		MLLIC		
.0000							Benchmark 2018-B4	NY	NIA	Barings LLC	Influence		MLLIC		
.0000			38-4096530				Benchmark 2018-B8	NY	NIA	Barings LLC	Influence		MLLIC		
.0000			04-1590850				Braselton Point LLC	DE	NIA	Barings LLC	Ownership	100.000	MLLIC		
.0000			20-5578089				Barings Core Property Fund LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence	15.900	MLLIC		
.0000			20-5578089				Barings Core Property Fund LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MLLIC		
.0000							Cornerstone Real Estate Fund X LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	25.000	MLLIC		
.0000							Cornerstone Real Estate Fund X LP	DE	NIA	C.M. Life Insurance Company	Ownership	2.800	MLLIC		
.0000							Cornerstone Real Estate Fund X LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MLLIC		
.0000			35-2531693				Cornerstone Permanent Mortgage Fund III LLC	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MLLIC		
.0000							Cornerstone Permanent Mortgage Fund IV LLC	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	34.600	MLLIC		
.0000			90-0991195		0001597511		Gateway Mezzanine Partners II LP	DE	NIA	C.M. Life Insurance Company	Ownership	5.200	MLLIC		
.0000							GASL Holdings, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	11.300	MLLIC		
.0000					0001597511		Gateway Mezzanine Partners II LP	DE	NIA	Barings LLC	Management		MLLIC		
.0000			37-1708623				Great Lakes III, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	41.300	MLLIC		
.0000			37-1708623				Great Lakes III, L.P.	DE	NIA	Barings LLC	Management		MLLIC		
.0000			38-4041011				JPMCC Commercial Mortgage Securities Trust 2017-JP7	NY	NIA	Barings LLC	Influence		MLLIC		
.0000							JPMDB Commercial Mortgage Securities Trust 2017-C5	NY	NIA	Barings LLC	Influence		MLLIC		
.0000			82-1512591				KKR-MM Vector LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	56.300	MLLIC		
.0000			46-4255307				Marco Hotel LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MLLIC		
.0000							Miami Douglas One GP LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	84.500	MLLIC		
.0000			04-1590850				Miami Douglas One GP LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.500	MLLIC		
.0000			04-1590850				Miami Douglas One GP LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MLLIC		
.0000			04-1590850				Miami Douglas Two GP LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MLLIC		
.0000			04-1590850				Miami Douglas Two GP LLC	DE	NIA	C.M. Life Insurance Company	Ownership	0.000	MLLIC		

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.0000			04-1590850				Miami Douglas Two LP	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.000	MMLIC		
.0000			04-1590850				Miami Douglas Two LP	DE	NIA	C.M. Life Insurance Company	Ownership	0.000	MMLIC		
.0000			45-3623262				HB Naples Golf Owner LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			81-3000420				MM Debt Participations LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC		
.0000			81-3000420				MM Debt Participations LLC	DE	NIA	Barings LLC	Management		MMLIC		
.0000			82-4411267				RB Apartments LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			75-2901061				Reston Arboretum LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			54-2055778				Rockville Town Center LLC	VA	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	59.000	MMLIC		
.0000			20-8856877				Somerset Special Opportunities Fund L.P.	DE	NIA	C.M. Life Insurance Company	Ownership	2.900	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	88.100	MMLIC		
.0000			41-2280129				Tower Square Capital Partners IIIA, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
.0000			80-0920367				Tower Square Capital Partners IV-A, L.P.	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	21.300	MMLIC		
.0000			04-1590850				Trailside MM Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	59.600	MMLIC		
.0000			04-1590850				Trailside MM Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	7.400	MMLIC		
.0000			83-1325764				Washington Gateway Two LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	88.300	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	83.600	MMLIC		
.0000			32-0574045				Washington Gateway Three LLC	DE	NIA	C.M. Life Insurance Company	Ownership	11.400	MMLIC		
.0000			04-1590850				West 46th Street Hotel LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Barings Emerging Markets Debt Short Duration Fund	IRL	NIA	Barings LLC	Management		MMLIC		
.0000							Babson Capital Loan Strategies Master Fund LP	CYM	NIA	Barings LLC	Management		MMLIC		
.0000			47-3790192				Barings Global High Yield Fund	MA	NIA	Barings LLC	Management		MMLIC		
.0000			47-3734770				Barings Total Return Bond Fund	MA	NIA	Barings LLC	Management		MMLIC		
.0000							CCIC Fund	CHN	NIA	Barings LLC	Influence		MMLIC		
.0000			71-1018134				Great Lakes II LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	11.200	MMLIC		
.0000			71-1018134				Great Lakes II LLC	DE	NIA	C.M. Life Insurance Company	Ownership	1.000	MMLIC		
.0000			04-1590850				Wood Creek Venture Fund LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	60.000	MMLIC		
.0000			36-4823011				50 Liberty LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	91.000	MMLIC		
.0000			36-4823011				50 Liberty LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.800	MMLIC		
.0000			80-0948028				One Harbor Shore LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	91.000	MMLIC		

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.0000			80-0948028				One Harbor Shore LLC	DE	NIA	C.M. Life Insurance Company	Ownership	9.000	MMLIC		
.0000			81-4382111				Budapester Strasse LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	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	83.900	MMLIC		
.0000			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NIA	C.M. Life Insurance Company	Ownership	6.100	MMLIC		
.0000			45-2632610				Cornerstone Permanent Mortgage Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			45-2632610				Cornerstone Permanent Mortgage Fund	MA	NIA	Barings LLC	Management		MMLIC		
.0000			61-1750537				Cornerstone Permanent Mortgage Fund II	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			61-1750537				Cornerstone Permanent Mortgage Fund II	MA	NIA	Barings LLC	Management		MMLIC		
.0000			61-1793735				Cornerstone Permanent Mortgage Fund IV	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			81-0890084				CREA Madison Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership	100.000	MMLIC		
.0000			82-1563809				CCB Montford Park LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	75.200	MMLIC		
.0000			82-1563809				CCB Montford Park LLC	DE	NIA	C.M. Life Insurance Company	Ownership	4.800	MMLIC		
.0000			82-2783393				Danville Riverwalk Venture, LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			20-3347091				Fan Pier Development LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	59.200	MMLIC		
.0000			20-3347091				Fan Pier Development LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.600	MMLIC		
.0000			81-5360103				Landmark Manchester Holdings LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MM Island Member LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	49.000	MMLIC		
.0000			83-0881588				NoHo West Venture LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	95.000	MMLIC		
.0000			04-1590850				PACO France Logistics 2 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	95.000	MMLIC		
.0000							Salomon Brothers Commercial Mortgage Trust 2001-MM	DE	NIA	Barings Real Estate Advisers LLC	Influence		MMLIC		
.0000			27-2977720				Savgrass Village Shopping Center LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	84.200	MMLIC		
.0000			27-2977720				Savgrass Village Shopping Center LLC	DE	NIA	C.M. Life Insurance Company	Ownership	15.800	MMLIC		
.0000			04-1590850				Spain Avalon Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			81-5273574				Three PW Office Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	95.100	MMLIC		

STATEMENT AS OF SEPTEMBER 30, 2020 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? (Y/N)	*
.0000			35-2484550				Twenty Two Liberty LLC	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	91.000	MMLIC		
.0000			35-2484550				Twenty Two Liberty LLC	MA	NIA	C.M. Life Insurance Company	Ownership	9.000	MMLIC		
.0000			82-3250684				Unna, Dortmund Holding LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	90.400	MMLIC		
.0000			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	C.M. Life Insurance Company	Ownership	4.800	MMLIC		
.0000			45-3168892				MassMutual Barings Dynamic Allocation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			51-0529328		0000927972	00	MassMutual Premier Main Street Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	64.900	MMLIC		
.0000			26-3229251		0000927972	00	MassMutual Premier Strategic Emerging Markets Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	3.100	MMLIC		
.0000			04-3277550		0000927972	00	MassMutual Premier Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			14-1980900		0000916053	00	MassMutual Select Diversified International Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			01-0821120		0000916053	00	MassMutual Select Diversified Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.800	MMLIC		
.0000			04-3512593		0000916053	00	MassMutual Select Fundamental Growth Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	3.200	MMLIC		
.0000			04-3513019		0000916053	00	MassMutual Select Large Cap Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			42-1710935		0000916053	00	MassMutual Select Mid-Cap Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	17.200	MMLIC		
.0000			02-0769954		0000916053	00	MassMutual Select Small Capital Value Equity Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			04-3584140		0000916053	00	MassMutual Select Small Company Value Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	5.600	MMLIC		
.0000			82-3347422		0000916053	00	MassMutual Select T. Rowe Price Retirement 2005 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	8.800	MMLIC		
.0000			82-3355639		0000916053	00	MassMutual Select T. Rowe Price Retirement 2010 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			82-3382389		0000916053	00	MassMutual Select T. Rowe Price Retirement 2015 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			82-3396442		0000916053	00	MassMutual Select T. Rowe Price Retirement 2020 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			82-3417420		0000916053	00	MassMutual Select T. Rowe Price Retirement 2025 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			82-3430358		0000916053	00	MassMutual Select T. Rowe Price Retirement 2030 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			82-3439837		0000916053	00	MassMutual Select T. Rowe Price Retirement 2035 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			82-3451779		0000916053	00	MassMutual Select T. Rowe Price Retirement 2040 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			82-3472295		0000916053	00	MassMutual Select T. Rowe Price Retirement 2045 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			82-3481715		0000916053	00	MassMutual Select T. Rowe Price Retirement 2050 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			82-3502011		0000916053	00	MassMutual Select T. Rowe Price Retirement 2055 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			82-3525148		0000916053	00	MassMutual Select T. Rowe Price Retirement 2060 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		

STATEMENT AS OF SEPTEMBER 30, 2020 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1 Group Code	2 Group Name	3 NAIC Company Code	4 ID Number	5 Federal RSSD	6 CIK	7 Name of Securities Exchange if Publicly Traded (U.S. or International)	8 Names of Parent, Subsidiaries Or Affiliates	9 Domi-ciliary Location	10 Relation-ship to Reporting Entity	11 Directly Controlled by (Name of Entity/Person)	12 Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	13 If Control is Ownership Provide Percentage	14 Ultimate Controlling Entity(ies)/Person(s)	15 Is an SCA Filing Re-quired? (Y/N)	16 *
.0000			82-3533944		0000916053	OQ	MassMutual Select T. Rowe Price Retirement Balanced Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			46-4257056				MML Series International Equity Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	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	Ownership	0.000	MMLIC		
.0000			47-3544629				MML Series II Equity Rotation Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	95.100	MMLIC		
.0000			47-3559064				MML Series II Special Situations Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	97.300	MMLIC		
.0000			27-1933828		0000916053	OQ	MassMutual RetireSMART 2015 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			27-1933389		0000916053	OQ	MassMutual RetireSMART 2035 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	3.900	MMLIC		
.0000			27-1932769		0000916053	OQ	MassMutual RetireSMART 2045 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	9.200	MMLIC		
.0000			46-3289207		0000916053	OQ	MassMutual RetireSMART 2055 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	30.300	MMLIC		
.0000			47-5326235		0000916053	OQ	MassMutual RetireSMART 2060 Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	56.800	MMLIC		
.0000			45-1618155		0000916053	OQ	MassMutual RetireSMART Conservative Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			45-1618222		0000916053	OQ	MassMutual RetireSMART Growth Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			03-0532464		0000916053	OQ	MassMutual RetireSMART In Retirement Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	1.700	MMLIC		
.0000			45-1618262		0000916053	OQ	MassMutual RetireSMART Moderate Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		
.0000			45-1618046		0000916053	OQ	MassMutual RetireSMART Moderate Growth Fund	MA	NIA	Massachusetts Mutual Life Insurance Company	Ownership	0.000	MMLIC		

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

13.12

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

Explanation:

1. Not required
2. This line of business is not written by the company
3. No
4. No
5. No
6. No
7. No

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]



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	25,610,587		25,610,587	27,672,460
2505. Pension plan asset	605,127,820	605,127,820		
2506. Cash advances to agents	218,352,951	218,352,951		
2507. Intangible assets	68,660,342	68,660,342		
2508. Commissions and expenses on long-term lease	67,563,037	67,563,037		
2509. Bills receivable	76,076	76,076		
2597. Summary of remaining write-ins for Line 25 from overflow page	985,390,813	959,780,226	25,610,587	27,672,460

Additional Write-ins for Liabilities Line 25

	1 Current Statement Date	2 December 31 Prior Year
2504. Funds awaiting escheat and other miscellaneous	85,672,575	89,764,821
2505. Deferred income liability	13,117,932	14,159,691
2597. Summary of remaining write-ins for Line 25 from overflow page	98,790,507	103,924,512

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. Revenue sharing	37,955,237	53,562,173	70,699,722
08.305. Miscellaneous income	29,150,717	30,426,892	43,132,268
08.397. Summary of remaining write-ins for Line 8.3 from overflow page	67,105,955	83,989,065	113,831,990

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. Ceded income on funds withheld	221,178,605	154,039,195	204,914,037
2705. Miscellaneous charges to operations	64,466,740	23,139,013	40,063,004
2706. Change in Liability for employee/agent benefit plans	5,989,571	52,612,086	78,261,701
2797. Summary of remaining write-ins for Line 27 from overflow page	291,634,916	229,790,294	323,238,742

Additional Write-ins for Summary of Operations Line 53

	1 Current Year To Date	2 Prior Year To Date	3 Prior Year Ended December 31
5304. Change in minimum pension liability			(68,071,660)
5397. Summary of remaining write-ins for Line 53 from overflow page			(68,071,660)

STATEMENT AS OF SEPTEMBER 30, 2020 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	358,212,616	488,306,553
2. Cost of acquired:		
2.1 Actual cost at time of acquisition		78,792,713
2.2 Additional investment made after acquisition	101,550,251	99,590,730
3. Current year change in encumbrances	(26,236,000)	(58,736,210)
4. Total gain (loss) on disposals	952,949	74,240,741
5. Deduct amounts received on disposals	952,949	191,891,888
6. Total foreign exchange change in book/adjusted carrying value		
7. Deduct current year's other than temporary impairment recognized	30,462,722	40,793,428
8. Deduct current year's depreciation	63,102,674	91,296,595
9. Book/adjusted carrying value at the end of current period (Lines 1+2+3+4-5+6-7-8)	339,961,471	358,212,616
10. Deduct total nonadmitted amounts		
11. Statement value at end of current period (Line 9 minus Line 10)	339,961,471	358,212,616

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	27,472,894,866	23,623,807,529
2. Cost of acquired:		
2.1 Actual cost at time of acquisition	3,143,167,882	5,802,607,047
2.2 Additional investment made after acquisition	191,054,146	407,941,377
3. Capitalized deferred interest and other	59,513,242	47,785,824
4. Accrual of discount	9,835,872	8,298,786
5. Unrealized valuation increase (decrease)		
6. Total gain (loss) on disposals	(46,981,451)	2,756,536
7. Deduct amounts received on disposals	2,688,511,395	2,514,218,880
8. Deduct amortization of premium and mortgage interest points and commitment fees	(5,239,802)	3,184,496
9. Total foreign exchange change in book value/recorded investment excluding accrued interest	(11,023,778)	97,101,143
10. Deduct current year's other than temporary impairment recognized	11,949,974	
11. Book value/recorded investment excluding accrued interest at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	28,123,239,212	27,472,894,866
12. Total valuation allowance	(27,870,229)	
13. Subtotal (Line 11 plus Line 12)	28,095,368,983	27,472,894,866
14. Deduct total nonadmitted amounts		
15. Statement value at end of current period (Line 13 minus Line 14)	28,095,368,983	27,472,894,866

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	9,072,179,122	8,643,322,029
2. Cost of acquired:		
2.1 Actual cost at time of acquisition	707,569,329	546,154,933
2.2 Additional investment made after acquisition	717,263,547	1,054,111,991
3. Capitalized deferred interest and other		
4. Accrual of discount		
5. Unrealized valuation increase (decrease)	(159,998,855)	772,689,310
6. Total gain (loss) on disposals	4,345,439	126,189,366
7. Deduct amounts received on disposals	1,081,555,470	2,102,972,280
8. Deduct amortization of premium and depreciation	794,532	741,103
9. Total foreign exchange change in book/adjusted carrying value	(18,454,607)	69,826,426
10. Deduct current year's other than temporary impairment recognized	1,822,980	36,401,550
11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	9,238,730,992	9,072,179,122
12. Deduct total nonadmitted amounts	55,579,228	60,352,690
13. Statement value at end of current period (Line 11 minus Line 12)	9,183,151,764	9,011,826,432

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	120,811,328,057	110,650,590,353
2. Cost of bonds and stocks acquired	33,961,442,857	29,778,484,140
3. Accrual of discount	204,147,294	255,360,217
4. Unrealized valuation increase (decrease)	988,893,823	4,504,768,568
5. Total gain (loss) on disposals	15,038,970	197,349,566
6. Deduct consideration for bonds and stocks disposed of	16,722,590,597	24,633,640,825
7. Deduct amortization of premium	99,185,900	117,639,005
8. Total foreign exchange change in book/adjusted carrying value	268,821,295	224,899,740
9. Deduct current year's other than temporary impairment recognized	201,021,279	111,115,686
10. Total investment income recognized as a result of prepayment penalties and/or acceleration fees	35,629,144	62,270,989
11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9+10)	139,262,503,664	120,811,328,057
12. Deduct total nonadmitted amounts	189,047	189,047
13. Statement value at end of current period (Line 11 minus Line 12)	139,262,314,617	120,811,139,010

STATEMENT AS OF SEPTEMBER 30, 2020 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)	64,466,023,450	26,397,443,939	23,554,846,896	(143,064,448)	59,839,197,593	64,466,023,450	67,165,556,045	53,813,591,576
2. NAIC 2 (a)	45,396,063,058	25,939,480,435	22,817,561,441	118,978,303	45,212,894,604	45,396,063,058	48,636,960,355	41,011,157,082
3. NAIC 3 (a)	7,451,496,057	1,610,853,618	1,635,935,310	673,778,239	7,386,469,186	7,451,496,057	8,100,192,604	6,238,245,668
4. NAIC 4 (a)	2,122,587,438	503,008,656	372,765,049	(135,977,072)	1,877,470,828	2,122,587,438	2,116,853,973	1,737,309,727
5. NAIC 5 (a)	2,038,884,857	102,577,423	90,372,466	179,171,796	1,946,776,264	2,038,884,857	2,230,261,610	1,918,559,870
6. NAIC 6 (a)	407,595,439	67,746,755	106,914,998	26,176,516	422,850,792	407,595,439	394,603,712	464,363,171
7. Total Bonds	121,882,650,298	54,621,110,826	48,578,396,160	719,063,334	116,685,659,266	121,882,650,298	128,644,428,298	105,183,227,094
PREFERRED STOCK								
8. NAIC 1	351,000,000			8,675,386	351,000,000	351,000,000	359,675,386	443,850,000
9. NAIC 2	28,348,812	928,000	7,278,612	(8,642,700)	215,419,688	28,348,812	13,355,500	130,181,688
10. NAIC 3	141,021,927				141,021,927	141,021,927	141,021,927	141,021,927
11. NAIC 4								
12. NAIC 5	21,471,387	53,594		(569,307)	21,577,796	21,471,387	20,955,674	22,047,657
13. NAIC 6	1,562,618	10,014,858		3,424,532	9,724,831	1,562,618	15,002,008	11,782,864
14. Total Preferred Stock	543,404,744	10,996,452	7,278,612	2,887,911	738,744,242	543,404,744	550,010,495	748,884,136
15. Total Bonds and Preferred Stock	122,426,055,042	54,632,107,278	48,585,674,772	721,951,245	117,424,403,508	122,426,055,042	129,194,438,793	105,932,111,230

(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 \$ 6,721,426,711 ; NAIC 2 \$ 2,254,688,849 ; NAIC 3 \$ 85,944,212 ; NAIC 4 \$ 897,429 ; NAIC 5 \$; NAIC 6 \$ 1,640,587

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
9199999 Totals	5,480,358,939	xxx	5,378,016,288	1,471,936	

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	1,159,172,265	447,734,452
2. Cost of short-term investments acquired	12,513,485,306	3,175,979,903
3. Accrual of discount	27,379,855	18,740,444
4. Unrealized valuation increase (decrease)		
5. Total gain (loss) on disposals	706,650	109,655
6. Deduct consideration received on disposals	8,220,385,137	2,483,392,190
7. Deduct amortization of premium		
8. Total foreign exchange change in book/adjusted carrying value		
9. Deduct current year's other than temporary impairment recognized		
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9)	5,480,358,939	1,159,172,265
11. Deduct total nonadmitted amounts		
12. Statement value at end of current period (Line 10 minus Line 11)	5,480,358,939	1,159,172,265

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)	2,563,068,316
2. Cost Paid/(Consideration Received) on additions	345,180,797
3. Unrealized Valuation increase/(decrease)	3,513,168,189
4. SSAP No. 108 adjustments	
5. Total gain (loss) on termination recognized	907,613,160
6. Considerations received/(paid) on terminations	1,259,422,544
7. Amortization	(220,293)
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)	6,069,387,625
11. Deduct nonadmitted assets	
12. Statement value at end of current period (Line 10 minus Line 11)	6,069,387,625

SCHEDULE DB - PART B - VERIFICATION

Futures Contracts

1. Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year)	(107,780,033)
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	(34,473,307)
3.14 Section 1, Column 18, prior year	(107,780,033)
	73,306,725
	73,306,725
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	(34,473,307)
3.24 Section 1, Column 19, prior year	(107,780,033)
3.25 SSAP No. 108 adjustments	
	73,306,725
	73,306,725
3.3 Subtotal (Line 3.1 minus Line 3.2)	
4.1 Cumulative variation margin on terminated contracts during the year	539,527,899
4.2 Less:	
4.21 Amount used to adjust basis of hedged item	
4.22 Amount recognized	539,527,899
4.23 SSAP No. 108 adjustments	
	539,527,899
4.3 Subtotal (Line 4.1 minus Line 4.2)	
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	(73,306,725)
6. Book/Adjusted carrying value at end of current period (Lines 1+2+3.3-4.3-5.1-5.2)	(34,473,307)
7. Deduct total nonadmitted amounts	
8. Statement value at end of current period (Line 6 minus Line 7)	(34,473,307)

STATEMENT AS OF SEPTEMBER 30, 2020 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*AA9	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	1	50,000,000	13,054,273	28,135,505	10/01/2012	10/01/2042	Interest Rate Swap		15,253,437	42086P-AC-7	Kingsland Ltd-SERIES 18-8A CLASS A	1	13,054,273	12,882,068
57629*AA9	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	1		11,725,038	11,574,043	10/01/2012	10/01/2042	Interest Rate Swap			32080B-AD-0	FIRST MARYLAND CAP I-LIMITED GUARANTEE NOTE	2	11,725,038	11,574,043
57629*AA9	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	1		17,896,878	17,871,957	10/01/2012	10/01/2042	Interest Rate Swap			38136M-AC-2	Goldentree Loan Management US Clo 2 Ltd	1	17,896,878	17,871,957
57629*AA9	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	1		10,000,000	9,891,370	10/01/2012	10/01/2042	Interest Rate Swap			09629L-AE-5	BLUEMOUNTAIN CLO XXIII L-BLUEM 2018-23A B	1	10,000,000	9,891,370
57629*AA9	Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds	1		5,000,000	4,865,935	10/01/2012	10/01/2042	Interest Rate Swap			03328Y-AG-9	Anchorage Capital CLO Lt-ANCHC 2018-1RA C	1	5,000,000	4,865,935
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	1	50,000,000	5,197,622	20,459,353	10/01/2012	10/01/2042	Interest Rate Swap		15,192,315	13876L-AC-1	CANYC 2020-1A-B FLOATING COUP SLM STUDENT LN TR 2006-5-NOTE CL B	1	5,197,622	5,267,038
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	1		2,802,400	2,665,936	10/01/2012	10/01/2042	Interest Rate Swap			83149E-AG-2	THAYER PARK CLO LTD.-THAYR 2017-1A B	1	2,802,400	2,665,936
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	1		5,476,000	5,426,727	10/01/2012	10/01/2042	Interest Rate Swap			883310-AE-4	ROCKFORD TOWER CLO 2018--ROCKT 2018-2A A	1	5,476,000	5,426,727
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	1		6,430,000	6,324,863	10/01/2012	10/01/2042	Interest Rate Swap			77342K-AA-8	BlueMountain Fuji US Clo-SERIES 2017-3A CLASS B	1	6,430,000	6,324,863
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	1		8,000,000	7,781,216	10/01/2012	10/01/2042	Interest Rate Swap			09628F-AE-9	Canyon Capital CLO Ltd-CANYC 2012-1RA B	1	8,000,000	7,781,216
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	1		4,000,000	3,958,736	10/01/2012	10/01/2042	Interest Rate Swap			13876J-AE-2	Wind River CLO Ltd-SERIES 18-3A CLASS A2	1	4,000,000	3,958,736
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	1		15,000,000	14,801,685	10/01/2012	10/01/2042	Interest Rate Swap			88432U-AC-0	Apidos Clo XXV-APID 2016-25A A2R Carlyle US CLO 2017-5 Re Term Loan	1	15,000,000	14,801,685
57629*AB7	Evergreen Basket of Long Fixed Rate Bank Loans B- or Above	1		6,800,000	6,741,166	10/01/2012	10/01/2042	Interest Rate Swap			03762Y-AH-0	SLM Student Loan Trust 2006-6 GILBERT PARK CLO LTD-SERIES 17-1A CLASS A	1	6,800,000	6,741,166
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	264,000,000	19,161,658	98,548,930	11/29/2012	11/29/2042	Interest Rate Swap		79,739,847	14316R-ZZ-6	CARLYLE GLOBAL MKT STRATEGIES CLO 2013-2 LTD MEZZ SEC DEF NT COP CLO 2017-14 Ltd-SERIES 17-14A CLASS A1B	1	19,161,658	18,809,083
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,389,149	11,047,209	11/29/2012	11/29/2042	Interest Rate Swap			83149F-AD-6	MASSMUTUAL ASSET FIN LLC SR SEC0 REV NT	3	11,389,149	11,047,209
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,583,735	22,814,298	11/29/2012	11/29/2042	Interest Rate Swap			375415-AA-4	CVP CASCADE CLO LTD-CVPC 2014-2A A1R	1	22,583,735	22,814,298
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,500,000	12,950,928	11/29/2012	11/29/2042	Interest Rate Swap			14310D-AY-3	WELLFLEET CLO LTD-WELF 2017-1A B ALLEGRO CLO V LTD-SERIES 17-1A CLASS MEZ, FLT	1	13,500,000	12,950,928
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,100,000	12,866,191	11/29/2012	11/29/2042	Interest Rate Swap			67097Q-AC-9	Goldentree Loan Opportun-GLD12 2016-12A AJR	1	13,100,000	12,866,191
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,956,134	2,044,995	11/29/2012	11/29/2042	Interest Rate Swap			57542Z-AO-7	Apidos CLO-APID 2018-29A B C1FC Funding 2018-IV Ltd-SERIES 18-4A CLASS A1	1	1,956,134	2,044,995
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		36,944,425	36,925,953	11/29/2012	11/29/2042	Interest Rate Swap			126611-AL-6	Ballyrock Ltd	1	36,944,425	36,925,953
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,200,000	6,030,473	11/29/2012	11/29/2042	Interest Rate Swap			94950G-AE-7	AGL CLO Ltd-AGL 2020-6A A1 Canyon CLO 2020-2 Ltd-CANYC 2020-2A	1	6,200,000	6,030,473
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,525,000	5,421,699	11/29/2012	11/29/2042	Interest Rate Swap			01748R-AE-5	AGL CLO Ltd-AGL 2020-8A A1 Bain Capital Credit CLO-BCC 2020-2A B1	1	5,525,000	5,421,699
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,848,050	11/29/2012	11/29/2042	Interest Rate Swap			38137M-AK-3		1	15,000,000	14,848,050
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,500,000	4,363,641	11/29/2012	11/29/2042	Interest Rate Swap			03767M-AJ-7		1	4,500,000	4,363,641
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,956,530	11/29/2012	11/29/2042	Interest Rate Swap			17181T-AA-9		1	5,000,000	4,956,530
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,000,000	11,899,020	11/29/2012	11/29/2042	Interest Rate Swap			04017J-AE-1		1	12,000,000	11,899,020
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,700,000	8,728,997	11/29/2012	11/29/2042	Interest Rate Swap			05875P-AE-5		1	8,700,000	8,728,997
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,000,000	30,062,430	11/29/2012	11/29/2042	Interest Rate Swap			00119V-AA-7		1	30,000,000	30,062,430
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,250,000	23,250,000	11/29/2012	11/29/2042	Interest Rate Swap			13876N-AA-1		1	23,250,000	23,250,000
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	20,000,000	11/29/2012	11/29/2042	Interest Rate Swap			00851K-AA-3		1	20,000,000	20,000,000
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,600,000	3,613,234	11/29/2012	11/29/2042	Interest Rate Swap			05683E-AC-6		1	3,600,000	3,613,234

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STATEMENT AS OF SEPTEMBER 30, 2020 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*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,000,000	9,033,066	11/29/2012	11/29/2042	Interest Rate Swap			12547L-AE-8	CIFC Funding Ltd-CIFC 2020-2A B	1	9,000,000	9,033,066
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,425,000	1,359,500	11/29/2012	11/29/2042	Interest Rate Swap			06760E-AG-1	Babson CLO Ltd 2013-I-SERIES 2013-IA CLASS DR	1	1,425,000	1,359,500
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,220,000	1,114,847	11/29/2012	11/29/2042	Interest Rate Swap			056162-AU-4	Babson CLO Ltd 2015-I-SERIES 2015-IA CLASS DR	1	1,220,000	1,114,847
57629*AC5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		196,970	191,819	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	191,819
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	12,000,000	45,978,907	12/27/2012	12/27/2042	Interest Rate Swap		34,085,407	67112K-AC-3	'00P CLO Ltd-SEREIS 18-15A CLASS A3	1	12,000,000	11,893,500
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,000,000	3,824,944	12/27/2012	12/27/2042	Interest Rate Swap			83600R-AE-1	SOUND POINT CLO LTD-SNDPT 2017-1A C	1	4,000,000	3,824,944
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,663,755	22,371,392	12/27/2012	12/27/2042	Interest Rate Swap			14315J-YY-9	Carlyle US CLO 2017-3 Ri Term Loan	1	22,663,755	22,371,392
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	3,155,434	12/27/2012	12/27/2042	Interest Rate Swap			03330A-AC-6	Anchorage Capital CLO 3--ANCHC 2014-3RA B	1	3,200,000	3,155,434
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		33,000,000	32,668,416	12/27/2012	12/27/2042	Interest Rate Swap			87271L-AJ-1	TIAA CLO I Ltd-TIA 2016-1A AR	1	33,000,000	32,668,416
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,800,000	8,526,813	12/27/2012	12/27/2042	Interest Rate Swap			14310D-AW-7	Carlyle Global Market St-SERIES 2013-2A CLASS BR	1	8,800,000	8,526,813
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,897,196	15,414,566	12/27/2012	12/27/2042	Interest Rate Swap			24820R-AA-6	Statoil ASA-SENIOR UNSECURED NOTE C1FC Funding 2017-IV Ltd-SERIES 17-4A CLASS B	1	13,897,196	15,414,566
57629*AE1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,952,382	4,905,955	12/27/2012	12/27/2042	Interest Rate Swap			12551J-AG-1	WACHOVIA STUDENT LOAN TR-WSLT 2005-1 B	1	4,952,382	4,905,955
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	11,842,442	45,460,383	12/27/2012	12/27/2042	Interest Rate Swap		34,085,407	92977H-AG-3	ATRIUM CDO CORP-SERIES 9A CLASS BR	1	11,842,442	11,374,976
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,990,000	18,858,437	12/27/2012	12/27/2042	Interest Rate Swap			04964K-AN-1		1	18,990,000	18,858,437
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,000,000	29,862,360	12/27/2012	12/27/2042	Interest Rate Swap			65023P-AC-4	Newark BSL CLO 2 Ltd	1	30,000,000	29,862,360
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,000,000	22,566,082	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	22,566,082
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,500,000	9,333,380	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	9,333,380
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,000,000	3,862,020	12/27/2012	12/27/2042	Interest Rate Swap			28622J-AB-3	ARROWMARK COLORADO HOLDI-SERIES 17-7A CLASS B	1	4,000,000	3,862,020
57629*AD3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,750,000	4,751,829	12/27/2012	12/27/2042	Interest Rate Swap			55954W-AC-3	Magnetite XXIV Ltd-SERIES 2019-24A CLASS B	1	4,750,000	4,751,829
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	6,000,000	40,613,460	12/28/2012	12/28/2042	Interest Rate Swap		34,661,214	38138B-AG-5	Goldentree Loan Managem-GLM 2018-3A B1	1	6,000,000	5,952,246
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		29,845,919	29,636,310	12/28/2012	12/28/2042	Interest Rate Swap			56608K-AA-1	Marble Point CLO XIV Ltd-MP14 2018-2A A	1	29,845,919	29,636,310
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,960,380	12/28/2012	12/28/2042	Interest Rate Swap			87246M-AJ-1	TICP CLO VI 2016-2 Ltd-SERIES 2016-6A CLASS BR	1	10,000,000	9,960,380
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	7,001,141	12/28/2012	12/28/2042	Interest Rate Swap			55818X-BA-0	MADISON PARK FUNDING LTD-SERIES 2015-16A CLASS BR	1	7,000,000	7,001,141
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,050,000	10,927,864	12/28/2012	12/28/2042	Interest Rate Swap			88432M-AC-8	WIND RIVER CLO LTD-WINDR 2017-1A B	1	11,050,000	10,927,864
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,984,891	22,552,430	12/28/2012	12/28/2042	Interest Rate Swap			22615M-AL-6	Crestline Denali CLO XIV-SERIES16-1A CLASS A1R	1	22,984,891	22,552,430
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,841,160	12/28/2012	12/28/2042	Interest Rate Swap			89852T-AN-8	Tryon Park CLO Ltd-TPCLO 2013-1A A1JR	1	8,000,000	7,841,160
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,000,000	2,969,442	12/28/2012	12/28/2042	Interest Rate Swap			87248K-AS-3	TICP CLO VI 2016-5 LTD-TICP 2016-5A A2R	1	3,000,000	2,969,442
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	981,504	12/28/2012	12/28/2042	Interest Rate Swap			94950J-AA-9	Wellfleet CLO Ltd-SERIES 18-1A CLASS A	1	1,000,000	981,504
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,000,000	3,934,968	12/28/2012	12/28/2042	Interest Rate Swap			40437L-AE-2	HPS LOAN MANAGEMENT 13-2-HLM 13A-18 A2	1	4,000,000	3,934,968
57629*AF8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,060,000	4,855,181	12/28/2012	12/28/2042	Interest Rate Swap			92917A-AE-6	Voya CLO Ltd-SERIES 18-1A CLASS B	1	5,060,000	4,855,181
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	59,000,000	92,569,950	12/28/2012	12/28/2042	Interest Rate Swap		34,661,214	94950J-AA-9	Wellfleet CLO Ltd-SERIES 18-1A CLASS A	1	59,000,000	57,908,736

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STATEMENT AS OF SEPTEMBER 30, 2020 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*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,200,000	14,090,049	12/28/2012	12/28/2042	Interest Rate Swap				06759F-AB-2	BABSON CLO LTD 2015-11-SERIES 15-2A CLASS AR	1	14,200,000	14,090,049
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	19,714,440	12/28/2012	12/28/2042	Interest Rate Swap				04017T-AE-9	Ares XXXIR CLO Ltd-SERIES 14-31RA CLASS B	1	20,000,000	19,714,440
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,700,000	12,662,014	12/28/2012	12/28/2042	Interest Rate Swap				55818Y-BE-0	MADISON PARK FUNDING LTD-SERIES 15-17A CLASS B1R	1	12,700,000	12,662,014
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,200,000	4,020,051	12/28/2012	12/28/2042	Interest Rate Swap				12551R-AE-8	CIFC Funding 2018-1 Ltd-SERIES 18-1A CLASS C	1	4,200,000	4,020,051
57629*AH4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,100,000	1,085,850	12/28/2012	12/28/2042	Interest Rate Swap				08179M-AC-3	Benefit Street Partners -BSP 2018-15A A2A	1	1,100,000	1,085,850
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	20,000,000	54,174,934	12/28/2012	12/28/2042	Interest Rate Swap		34,661,214		09628N-AQ-5	BlueMountain CLO 2015-4 -SERIES 15-4A CLASS A2R	1	20,000,000	19,513,720
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,050,000	11,371,571	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	11,371,571
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,216,731	10,938,678	12/28/2012	12/28/2042	Interest Rate Swap				63939F-AC-4	Navient Student Loan Tru-SERIES 15-1 CLASS B	1	12,216,731	10,938,678
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,949,875	12/28/2012	12/28/2042	Interest Rate Swap				12550G-AE-3	CIFC Funding Ltd-CIFC 2018-5A B	1	5,000,000	4,949,875
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,900,000	8,813,314	12/28/2012	12/28/2042	Interest Rate Swap				55820T-AC-2	MADISON PARK FUNDING LTD-SERIES 2017-23A CLASS B	1	8,900,000	8,813,314
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,650,000	8,552,791	12/28/2012	12/28/2042	Interest Rate Swap				33882G-AC-2	FLATIRON CLO LTD-FLAT 2017-1A C	1	8,650,000	8,552,791
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	982,874	12/28/2012	12/28/2042	Interest Rate Swap				48250R-BN-5	KKR CLO 12 Ltd-KKR 12 BR2	1	1,000,000	982,874
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,250,000	4,119,733	12/28/2012	12/28/2042	Interest Rate Swap				09626U-AQ-1	BLUEMOUNTAIN CLO LTD-BLUEM 2013-1A BR	1	4,250,000	4,119,733
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,000,000	25,002,700	12/28/2012	12/28/2042	Interest Rate Swap				64132D-AA-6	Neuberger Berman CLO Ltd-NEUB 2019-32A A	1	25,000,000	25,002,700
57629*AG6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,250,000	4,231,814	12/28/2012	12/28/2042	Interest Rate Swap				75888M-AG-5	Regatta XIV Funding Ltd-SERIES 18-3A CLASS B	1	4,250,000	4,231,814
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	9,550,000	26,760,669	12/28/2012	12/28/2042	Interest Rate Swap		17,330,607		04965F-AG-6	Atrium XV-SERIES 15A CLASS B	1	9,550,000	9,430,062
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,877,080	12/28/2012	12/28/2042	Interest Rate Swap				55819B-AL-4	MADISON PARK FUNDING XVI-SERIES 15-18A CLASS A1R	1	10,000,000	9,877,080
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,557,864	8,913,909	12/28/2012	12/28/2042	Interest Rate Swap				63940A-AD-0	NAVIENT STUDENT LOAN TRU-SERIES 17-4A CLASS B	1	9,557,864	8,913,909
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,200,000	9,203,542	12/28/2012	12/28/2042	Interest Rate Swap				03328W-AN-8	Anchorage Capital CLO 9 -SERIES 16-9A CLASS CR	1	9,200,000	9,203,542
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,000,000	2,000,092	12/28/2012	12/28/2042	Interest Rate Swap				04019L-AG-9	ARES 2019-51A C	1	2,000,000	2,000,092
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,100,000	1,085,850	12/28/2012	12/28/2042	Interest Rate Swap				08179M-AC-3	Benefit Street Partners -BSP 2018-15A A2A	1	1,100,000	1,085,850
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,500,000	2,474,210	12/28/2012	12/28/2042	Interest Rate Swap				13876J-AE-2	Canyon Capital CLO Ltd-CANYC 2012-18A B	1	2,500,000	2,474,210
57629*AJ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,400,000	6,331,430	12/28/2012	12/28/2042	Interest Rate Swap				77342K-AC-4	Rockford Tower CLO 2018-2 Ltd	1	6,400,000	6,331,430
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	10,000,000	27,204,567	12/28/2012	12/28/2042	Interest Rate Swap		17,330,607		24380L-AE-3	DEER CREEK CLO LTD 2017--SERIES 17-1A CLASS B	1	10,000,000	9,873,960
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,000,000	29,545,050	12/28/2012	12/28/2042	Interest Rate Swap				04624H-AC-1	ASSURANT CLO III LTD-SERIES 2018-2A CLASS A	1	30,000,000	29,545,050
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,570,000	13,344,562	12/28/2012	12/28/2042	Interest Rate Swap				48249V-AQ-4	KKR FINANCIAL CLO LTD-SERIES 13-1A CLASS A2R	1	13,570,000	13,344,562
57629*AK7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,850,000	4,780,888	12/28/2012	12/28/2042	Interest Rate Swap				08179H-AB-6	BENEFIT STREET PARTNERS -SERIES 2017-12A CLASS A2	1	4,850,000	4,780,888
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	10,000,000	27,335,217	12/28/2012	12/28/2042	Interest Rate Swap		17,330,607		87232A-AE-4	TFLAT 2018-1A B	1	10,000,000	10,004,610
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,302,886	6,058,694	12/28/2012	12/28/2042	Interest Rate Swap				784170-ZZ-8	SFR FTTH SAS Term Loan	3	6,302,886	6,058,694
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,920,000	8,896,460	12/28/2012	12/28/2042	Interest Rate Swap				10302V-BC-8	BOWMAN PARK CLO LTD-BOWPK 2014-1A B1R	1	8,920,000	8,896,460
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,750,000	8,637,090	12/28/2012	12/28/2042	Interest Rate Swap				48252R-AE-4	KKR 24 B	1	8,750,000	8,637,090

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STATEMENT AS OF SEPTEMBER 30, 2020 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*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,840,000	6,753,782	12/28/2012	12/28/2042	Interest Rate Swap			88433R-AE-2	WIND RIVER CLO LTD-SERIES 17-2A CLASS B	1	6,840,000	6,753,782
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,962,855	12/28/2012	12/28/2042	Interest Rate Swap			50188Y-AB-0	LGM LTD PARTNERSHIP-LGM 24A B Benefit Street Partners -BSP 2018-	1	5,000,000	4,962,855
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,100,000	1,085,850	12/28/2012	12/28/2042	Interest Rate Swap			08179M-AC-3	15A A2A Ballyrook CLO 2018-1 Ltd-SERIES	1	1,100,000	1,085,850
57629*AL5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,600,000	4,431,024	12/28/2012	12/28/2042	Interest Rate Swap			05875H-AE-3	2018-1A CLASS B C1FC FUNDING LTD-SERIES 17-3A CLASS	1	4,600,000	4,431,024
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	5,400,000	22,646,794	12/28/2012	12/28/2042	Interest Rate Swap		17,330,607	12548J-AE-2	A2 ALM XIV Ltd-SERIES 14-14A CLASS	1	5,400,000	5,316,187
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,900,000	11,727,533	12/28/2012	12/28/2042	Interest Rate Swap			74988L-AC-8	A2R2 Elmwood CLO II Ltd-ELMW2 2019-2A C	1	11,900,000	11,727,533
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,643,178	4,661,830	12/28/2012	12/28/2042	Interest Rate Swap			29001L-AG-6	LGM LTD PARTNERSHIP-SERIES 13A CLASS CR	1	4,643,178	4,661,830
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,500,000	4,378,869	12/28/2012	12/28/2042	Interest Rate Swap			50184K-AW-8	MASMUTUAL ASSET FIN LLC SR SECD	1	4,500,000	4,378,869
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,400,000	4,599,879	12/28/2012	12/28/2042	Interest Rate Swap			57542Z-AO-7	REV NT Benefit Street Partners -SERIES 16-	3	4,400,000	4,599,879
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,200,000	10,990,851	12/28/2012	12/28/2042	Interest Rate Swap			08181B-AS-8	9A CLASS BR Wellfleet CLO 2018-3 Ltd-SERIES 18-	1	11,200,000	10,990,851
57629*AM3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,891,944	12/28/2012	12/28/2042	Interest Rate Swap			94951D-AC-7	3A CLASS 41B GT Loan Financing I Ltd -SERIES	1	8,000,000	7,891,944
57629*AN1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	20,000,000	36,465,100	12/31/2012	12/31/2042	Interest Rate Swap		16,673,860	36248M-AJ-6	2013-1A CLASS AR Carlyle US CLO 2013-2 Re Term Loan	1	20,000,000	19,791,240
57629*AN1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,815,064	20,490,349	12/31/2012	12/31/2042	Interest Rate Swap			14315J-MM-8		1	20,815,064	20,490,349
57629*AN1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,350,000	4,320,233	12/31/2012	12/31/2042	Interest Rate Swap			88433C-AG-0	WINDR 2019-1A C NEUBERGER BERMAN LOAN AD-SERIES	1	4,350,000	4,320,233
57629*AN1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,850,000	5,787,323	12/31/2012	12/31/2042	Interest Rate Swap			64131Q-AC-4	2017-26A CLASS B Oak Hill Credit Partners-OAKC 2014-	1	5,850,000	5,787,323
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	9,900,000	26,457,802	12/31/2012	12/31/2042	Interest Rate Swap		16,673,860	67707C-AE-8	10RA A2A OHA Loan Funding 2013-2 -OHALF	1	9,900,000	9,783,942
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,000,000	24,789,775	12/31/2012	12/31/2042	Interest Rate Swap			67104L-AF-4	2013-2A BR Goldentree Loan Opportun-SERIES	1	25,000,000	24,789,775
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,850,000	13,808,962	12/31/2012	12/31/2042	Interest Rate Swap			38137P-AU-4	2015-10A CLASS BR Waters Corporation Gtd Senior Note	1	13,850,000	13,808,962
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,000,000	1,973,874	12/31/2012	12/31/2042	Interest Rate Swap			94184B-D8-9	Series H ALM XIV Ltd-SERIES 14-14A CLASS BR2	2	2,000,000	1,973,874
57629*AP6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,800,000	3,636,870	12/31/2012	12/31/2042	Interest Rate Swap			74988L-AJ-3		1	3,800,000	3,636,870
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	25,000,000	41,673,860	12/31/2012	12/31/2042	Interest Rate Swap		16,673,860	500798-MO-4	KREF Lending VII 2018-3 Term Loan	1	25,000,000	25,000,000
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,762,580	12/31/2012	12/31/2042	Interest Rate Swap			48250W-AJ-4	KKR CLO 14 Ltd-KKR 14 BR TICOP CLO VI 2016-5 LTD-TICOP 2016-5A	1	15,000,000	14,762,580
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,949,070	12/31/2012	12/31/2042	Interest Rate Swap			87249K-AS-3	A2R Navient Student Loan Tru-SERIES 15-	1	5,000,000	4,949,070
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,018,061	911,557	12/31/2012	12/31/2042	Interest Rate Swap			63939F-AC-4	1 CLASS B Ballyrook CLO 2019-1 Ltd-BALLY	1	1,018,061	911,557
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,800,000	7,799,961	12/31/2012	12/31/2042	Interest Rate Swap			05875J-AB-5	2019-1A A2 ARROWMARK COLORADO HOLDI-SERIES 17-	1	7,800,000	7,799,961
57629*A04	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,000,000	3,862,020	12/31/2012	12/31/2042	Interest Rate Swap			28622J-AB-3	7A CLASS B Goldentree Loan Opportun-SERIES	1	4,000,000	3,862,020
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	8,800,000	25,404,956	12/31/2012	12/31/2042	Interest Rate Swap		16,673,860	38137P-AS-9	2015-10A CLASS AJR	1	8,800,000	8,731,096
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,400,000	7,163,207	12/31/2012	12/31/2042	Interest Rate Swap			92916M-AC-5	VOYA CLO LTD-VOYA 2017-1A B	1	7,400,000	7,163,207
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,450,000	5,449,973	12/31/2012	12/31/2042	Interest Rate Swap			55819M-AE-6	Madison Park Funding Ltd-MDPK 2019-35A B	1	5,450,000	5,449,973
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,265,775	12/31/2012	12/31/2042	Interest Rate Swap			55819T-AU-5	Madison Park Funding XX -SERIES 2016-20A CLASS CR	1	7,500,000	7,265,775
57629*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,900,000	13,769,660	12/31/2012	12/31/2042	Interest Rate Swap			03328Y-AE-4	Anchorage Capital CLO Lt-ANCHC 2018-1A B	1	13,900,000	13,769,660

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STATEMENT AS OF SEPTEMBER 30, 2020 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*AR2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,452,544	6,824,143	12/31/2012	12/31/2042	Interest Rate Swap				64034C-AB-5	Netnet Student Loan Trus-NSLT 2019-1A B	1	7,452,544	6,824,143
57629*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	8,300,000	24,955,094	12/31/2012	12/31/2042	Interest Rate Swap		16,673,860		05684D-AG-8	Bain Capital Credit CLO-BCC 2020-1A B FLOATING	1	8,300,000	8,281,234
57629*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,647,896	12/31/2012	12/31/2042	Interest Rate Swap				83608G-AQ-9	Sound Point CLO II Ltd-SNDPT 2013-1A A2R	1	8,000,000	7,647,896
57629*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,696,700	12/31/2012	12/31/2042	Interest Rate Swap				05682V-AC-9	Bain Capital Credit CLO -SERIES 18-2A CLASS A2	1	15,000,000	14,696,700
57629*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,892,310	12/31/2012	12/31/2042	Interest Rate Swap				50188Q-AE-1	LOM XIX LTD PARTNERSHIP DEF MEZZ NT CL C	1	10,000,000	9,892,310
57629*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,300,000	8,248,050	12/31/2012	12/31/2042	Interest Rate Swap				00900P-AE-5	AIMCO CLO Series 2018-B-SERIES 18-CLASS B	1	8,300,000	8,248,050
57629*AS0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,100,000	1,085,850	12/31/2012	12/31/2042	Interest Rate Swap				08179M-AC-3	Benefit Street Partners -BSP 2018-15A A2A	1	1,100,000	1,085,850
57629*AT8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	50,000,000	10,000,000	26,637,180	12/31/2012	12/31/2042	Interest Rate Swap		16,673,860		87248W-AC-2	TICP CLO VIII LTD-SERIES 2017-8A CLASS A2	1	10,000,000	9,963,320
57629*AT8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,900,000	5,821,725	12/31/2012	12/31/2042	Interest Rate Swap				48251F-AB-7	KKR FINANCIAL CLO LTD-SERIES 17 CLASS B	1	5,900,000	5,821,725
57629*AT8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,000,000	11,690,520	12/31/2012	12/31/2042	Interest Rate Swap				92917J-AE-7	Voya CLO 2018-2 Ltd-VOYA 2018-2A B1	1	12,000,000	11,690,520
57629*AT8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,650,000	22,246,830	12/31/2012	12/31/2042	Interest Rate Swap				14315C-ZZ-0	Carlyle US CLO 2017-4 Ri Term Loan	1	22,650,000	22,246,830
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	55,000,000	7,400,000	26,718,485	04/09/2013	04/09/2043	Interest Rate Swap		19,314,496		55954H-AE-2	Magnetite CLO Ltd-SERIES 19-22A CLASS B	1	7,400,000	7,403,989
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,600,000	5,507,684	04/09/2013	04/09/2043	Interest Rate Swap				12550Y-AG-9	CIFC FUNDING LTD-CIFC 2017-2A C	1	5,600,000	5,507,684
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,280,000	4,215,252	04/09/2013	04/09/2043	Interest Rate Swap				09629C-AE-5	BLUEMOUNTAIN CLO LTD-SERIES 17-1A CLASS B	1	4,280,000	4,215,252
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,250,000	4,250,119	04/09/2013	04/09/2043	Interest Rate Swap				00163K-AS-7	ALM LOAN FUNDING-ALM 2013-TRA A2R	1	4,250,000	4,250,119
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,910,300	20,104,422	04/09/2013	04/09/2043	Interest Rate Swap				12553D-AA-5	CIFC Funding 2019-I Ltd-CIFC 2019-1A A	1	19,910,300	20,104,422
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,394,558	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	7,394,558
57629*AW1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,900,000	6,825,383	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	6,825,383
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	60,000,000	28,179,820	48,158,410	04/09/2013	04/09/2043	Interest Rate Swap		21,070,360		784170-ZZ-8	SFR FTTH SAS Term Loan	3	28,179,820	27,088,050
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,500,000	17,970,345	04/09/2013	04/09/2043	Interest Rate Swap				50188G-AX-1	LOM XVIII LP-LCM 18A A2R	1	18,500,000	17,970,345
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,800,000	12,759,898	04/09/2013	04/09/2043	Interest Rate Swap				67102Q-AK-4	QHA CREDIT PARTNERS LTD-SERIES 2012-7A CLASS B1R	1	12,800,000	12,759,898
57629*AV3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,000,000	1,982,150	04/09/2013	04/09/2043	Interest Rate Swap				62848F-AC-6	MYERS PARK CLO LTD-MYERS 2018-1A A2	1	2,000,000	1,982,150
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	55,000,000	26,000,000	44,996,077	04/09/2013	04/09/2043	Interest Rate Swap		19,429,315		83609Y-AC-0	Sounds Point CLO IV-R LT-SERIES 13-3RA CLASS A	1	26,000,000	25,566,762
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,688,105	3,426,443	04/09/2013	04/09/2043	Interest Rate Swap				78442G-QA-7	SLM STUDENT LOAN TRUST-SERIES 2005-6 CLASS B	1	3,688,105	3,426,443
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,500,000	8,432,408	04/09/2013	04/09/2043	Interest Rate Swap				29002G-AB-7	Elmwood CLO IV Ltd-ELMW4 2020-1A A	1	8,500,000	8,432,408
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,180,065	14,859,766	04/09/2013	04/09/2043	Interest Rate Swap				14315J-RR-2	Carlyle US CLO 2013-4 Re Term Loan	1	15,180,065	14,859,766
57629*AX9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,000,000	2,986,413	04/09/2013	04/09/2043	Interest Rate Swap				05684A-AG-4	Bain Capital Credit CLO-BCC 2019-4A C	1	3,000,000	2,986,413
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	55,000,000	4,450,000	23,758,400	04/09/2013	04/09/2043	Interest Rate Swap		19,429,315		55820R-AG-7	MADISON PARK FUNDING LTD-SERIES 17-25A CLASS C	2	4,450,000	4,329,085
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,950,000	1,949,984	04/09/2013	04/09/2043	Interest Rate Swap				55954K-AE-5	MAGNETITE CLO LTD-SERIES 2017-19A CLASS C	1	1,950,000	1,949,984
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,738,054	22,409,944	04/09/2013	04/09/2043	Interest Rate Swap				14311C-RR-1	Carlyle US CLO 2017-1 Ri Term Loan	1	22,738,054	22,409,944
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,978,820	04/09/2013	04/09/2043	Interest Rate Swap				033292-AS-2	ANCHORAGE CAPITAL CLO 20-SERIES 13-1A CLASS A2R	1	10,000,000	9,978,820

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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*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,400,000	6,382,720	04/09/2013	04/09/2043	Interest Rate Swap				67112R-AG-9	QHA Credit Funding 3 LTD-OAKC 2019-3A B1	1	6,400,000	6,382,720
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,800,000	4,793,650	04/09/2013	04/09/2043	Interest Rate Swap				09627F-AE-0	BlueMountain CLO Ltd-SERIES 2019-25A CLASS B	1	4,800,000	4,793,650
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,300,000	3,288,387	04/09/2013	04/09/2043	Interest Rate Swap				06761C-AC-3	Babson CLO Ltd 2016-II-BABS 2016-2A BR	1	3,300,000	3,288,387
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	980,145	04/09/2013	04/09/2043	Interest Rate Swap				89852T-AN-8	Tryon Park CLO Ltd-TPCLO 2013-1A A1JR	1	1,000,000	980,145
57629*AY7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	989,684	04/09/2013	04/09/2043	Interest Rate Swap				13876J-AE-2	Canyon Capital CLO Ltd-CANVC 2012-1RA B	1	1,000,000	989,684
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		55,000,000	10,530,000	04/09/2013	04/09/2043	Interest Rate Swap		19,257,048		500798-MM-8	KREF Lending VII 2018-1 Term Loan, Newark BSL CLO 1 Ltd-NBCLO 2016-1A A1R	1	10,530,000	10,530,000
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,188,152	27,300,543	04/09/2013	04/09/2043	Interest Rate Swap				65023T-AJ-1	BALLYROCK CLO 2018-1 LTD-SERIES 2018-1A CLASS A2	1	25,188,152	27,300,543
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,588,407	13,690,054	04/09/2013	04/09/2043	Interest Rate Swap				05875H-AC-7	MYERS PARK CLO LTD-MYERS 2018-1A A2	1	13,588,407	13,690,054
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	991,075	04/09/2013	04/09/2043	Interest Rate Swap				62848F-AC-6	2018-1A CLASS C	1	1,000,000	991,075
57629*AU5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,500,000	5,520,757	04/09/2013	04/09/2043	Interest Rate Swap				48661N-AE-8	MYERS PARK CLO LTD-MYERS 2018-1A A2	1	5,500,000	5,520,757
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		60,000,000	21,900,000	04/09/2013	04/09/2043	Interest Rate Swap		21,007,689		56607F-AA-3	KAYNE CLO-SERIES 19-6A CLASS B1, Marble Point CLO XI Ltd-IP11 2017-2A A	1	21,900,000	21,600,802
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,454,617	16,895,593	04/09/2013	04/09/2043	Interest Rate Swap				66704J-BD-9	NORTHSTAR EDUCATION FINA-SERIES 04-2 CLASS B	1	19,454,617	16,895,593
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,837,579	15,589,392	04/09/2013	04/09/2043	Interest Rate Swap				66704J-BK-3	NORTHSTAR EDUCATION FINA-SERIES 05-1 CLASS B	1	16,837,579	15,589,392
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,500,000	3,441,141	04/09/2013	04/09/2043	Interest Rate Swap				94950J-AC-5	Wellfleet CLO Ltd-SERIES 18-1A CLASS B	1	3,500,000	3,441,141
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	2,965,299	04/09/2013	04/09/2043	Interest Rate Swap				22615E-AE-0	Crestline Denali CLO Ltd-SERIES 2018-1A CLASS C	1	3,200,000	2,965,299
57629*BA8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	991,075	04/09/2013	04/09/2043	Interest Rate Swap				62848F-AC-6	MYERS PARK CLO LTD-MYERS 2018-1A A2	1	1,000,000	991,075
57629*BB6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		50,000,000	34,500,000	04/09/2013	04/09/2043	Interest Rate Swap		17,515,766		01750C-AA-1	Allegro CLO VII Ltd-ALLEG 2018-1A A	1	34,500,000	33,898,148
57629*BB6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,878,242	04/09/2013	04/09/2043	Interest Rate Swap				48250W-AG-0	KKR CLO 14 Ltd-KKR 14 AR	1	7,000,000	6,878,242
57629*BB6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,100,000	7,007,253	04/09/2013	04/09/2043	Interest Rate Swap				941848-D8-9	Waters Corporation Gtd Senior Note Series H	2	7,100,000	7,007,253
57629*BB6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,840,795	04/09/2013	04/09/2043	Interest Rate Swap				14314L-AE-5	Carlisle Global Market St-CGMS 2014-2RA A2	1	5,000,000	4,840,795
57629*AZ4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		50,000,000	14,000,000	04/09/2013	04/09/2043	Interest Rate Swap		17,515,766		55820C-AE-5	MADISON PARK FUNDING XXI-MDPK 2018-29A A2	1	14,000,000	13,845,412
57629*AZ4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,850,000	22,484,034	04/09/2013	04/09/2043	Interest Rate Swap				26251L-AC-8	DRYDEN 64 CLO LTD-DRSLF 2018-64A A	1	22,850,000	22,484,034
57629*AZ4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,400,000	3,388,035	04/09/2013	04/09/2043	Interest Rate Swap				06761C-AC-3	Babson CLO Ltd 2016-II-BABS 2016-2A BR	1	3,400,000	3,388,035
57629*AZ4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,504,118	04/09/2013	04/09/2043	Interest Rate Swap				64132D-AC-2	Neuberger Berman CLO Ltd-NEUB 2019-32A B	1	7,500,000	7,504,118
57629*AZ4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,000,000	4,181,708	04/09/2013	04/09/2043	Interest Rate Swap				57542Z-AO-7	MASSMUTUAL ASSET FIN LLC SR SECD REV NT	3	4,000,000	4,181,708
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		100,000,000	6,800,000	03/05/2014	03/05/2034	Interest Rate Swap		32,723,765		929150-AE-3	VOYA CLO LTD-SERIES 2017-3A CLASS A1B	1	6,800,000	6,687,888
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,780,000	6,688,077	03/05/2014	03/05/2034	Interest Rate Swap				88434G-AC-9	THL CREDIT WIND RIVER 20-SERIES 2017-3A CLASS B	1	6,780,000	6,688,077
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,920,000	4,819,440	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	4,819,440
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,015,000	20,772,319	03/05/2014	03/05/2034	Interest Rate Swap				48249V-AN-1	KKR FINANCIAL CLO LTD-SERIES 13-1A CLASS A1R	1	21,015,000	20,772,319
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,800,000	20,525,710	03/05/2014	03/05/2034	Interest Rate Swap				22616C-AA-1	CRESTLINE DENALI CLO XV -SERIES 17-1A CLASS A	1	20,800,000	20,525,710
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,878,242	03/05/2014	03/05/2034	Interest Rate Swap				48250W-AG-0	KKR CLO 14 Ltd-KKR 14 AR	1	7,000,000	6,878,242

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STATEMENT AS OF SEPTEMBER 30, 2020 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*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,200,000	12,200,171	03/05/2014	03/05/2034	Interest Rate Swap				55818P-AS-9	MADISON PARK FUNDING LTD-MDPK 2014-12A CR	1	12,200,000	12,200,171
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,500,000	9,500,000	03/05/2014	03/05/2034	Interest Rate Swap				13876N-AC-7	Canyon CLO 2020-2 Ltd-CANVC 2020-2A B1	1	9,500,000	9,500,000
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,525,000	9,541,888	03/05/2014	03/05/2034	Interest Rate Swap				38136N-AC-0	Goldentree Loan Managem-GLM 2020-8A B1	1	9,525,000	9,541,888
57629*BD2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,650,000	1,500,234	03/05/2014	03/05/2034	Interest Rate Swap				06760G-AD-3	Barings CLO Ltd 2018-I-SERIES 18-1A CLASS C	1	1,650,000	1,500,234
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	100,000,000	20,635,182	52,249,799	03/05/2014	03/05/2034	Interest Rate Swap		32,749,799		346845-AC-4	FORT BENNING FAM-UNSECURED	1	20,635,182	19,500,000
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,989,905	03/05/2014	03/05/2034	Interest Rate Swap				05682L-AC-1	Bain Capital Credit CLO -BCC 2019-2A B	1	15,000,000	14,989,905
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	15,005,070	03/05/2014	03/05/2034	Interest Rate Swap				38137Y-AG-6	Goldentree Loan Managem-GLM 2019-4A B	1	15,000,000	15,005,070
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,200,000	4,155,262	03/05/2014	03/05/2034	Interest Rate Swap				05682L-AE-7	Bain Capital Credit CLO -BCC 2019-2A C	1	4,200,000	4,155,262
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,850,000	10,814,618	03/05/2014	03/05/2034	Interest Rate Swap				883310-AC-8	THAYER PARK CLO LTD.-THAYR 2017-1A A2	1	10,850,000	10,814,618
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,590,509	14,914,065	03/05/2014	03/05/2034	Interest Rate Swap				87250C-AA-5	TICP CLO Ltd	1	14,590,509	14,914,065
57629*BC4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	19,853,940	03/05/2014	03/05/2034	Interest Rate Swap				44932V-AA-0	IOS US CLO Ltd-SERIES 19-1A CLASS A1A	1	20,000,000	19,853,940
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	2,799,987	73,902,504	05/19/2014	05/19/2044	Interest Rate Swap		71,087,188		48661Y-AA-2	Kayne CLO 4 Ltd-SERIES 19-4A CLASS B1	1	2,799,987	2,815,316
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		45,000,000	44,383,860	05/19/2014	05/19/2044	Interest Rate Swap				13876J-AC-6	Canyon Capital CLO Ltd-CANVC 2012-19A A	1	45,000,000	44,383,860
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,400,000	6,240,096	05/19/2014	05/19/2044	Interest Rate Swap				01749B-AB-5	Allegro CLO VI Ltd-ALLEG 2017-2A B	1	6,400,000	6,240,096
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,950,000	8,632,848	05/19/2014	05/19/2044	Interest Rate Swap				50184N-AP-7	LCM LTD PARTNERSHIP-SERIES 15A CLASS CR	1	8,950,000	8,632,848
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,000,000	5,995,842	05/19/2014	05/19/2044	Interest Rate Swap				06761K-AG-6	Babson CLO Ltd/Cayman Is-SERIES 19-3A CLASS C	1	6,000,000	5,995,842
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,100,000	12,817,538	05/19/2014	05/19/2044	Interest Rate Swap				75884B-AC-2	Regatta X Funding Ltd-SERIES 2017-3A CLASS B	1	13,100,000	12,817,538
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		44,842,924	44,251,380	05/19/2014	05/19/2044	Interest Rate Swap				42086P-AC-7	Kingsland Ltd-SERIES 18-8A CLASS A	1	44,842,924	44,251,380
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,900,000	22,654,970	05/19/2014	05/19/2044	Interest Rate Swap				14315J-ZZ-5	Carlyle US CLO 2017-2 Ri Term Loan	1	22,900,000	22,654,970
57629*BE0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,128,266	3,151,667	05/19/2014	05/19/2044	Interest Rate Swap				05875H-AC-7	BALLYROCK CLO 2018-1 LTD-SERIES 2018-1A CLASS A2	1	3,128,266	3,151,667
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	55,829,834	92,711,038	05/19/2014	05/19/2034	Interest Rate Swap		37,468,630		77342J-AA-1	Rockford Tower CLO 2018--SERIES 18-1A CLASS A	1	55,829,834	55,242,408
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,916,035	05/19/2014	05/19/2034	Interest Rate Swap				64130P-AE-3	Neuberger Berman CLO Ltd-NEUB 2018-28A B	1	7,000,000	6,916,035
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	19,895,900	05/19/2014	05/19/2034	Interest Rate Swap				13080B-AB-7	SYMPHONY CLO LTD-SERIES 13-12A CLASS B1R	1	20,000,000	19,895,900
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,900,000	19,650,593	05/19/2014	05/19/2034	Interest Rate Swap				38808P-AL-0	Greywolf CLO V Ltd-GWOLF 2015-1A A1R	1	19,900,000	19,650,593
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,000,000	8,922,564	05/19/2014	05/19/2034	Interest Rate Swap				04017Q-AE-5	ARES CLO Ltd-SERIES 18-28RA CLASS B	1	9,000,000	8,922,564
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,900,000	6,923,957	05/19/2014	05/19/2034	Interest Rate Swap				670881-AC-5	OCP CLO Ltd-SERIES 20-19A CLASS B	1	6,900,000	6,923,957
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	7,003,430	05/19/2014	05/19/2034	Interest Rate Swap				278300-AE-8	Eaton Vance CDO Ltd-EATON 2020-1A C	1	7,000,000	7,003,430
57629*BF7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,949,991	1,960,667	05/19/2014	05/19/2034	Interest Rate Swap				48661Y-AA-2	Kayne CLO 4 Ltd-SERIES 19-4A CLASS B1	1	1,949,991	1,960,667
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	28,799,122	99,823,408	05/19/2014	05/19/2044	Interest Rate Swap		71,404,188		42086P-AC-7	Kingsland Ltd-SERIES 18-8A CLASS A	1	28,799,122	28,419,220
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,031,675	16,461,745	05/19/2014	05/19/2044	Interest Rate Swap				83715R-AG-7	SOUTH CAROLINA STUDENT L-SERIES 2014-1 CLASS B	1	17,031,675	16,461,745
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,000,000	3,965,224	05/19/2014	05/19/2044	Interest Rate Swap				17181T-AA-9	CIFC Funding 2018-IV Ltd-SERIES 18-4A CLASS A1	1	4,000,000	3,965,224

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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*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,953,521	5,553,524	05/19/2014	05/19/2044	Interest Rate Swap				38021B-AG-5	GOAL CAPITAL FUNDING TRU-SERIES 2006-1 CLASS B	1	5,953,521	5,553,524
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,174,861	3,999,019	05/19/2014	05/19/2044	Interest Rate Swap				429827-AS-7	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS B2	1	4,174,861	3,999,019
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,757,860	05/19/2014	05/19/2044	Interest Rate Swap				69703P-AC-3	Palmer Square CLO 2018-1-PLMRS 2018-1A A2	1	10,000,000	9,757,860
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,050,000	8,885,842	05/19/2014	05/19/2044	Interest Rate Swap				06760E-AE-6	Babson CLO Ltd 2013-I-SERIES 2013-1A CLASS CR	1	9,050,000	8,885,842
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,500,000	8,415,122	05/19/2014	05/19/2044	Interest Rate Swap				63940D-AD-4	Navient Student Loan Tru-SERIES 18-1A CLASS B	1	9,500,000	8,415,122
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,750,000	7,567,495	05/19/2014	05/19/2044	Interest Rate Swap				64131T-AG-9	Neuberger Berman CLO XVI-SERIES 17-16SA CLASS C	1	7,750,000	7,567,495
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,265,378	05/19/2014	05/19/2044	Interest Rate Swap				03330A-AE-2	Anchorage Capital CLO 3--ANCHC 2014-3RA C	1	7,500,000	7,265,378
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,869,728	05/19/2014	05/19/2044	Interest Rate Swap				38137H-BW-7	Goldentree Loan Opportun-SERIES 2015-11A CLASS BR2	1	8,000,000	7,869,728
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,840,440	05/19/2014	05/19/2044	Interest Rate Swap				38808P-AN-6	Greywolf CLO V Ltd-GWOLF 2015-1A A2R	1	8,000,000	7,840,440
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,050,000	7,726,245	05/19/2014	05/19/2044	Interest Rate Swap				06760G-AC-5	Barings CLO Ltd 2018-I-SERIES 18-1A CLASS B	1	8,050,000	7,726,245
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,800,000	5,600,967	05/19/2014	05/19/2044	Interest Rate Swap				01749B-AC-3	Allegro CLO VI Ltd-ALLEG 2017-2A C	1	5,800,000	5,600,967
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,000,000	15,835,680	05/19/2014	05/19/2044	Interest Rate Swap				06760X-AC-8	BARINGS CLO LTD 2018-IV-SERIES 18-4A CLASS A2	1	16,000,000	15,835,680
57629*BG5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,700,000	3,673,712	05/19/2014	05/19/2044	Interest Rate Swap				05875J-AC-3	Ballyrock CLO 2019-1 Ltd	1	3,700,000	3,673,712
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	12,986,651	84,120,350	05/19/2014	05/19/2044	Interest Rate Swap		71,347,291		55818R-BC-9	Madison Park Funding XIV-MDPK 2014-14A CRR	1	12,986,651	12,773,059
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,112,425	1,923,832	05/19/2014	05/19/2044	Interest Rate Swap				784424-AE-3	SLC STUDENT LOAN TRUST 2-SERIES 07-1 CLASS B	1	2,112,425	1,923,832
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,400,000	10,410,369	05/19/2014	05/19/2044	Interest Rate Swap				64132J-AG-0	NEUB 2019-31A B	1	10,400,000	10,410,369
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,000,000	3,003,525	05/19/2014	05/19/2044	Interest Rate Swap				27830X-AG-1	EATON 2019-1A C	1	3,000,000	3,003,525
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,400,000	12,406,485	05/19/2014	05/19/2044	Interest Rate Swap				38138D-AG-1	Goldentree Loan Managem-GLM 2019-5A B	1	12,400,000	12,406,485
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,000,000	15,856,880	05/19/2014	05/19/2044	Interest Rate Swap				69688A-AA-9	Palmer Square CLO 2013-2-SERIES 13-2A CLASS AARR	1	16,000,000	15,856,880
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,750,000	11,507,762	05/19/2014	05/19/2044	Interest Rate Swap				55821A-AC-2	Madison Park Funding Ltd-SERIES 18-28A CLASS A2	1	11,750,000	11,507,762
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,972,456	05/19/2014	05/19/2044	Interest Rate Swap				13887W-AC-4	CANYC 2019-2A B	1	8,000,000	7,972,456
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,345,808	1,356,559	05/19/2014	05/19/2044	Interest Rate Swap				23340L-AA-2	DRB PRIME STUDENT LOAN T-SERIES 2015-B CLASS A1	1	1,345,808	1,356,559
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		66,578,096	53,421,647	05/19/2014	05/19/2044	Interest Rate Swap				22101F-AA-6	CORVIAS CAMPUS LIVING - HU, LLC - Sr Secd Note	2	66,578,096	53,421,647
57629*BH3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,500,000	6,429,059	05/19/2014	05/19/2044	Interest Rate Swap				13887W-AE-0	CANYC 2019-2A C	1	6,500,000	6,429,059
57629*BJ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	133,500,000	200,998,819	05/19/2014	05/19/2044	Interest Rate Swap		70,957,136		85810Z-AX-4	Steele Creek CLO 2016-1-SERIES 2016-1A CLASS AR	1	133,500,000	130,041,683
57629*BJ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,918,080	05/19/2014	05/19/2044	Interest Rate Swap				04625A-AC-8	ASSURANT CLO I LTD-SERIES 17-1A CLASS B	1	10,000,000	9,918,080
57629*BJ9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,878,242	05/19/2014	05/19/2044	Interest Rate Swap				48250W-AG-0	KKR CLO 14 Ltd-KKR 14 AR	1	7,000,000	6,878,242
57629*BK6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	130,000,000	198,393,276	05/19/2014	05/19/2044	Interest Rate Swap		70,957,136		85816W-AC-8	Steele Creek CLO 2014-1-SERIES 14-1RA CLASS A	1	130,000,000	127,436,140
57629*BK6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	15,000,195	05/19/2014	05/19/2044	Interest Rate Swap				88322U-AM-1	THACHER PARK CLO-THRPK 2014-1A BR	1	15,000,000	15,000,195
57629*BK6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,200,000	5,183,636	05/19/2014	05/19/2044	Interest Rate Swap				41154X-AG-0	Harbor Park CLO, Ltd-HAR-HARB 2018-1A B1	1	5,200,000	5,183,636
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	5,000,000	75,978,692	05/19/2014	05/19/2044	Interest Rate Swap		71,022,162		17181T-AA-9	CIFC Funding 2018-IV Ltd-SERIES 18-4A CLASS A1	1	5,000,000	4,956,530

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STATEMENT AS OF SEPTEMBER 30, 2020 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	Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,300,000	25,028,683	05/19/2014	05/19/2044	Interest Rate Swap			04943A-AC-3	ATLAS SENIOR LOAN FUND L-SERIES 2017-8A CLASS B	1	25,300,000	25,028,683
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		52,951,816	52,951,816	05/19/2014	05/19/2044	Interest Rate Swap			500798-MC-4	KREF Lending VII 2018-3 Term Loan	1	52,951,816	52,951,816
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		54,100,000	53,420,612	05/19/2014	05/19/2044	Interest Rate Swap			67104L-AE-7	OHA Loan Funding 2013-2 --OHALF 2013-2A AR	1	54,100,000	53,420,612
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,000,000	3,855,436	05/19/2014	05/19/2044	Interest Rate Swap			94949R-AW-7	Wellfleet CLO 2016-1 Ltd-WELF 2016-1A CR	1	4,000,000	3,855,436
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	3,197,891	05/19/2014	05/19/2044	Interest Rate Swap			50200Y-AG-3	LCM 30A B	1	3,200,000	3,197,891
57629*BL4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,500,000	6,500,000	05/19/2014	05/19/2044	Interest Rate Swap			05684C-AC-9	Bain Capital Credit CLO --BCC 2020-3A B	1	6,500,000	6,500,000
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	44,842,924	115,289,799	05/19/2014	05/19/2044	Interest Rate Swap		71,038,419	42086P-AC-7	Kingsland Ltd-SERIES 18-8A CLASS A	1	44,842,924	44,251,380
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,100,000	11,115,773	05/19/2014	05/19/2044	Interest Rate Swap			27830X-AE-6	EATON 2019-1A B	1	11,100,000	11,115,773
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,691,619	2,700,284	05/19/2014	05/19/2044	Interest Rate Swap			01750F-AC-0	Allegro CLO Ltd-ALLEG 2019-1A B	1	2,691,619	2,700,284
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		35,000,000	35,036,400	05/19/2014	05/19/2044	Interest Rate Swap			48661W-AA-6	KAYNE CLO-SERIES 19-3A CLASS A	1	35,000,000	35,036,400
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,854,400	2,787,698	05/19/2014	05/19/2044	Interest Rate Swap			247358-CC-6	EAIV Delta MSN 15181	1	2,854,400	2,787,698
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,819,295	05/19/2014	05/19/2044	Interest Rate Swap			67707C-AJ-7	Oak Hill Credit Partners--OAKC 2014-10RA B	1	15,000,000	14,819,295
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,994,615	05/19/2014	05/19/2044	Interest Rate Swap			817176-AN-0	SENECA PARK CLO LTD-SPARK 2014-1A B1R	1	15,000,000	14,994,615
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,800,000	15,800,000	05/19/2014	05/19/2044	Interest Rate Swap			50512#-AE-2	LA Stadium Finance Co Sr Secured Series C	2	15,800,000	15,800,000
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,921,438	4,597,824	05/19/2014	05/19/2044	Interest Rate Swap			64033L-AD-2	NELNET STUDENT LOAN TRUS-SERIES 2014-2A CLASS B	1	4,921,438	4,597,824
57629*BM2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,400,000	5,391,889	05/19/2014	05/19/2044	Interest Rate Swap			48252U-AC-1	KKR 25 B1	1	5,400,000	5,391,889
57629*BNO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	135,000,000	72,441,129	136,916,189	05/19/2014	05/19/2044	Interest Rate Swap		64,388,131	29001L-AA-9	ELMWOOD CLO II LTD NT CL A	1	72,441,129	72,528,058
57629*BNO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,800,000	23,834,201	05/19/2014	05/19/2044	Interest Rate Swap			42086V-AC-4	Hayfin Kingsland X Ltd-SERIES 2019-1A CLASS B1	1	23,800,000	23,834,201
57629*BNO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,600,000	7,574,266	05/19/2014	05/19/2044	Interest Rate Swap			00901A-AC-1	Amco CDO	1	7,600,000	7,574,266
57629*BNO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,600,000	5,551,314	05/19/2014	05/19/2044	Interest Rate Swap			17181T-AA-9	CIFC Funding 2018-IV Ltd-SERIES 18-4A CLASS A1	1	5,600,000	5,551,314
57629*BNO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,700,000	26,876,562	05/19/2014	05/19/2044	Interest Rate Swap			38176D-AJ-8	Golub Capital Partners C-GOCAP 2015-26A A2R	1	27,700,000	26,876,562
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	85,000,000	19,000,000	45,775,936	05/09/2014	05/09/2034	Interest Rate Swap		26,670,315	78434T-AA-6	SCFF 2020-1A A1-FLOATING COUP MATURITY 203104	1	19,000,000	19,105,621
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,855,220	05/09/2014	05/09/2034	Interest Rate Swap			03765W-BC-1	Apollo Credit Funding IV-SERIES 4A CLASS A1BR	1	15,000,000	14,855,220
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,570,000	13,515,788	05/09/2014	05/09/2034	Interest Rate Swap			04016P-AC-2	ARES CLO LTD-SERIES 17-43A CLASS B	1	13,570,000	13,515,788
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,570,000	13,275,192	05/09/2014	05/09/2034	Interest Rate Swap			22616C-AC-7	CRESTLINE DENALI CLO XV -SERIES 17-1A CLASS B	1	13,570,000	13,275,192
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,570,000	13,348,117	05/09/2014	05/09/2034	Interest Rate Swap			77342K-AA-8	ROCKFORD TOWER CLO 2018--ROCKT 2018-2A A	1	13,570,000	13,348,117
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,900,000	3,705,059	05/09/2014	05/09/2034	Interest Rate Swap			05683L-AG-1	Bain Capital Credit CLO --SERIES 1A CLASS C	1	3,900,000	3,705,059
57629*BP5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,106,778	8,753,955	05/09/2014	05/09/2034	Interest Rate Swap			784170-ZZ-8	SFR FTTH SAS Term Loan	3	9,106,778	8,753,955
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	13,100,000	71,591,552	07/22/2014	07/22/2044	Interest Rate Swap		58,849,405	67707B-AB-6	OHA Credit Partners XV L-SERIES 17-15A CLASS B	1	13,100,000	12,742,147
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,300,000	13,142,488	07/22/2014	07/22/2044	Interest Rate Swap			75888F-AE-5	Regatta XIII Funding LLC-SERIES 18-2A CLASS A2	1	13,300,000	13,142,488
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,894,208	07/22/2014	07/22/2044	Interest Rate Swap			67115W-AG-5	OHA Credit Funding 1 LTD-SERIES 18-1A CLASS B	1	8,000,000	7,894,208

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STATEMENT AS OF SEPTEMBER 30, 2020 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*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,836,605	07/22/2014	07/22/2044	Interest Rate Swap			17180W-AC-9	CIFC Funding 2018-11 Ltd-CIFC 2018-2A A2	1	15,000,000	14,836,605
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,500,000	13,386,641	07/22/2014	07/22/2044	Interest Rate Swap			03329A-AE-5	Anchorage Capital CLO Lt-SERIES 2014-SRA CLASS B	1	13,500,000	13,386,641
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,700,000	7,004,361	07/22/2014	07/22/2044	Interest Rate Swap			57542Z-AO-7	REV NT	3	6,700,000	7,004,361
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		35,000,000	34,553,190	07/22/2014	07/22/2044	Interest Rate Swap			14315J-JL-3	CARLYLE GLOBAL MARKET ST-SERIES 17-2A CLASS A1B	1	35,000,000	34,553,190
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,900,000	5,713,654	07/22/2014	07/22/2044	Interest Rate Swap			40436X-AG-2	HIGHBRIDGE LOAN MANAGEME-SERIES 2014 CLASS BR	1	5,900,000	5,713,654
57629*BR1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,500,000	14,322,462	07/22/2014	07/22/2044	Interest Rate Swap			553205-AC-9	MP CLO III LTD-IMP3 2013-1A AR	1	14,500,000	14,322,462
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	20,000,000	78,654,279	07/22/2014	07/22/2044	Interest Rate Swap		58,863,039	36248M-AJ-6	GT Loan Financing I Ltd -SERIES 2013-1A CLASS AR	1	20,000,000	19,791,240
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,712,585	07/22/2014	07/22/2044	Interest Rate Swap			48251M-AS-5	KKR CLO 15 Ltd-KKR 15 A2R	1	15,000,000	14,712,585
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,590,000	19,390,711	07/22/2014	07/22/2044	Interest Rate Swap			88433R-AC-6	WIND RIVER CLO LTD-SERIES 17-2A CLASS A	1	19,590,000	19,390,711
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,500,000	19,380,270	07/22/2014	07/22/2044	Interest Rate Swap			04016P-AA-6	ARES CLO LTD-ARES 2017-43A A CEDAR FUNDING LTD-SERIES 13-1A CLASS BR	1	19,500,000	19,380,270
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,500,000	8,391,778	07/22/2014	07/22/2044	Interest Rate Swap			15032T-AM-6	CIFC FUNDING LTD-SERIES 17-4A CLASS A2	1	8,500,000	8,391,778
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,913,816	07/22/2014	07/22/2044	Interest Rate Swap			12551J-AE-6	BABSON CLO LTD-SERIES 17-1A CLASS C	1	8,000,000	7,913,816
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,100,000	5,100,173	07/22/2014	07/22/2044	Interest Rate Swap			06760B-AJ-1	MARBLE POINT CLO X LTD-SERIES 2017-1A CLASS B	1	5,100,000	5,100,173
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,100,000	5,032,792	07/22/2014	07/22/2044	Interest Rate Swap			566061-AE-7	MADISON PARK FUNDING LTD-SERIES 15-17A CLASS CR	1	5,100,000	5,032,792
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,400,000	3,392,326	07/22/2014	07/22/2044	Interest Rate Swap			55818Y-BG-5	OHM CREDIT PARTNERS LTD-SERIES 2012-7A CLASS CR	1	3,400,000	3,392,326
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,975,000	2,955,264	07/22/2014	07/22/2044	Interest Rate Swap			67102Q-AP-3	A1legro CLO Ltd-ALLEG 2019-1A B	1	2,975,000	2,955,264
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,582,616	5,600,588	07/22/2014	07/22/2044	Interest Rate Swap			01750F-AC-0	KREF Lending VII 2018-5 Term Loan Harbor Park CLO, Ltd-HARB 2018-1A C	1	5,582,616	5,600,588
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	20,000,000	07/22/2014	07/22/2044	Interest Rate Swap			500798-MQ-9	Steele Creek CLO 2018-2 -SERIES 2018-2A CLASS A	1	20,000,000	20,000,000
57629*BT7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,000,000	3,959,540	07/22/2014	07/22/2044	Interest Rate Swap			41154X-AL-9	Carlyle US CLO 2019-1 Re Term Loan	1	4,000,000	3,959,540
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	17,000,000	75,863,498	07/22/2014	07/22/2044	Interest Rate Swap		58,863,039	04014W-AL-9	MADISON PARK FUNDING LTD-MDPK 2014-12A B1R	1	17,000,000	17,000,680
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,958,725	15,640,544	07/22/2014	07/22/2044	Interest Rate Swap			85816L-AA-6	REV NT	1	15,958,725	15,640,544
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,381,643	22,077,253	07/22/2014	07/22/2044	Interest Rate Swap			14315J-SS-9	MADISON PARK FUNDING LTD-MDPK 2014-12A B1R	1	22,381,643	22,077,253
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,000,000	17,000,680	07/22/2014	07/22/2044	Interest Rate Swap			55818P-AN-0	MASSMUTUAL ASSET FIN LLC SR SEC0	1	17,000,000	17,000,680
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,900,000	8,258,873	07/22/2014	07/22/2044	Interest Rate Swap			57542Z-AO-7	ALM VII R-2 Ltd-ALM 2013-7R2A A1B2	3	7,900,000	8,258,873
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,400,000	6,334,566	07/22/2014	07/22/2044	Interest Rate Swap			00164B-BE-6	LOW LTD PARTNERSHIP -SERIES 15A CLASS BR	1	6,400,000	6,334,566
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,650,000	5,563,877	07/22/2014	07/22/2044	Interest Rate Swap			50184N-AN-2	PPPF Engine Leasing Ltd Senior Secured	2	5,650,000	5,563,877
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,000,000	21,178,975	07/22/2014	07/22/2044	Interest Rate Swap			G7332F-AG-8	Ballyrock CDO Ltd	1	23,000,000	21,178,975
57629*BU4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	10,001,470	07/22/2014	07/22/2044	Interest Rate Swap			05875M-AE-2	ARES CLO Ltd-SERIES 18-2BRA CLASS B	1	10,000,000	10,001,470
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	7,000,000	65,748,275	07/22/2014	07/22/2044	Interest Rate Swap		58,808,503	04017Q-AE-5	REGATTA VIII FUNDING LTD-SERIES 2017-1A CLASS B	1	7,000,000	6,939,772
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,600,000	7,518,657	07/22/2014	07/22/2044	Interest Rate Swap			75888K-AC-8	AIMCO-AIMCO 2017-AA A	1	7,600,000	7,518,657
57629*BV2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,460,000	7,418,254	07/22/2014	07/22/2044	Interest Rate Swap			00900C-AA-2		1	7,460,000	7,418,254

STATEMENT AS OF SEPTEMBER 30, 2020 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*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		20,500,000	20,495,900	10/10/2014	10/10/2044	Interest Rate Swap			09627X-AW-1	BLUEMOUNTAIN CLO LTD-SERIES 2015-1A CLASS A2R	1	20,500,000	20,495,900
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		16,200,000	15,928,828	10/10/2014	10/10/2044	Interest Rate Swap			16409T-AC-3	CHENANGO PARK CLO LTD-SERIES 18-1A CLASS A1B	1	16,200,000	15,928,828
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,000,000	15,004,020	10/10/2014	10/10/2044	Interest Rate Swap			04019L-AC-8	ARES 2019-51A A2	1	15,000,000	15,004,020
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		7,000,000	6,932,821	10/10/2014	10/10/2044	Interest Rate Swap			39862E-AB-0	GRIPPEN PARK CLO LTD-SERIES 17-1A CLASS B	1	7,000,000	6,932,821
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		3,550,000	3,530,305	10/10/2014	10/10/2044	Interest Rate Swap			26251B-AN-6	Dryden XVIII Senior Loan-DRSLF	1	3,550,000	3,530,305
57629*CJ8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		5,090,940	5,121,486	10/10/2014	10/10/2044	Interest Rate Swap			78442G-RC-2	2013-28A A2LR SLMA 2005-9 STUDENT LN-BKD NT CL B	1	5,090,940	5,121,486
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	80,000,000	132,799,005	05/04/2017	11/04/2044	Interest Rate Swap		53,602,845	87271L-AJ-1	TIAA CLO I Ltd-TIA 2016-1A AR	1	80,000,000	79,196,160
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	19,814,720	05/04/2017	11/04/2044	Interest Rate Swap			55819D-AE-6	Madison Park Funding XXX-MDPK 2018-31A A2A	1	20,000,000	19,814,720
57629*CK5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		35,000,000	34,227,130	05/04/2017	11/04/2044	Interest Rate Swap			22616T-AA-4	Crestline Denali CLO XVI-DEN17	1	35,000,000	34,227,130
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	98,157,833	148,772,694	05/04/2017	11/04/2044	Interest Rate Swap		53,630,394	06761N-AE-5	2018-1A A Barings Middle Market CL-BMM 2018-II COM	2	98,157,833	95,142,300
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,000,000	12,650,339	05/04/2017	11/04/2044	Interest Rate Swap			21623P-AC-1	COOK PARK CLO LTD-COOK 2018-1A A2	1	13,000,000	12,650,339
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,000,000	982,874	05/04/2017	11/04/2044	Interest Rate Swap			48250R-BN-5	KKR CLO 12 Ltd-KKR 12 BR2	1	1,000,000	982,874
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,457,532	3,848,395	05/04/2017	11/04/2044	Interest Rate Swap			48251B-AN-0	KKR CLO 16 Ltd-KKR 16 A2R	1	3,457,532	3,848,395
57629*CL3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,900,000	14,932,214	05/04/2017	11/04/2044	Interest Rate Swap			05683E-AA-0	Bain Capital Credit CLO-BCC 2020-2A A	1	14,900,000	14,932,214
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	34,484,503	88,292,988	05/04/2017	11/04/2044	Interest Rate Swap		53,850,783	50188G-AT-0	LCM XVIII LP-LCM 18A A1R	1	34,484,503	34,442,205
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		45,839,433	45,234,744	05/04/2017	11/04/2044	Interest Rate Swap			42086P-AC-7	Kingsland Ltd-SERIES 18-8A CLASS A	1	45,839,433	45,234,744
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,000,000	29,676,300	05/04/2017	11/04/2044	Interest Rate Swap			38172X-AG-4	GOLUB CAPITAL PARTNERS C-SERIES 13-16A CLASS A1R	1	30,000,000	29,676,300
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,200,000	1,179,449	05/04/2017	11/04/2044	Interest Rate Swap			48250R-BN-5	KKR CLO 12 Ltd-KKR 12 BR2	1	1,200,000	1,179,449
57629*CM1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,187,538	15,233,607	05/04/2017	11/04/2044	Interest Rate Swap			03328Y-AA-2	ANCHORAGE CAPITAL CLO 1-ANCHC	1	15,187,538	15,233,607
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	13,658,362	66,504,252	05/04/2017	11/04/2044	Interest Rate Swap		53,878,332	66776M-ZZ-9	ORANGE GROVE ENERGY, L.P DELAYED DRAW TE	2	13,658,362	12,625,920
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,426,766	2,380,529	05/04/2017	11/04/2044	Interest Rate Swap			247358-BB-9	EAIV Delta MSN 15153	1	2,426,766	2,380,529
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,346,437	2,300,043	05/04/2017	11/04/2044	Interest Rate Swap			247358-DD-3	EAIV Delta MSN 15161	1	2,346,437	2,300,043
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,434,577	2,388,834	05/04/2017	11/04/2044	Interest Rate Swap			247358-PP-3	Delta Air Lines Inc. - MSN 15147	1	2,434,577	2,388,834
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,434,673	2,368,772	05/04/2017	11/04/2044	Interest Rate Swap			247358-RR-7	EAIV 2017 Delta MSN 15146	1	2,434,673	2,368,772
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,346,437	2,300,043	05/04/2017	11/04/2044	Interest Rate Swap			247358-RII-6	EAIV Delta MSN 15162	1	2,346,437	2,300,043
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,500,000	20,502,214	05/04/2017	11/04/2044	Interest Rate Swap			01750F-AA-4	Allegro CLO Ltd-ALLEG 2019-1A A	1	20,500,000	20,502,214
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,221,465	17,326,624	05/04/2017	11/04/2044	Interest Rate Swap			12482N-AA-9	CBAM Ltd-CBAM 2019-10A A1A	1	17,221,465	17,326,624
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,500,000	8,504,667	05/04/2017	11/04/2044	Interest Rate Swap			87166R-AE-7	Symphony CLO XXI Ltd-SYMP 2019-21A B	1	8,500,000	8,504,667
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,500,000	24,235,628	05/04/2017	11/04/2044	Interest Rate Swap			G1093*-AA-7	BIF II SAFE HARBOR HOLDINGS LLC	2	22,500,000	24,235,628
57629*CN9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		40,000,000	40,000,000	05/04/2017	11/04/2044	Interest Rate Swap			500798-MC-4	KREF Lending VII 2018-3 Term Loan	1	40,000,000	40,000,000
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	10,000,000	63,969,628	05/04/2017	11/04/2044	Interest Rate Swap		53,960,978	48253H-AE-5	KKR CLO 26 LLC-SERIES 26 CLASS B1	1	10,000,000	10,008,650

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STATEMENT AS OF SEPTEMBER 30, 2020 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	Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	14 NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		28,225,172	28,095,927	05/04/2017	11/04/2044	Interest Rate Swap			05682V-AA-3	BAIN CAPITAL CREDIT CLO -SERIES 18-2A CLASS A1	1	28,225,172	28,095,927
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		60,000,000	60,000,000	05/04/2017	11/04/2044	Interest Rate Swap			50079B-MR-7	KREF Lending VII - Term Loan Series 2019-6	1	60,000,000	60,000,000
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,300,000	11,217,872	05/04/2017	11/04/2044	Interest Rate Swap			38138D-AJ-5	Goldentree Loan Managem-GLM 2019-5A C	1	11,300,000	11,217,872
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	10,029,130	05/04/2017	11/04/2044	Interest Rate Swap			03330N-AC-8	Anchorage Capital Clo 11-ANCHC 2019-11A B	1	10,000,000	10,029,130
57629*CP4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	10,013,440	05/04/2017	11/04/2044	Interest Rate Swap			69700G-AC-6	Palmer Square CLO 2019-1-SERIES 19-1A CLASS A2	1	10,000,000	10,013,440
57629*C02	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	19,907,598	74,005,182	05/04/2017	11/04/2044	Interest Rate Swap		54,126,271	46617N-AQ-0	JFIN CLO LTD-SERIES 14-2A CLASS A1AR	1	19,907,598	19,878,911
57629*C02	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,700,000	4,710,180	05/04/2017	11/04/2044	Interest Rate Swap			03330N-AE-4	Anchorage Capital Clo 11-ANCHC 2019-11A C	1	4,700,000	4,710,180
57629*C02	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,490,000	10,395,401	05/04/2017	11/04/2044	Interest Rate Swap			40437L-AG-7	HPS Loan Management 13-2-HLM 13A-18 B	1	10,490,000	10,395,401
57629*C02	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,858,260	05/04/2017	11/04/2044	Interest Rate Swap			40436Q-AL-6	HPS Loan Management 9-20-HLM 9A-2016 A1BR	1	10,000,000	9,858,260
57629*C02	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,375,000	6,311,817	05/04/2017	11/04/2044	Interest Rate Swap			04622A-AC-1	Assurant CLO IV LTD	1	6,375,000	6,311,817
57629*C02	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,500,000	3,504,267	05/04/2017	11/04/2044	Interest Rate Swap			12482N-AG-6	CBAM 2019-10 Ltd	1	3,500,000	3,504,267
57629*C02	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,965,380	05/04/2017	11/04/2044	Interest Rate Swap			44932V-AE-2	ICG US CLO 2019-1 LTD	1	10,000,000	9,965,380
57629*C02	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,965,410	05/04/2017	11/04/2044	Interest Rate Swap			92918F-AB-0	Voya CLO 2019-3 Ltd	1	10,000,000	9,965,410
57629*C02	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	15,015,840	05/04/2017	11/04/2044	Interest Rate Swap			67098D-AG-8	QHA Credit Funding 4 Ltd	1	15,000,000	15,015,840
57629*C02	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,000,000	5,986,620	05/04/2017	11/04/2044	Interest Rate Swap			67098D-AJ-2	QHA Credit Funding 4 Ltd	1	6,000,000	5,986,620
57629*C02	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,000,000	27,000,000	05/04/2017	11/04/2044	Interest Rate Swap			50079B-MQ-9	KREF Lending VII LLC	1	27,000,000	27,000,000
57629*C02	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,841,056	4,099,988	05/04/2017	11/04/2044	Interest Rate Swap			55819P-AA-7	Madison Park Funding XXX-MDPK 2019-36A A	1	3,841,056	4,099,988
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	16,600,000	70,304,372	05/04/2017	11/04/2044	Interest Rate Swap		54,098,722	92915P-AK-1	Voya CLO 2014-1 Ltd-INGIM 2014-1A ABR2	1	16,600,000	16,205,650
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,660,000	13,660,369	05/04/2017	11/04/2044	Interest Rate Swap			05363U-AW-3	VERY POINT IV CLO LTD-SERIES 14-1A CLASS CR	1	13,660,000	13,660,369
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,660,000	13,357,417	05/04/2017	11/04/2044	Interest Rate Swap			04964K-AS-0	ATRIUM CDO CORP-SERIES 9A CLASS CR	1	13,660,000	13,357,417
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,000,000	11,468,951	05/04/2017	11/04/2044	Interest Rate Swap			67332F-AH-6	RRPF Engine Leasing Ltd Senior Secured	2	13,000,000	11,468,951
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,776,800	05/04/2017	11/04/2044	Interest Rate Swap			04941Y-AJ-8	Atlas Senior Loan Fund X-ATCLO 2018-11A B	1	10,000,000	9,776,800
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,000,000	16,991,415	05/04/2017	11/04/2044	Interest Rate Swap			03328W-AJ-7	Anchorage Capital CLO 9 -SERIES 16-9A CLASS AR	1	17,000,000	16,991,415
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,500,000	12,503,838	05/04/2017	11/04/2044	Interest Rate Swap			26252N-AE-9	Dryden Senior Loan Fund-DRSLF 2019-72A B	1	12,500,000	12,503,838
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	19,820,720	05/04/2017	11/04/2044	Interest Rate Swap			12550Y-AC-8	CIFC FUNDING LTD-CIFC 2017-2A A	1	20,000,000	19,820,720
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,429,943	05/04/2017	11/04/2044	Interest Rate Swap			94951D-AJ-2	Wellfleet CLO 2018-3 Ltd-SERIES 18-3A CLASS A2	1	7,500,000	7,429,943
57629*CR0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	10,021,840	05/04/2017	11/04/2044	Interest Rate Swap			29002H-AE-9	Elmwood CLO III Ltd-ELMW3 2019-3A B	1	10,000,000	10,021,840
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	12,740,000	66,895,093	05/04/2017	11/04/2044	Interest Rate Swap		54,153,819	55818X-AY-9	MADISON PARK FUNDING LTD-SERIES 2015-16A CLASS A2R	1	12,740,000	12,741,274
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,682,353	6,682,320	05/04/2017	11/04/2044	Interest Rate Swap			03767V-AD-0	Apidos CLO-APID 2019-31A B	1	6,682,353	6,682,320
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,400,000	4,397,136	05/04/2017	11/04/2044	Interest Rate Swap			67576P-AE-7	Octagon Investment Partn-SERIES 19-3A CLASS B1	1	4,400,000	4,397,136
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,240,000	12,209,327	05/04/2017	11/04/2044	Interest Rate Swap			03766G-AE-2	APIDOS CLO-SERIES 17-26A CLASS A2	1	12,240,000	12,209,327

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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*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,980,000	11,980,072	05/04/2017	11/04/2044	Interest Rate Swap			149420-AE-1	CATSKILL PARK CLO LTD--SERIES 17-1A CLASS A2	1	11,980,000	11,980,072
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,922,525	05/04/2017	11/04/2044	Interest Rate Swap			88434H-AE-3	THL Credit Wind River 20-SERIES 18-2A CLASS A2	1	5,000,000	4,922,525
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,013,717	20,862,460	05/04/2017	11/04/2044	Interest Rate Swap			48250L-AL-3	KKR FINANCIAL CLO LTD--SERIES 9 CLASS AR	1	21,013,717	20,862,460
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,092,061	22,521,086	05/04/2017	11/04/2044	Interest Rate Swap			24824T-AQ-3	Denali Capital Clo XII L-DEN12 2016-1A A1R	1	23,092,061	22,521,086
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,250,000	10,061,298	05/04/2017	11/04/2044	Interest Rate Swap			44330Q-AB-7	Highbridge Loan Managemnt--SERIES 12A-18 CLASS A1B	1	10,250,000	10,061,298
57629*CS8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	19,609,260	05/04/2017	11/04/2044	Interest Rate Swap			77340E-AN-6	Rockford Tower CLO 2017--SERIES 17-1A CLASS BR	1	20,000,000	19,609,260
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	24,563,949	79,144,063	12/16/2014	12/16/2044	Interest Rate Swap	54,248,546		39808C-AA-4	GRIDIRON FDG LLC Term Facility	1	24,563,949	24,895,517
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,438,679	23,828,944	12/16/2014	12/16/2044	Interest Rate Swap			66704J-CB-2	NORTHSTAR EDUCATION FINA--SERIES 07-1 CLASS B	1	27,438,679	23,828,944
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,311,870	17,322,166	12/16/2014	12/16/2044	Interest Rate Swap			55955A-AA-4	Magnetite XX Ltd--MAGNE 2018-20A A Anchorage Capital CLO Lt--ANCHC	1	17,311,870	17,322,166
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	19,790,100	12/16/2014	12/16/2044	Interest Rate Swap			03331J-AA-0	2018-10A A1A	1	20,000,000	19,790,100
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,200,000	15,696,731	12/16/2014	12/16/2044	Interest Rate Swap			06760J-AE-5	Barings CLO Ltd 2018-II--SERIES 2018-2A CLAS A1B	1	16,200,000	15,696,731
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,700,000	6,568,325	12/16/2014	12/16/2044	Interest Rate Swap			06760B-AC-6	BABSON CLO LTD--SERIES 17-1A CLASS A2	1	6,700,000	6,568,325
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,960,000	4,901,675	12/16/2014	12/16/2044	Interest Rate Swap			55820R-AE-2	MADISON PARK FUNDING LTD--SERIES 17-25A CLASS B	1	4,960,000	4,901,675
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,575,000	2,469,948	12/16/2014	12/16/2044	Interest Rate Swap			08179H-AC-4	Benefit Street Partners --BSP 2017-12A B	1	2,575,000	2,469,948
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,896,090	12/16/2014	12/16/2044	Interest Rate Swap			79410U-AQ-4	SALEM FIELDS CLO LTD SR SEC2 NT CL A-2-R	1	10,000,000	9,896,090
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,469,241	4,466,788	12/16/2014	12/16/2044	Interest Rate Swap			033291-AC-9	ANCHC 2019-13A B	1	4,469,241	4,466,788
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,425,000	6,227,335	12/16/2014	12/16/2044	Interest Rate Swap			08180X-AQ-5	Benefit Street Partners --BSP 2015-8A A1BR	1	6,425,000	6,227,335
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,000,000	6,000,924	12/16/2014	12/16/2044	Interest Rate Swap			08182B-AE-8	Benefit Street Partners CLO L	1	6,000,000	6,000,924
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,350,000	2,292,145	12/16/2014	12/16/2044	Interest Rate Swap			05683H-AG-0	BAIN CAPITAL CREDIT CLO --SERIES 2017-2A CLASS CR	1	2,350,000	2,292,145
57629*CX7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,300,000	1,280,617	12/16/2014	12/16/2044	Interest Rate Swap			33883J-AD-3	Flatiron CLO Ltd--SERIES 19-1A CLASS C	1	1,300,000	1,280,617
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	25,000,000	78,916,576	12/16/2014	12/16/2044	Interest Rate Swap	53,916,576		50079E-MQ-4	KREF Lending VII 2018-3 Term Loan	1	25,000,000	25,000,000
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,470,000	14,333,924	12/16/2014	12/16/2044	Interest Rate Swap			55820R-AC-6	MADISON PARK FUNDING LTD--SERIES 17-25A CLASS A2	1	14,470,000	14,333,924
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		34,834,480	34,302,275	12/16/2014	12/16/2044	Interest Rate Swap			04941Y-AC-3	Atlas Senior Loan Fund X--SERIES 18-11A CLASS A1L	1	34,834,480	34,302,275
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		65,000,000	64,014,275	12/16/2014	12/16/2044	Interest Rate Swap			04624I-AC-1	ASSURANT CLO III LTD--SERIES 2018-2A CLASS A	1	65,000,000	64,014,275
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,418,954	9,304,756	12/16/2014	12/16/2044	Interest Rate Swap			48252W-AC-7	KKR CLO LTD 22--SERIES 22A CLASS B	1	9,418,954	9,304,756
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	7,000,105	12/16/2014	12/16/2044	Interest Rate Swap			05618D-AN-4	BABSON CLO LTD--BABS 2014-1A BR	1	7,000,000	7,000,105
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,045,000	1,996,824	12/16/2014	12/16/2044	Interest Rate Swap			05616Z-AQ-3	Babson CLO Ltd 2015-1--BABS 2015-1A BR	1	2,045,000	1,996,824
57629*CT6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,900,000	3,779,732	12/16/2014	12/16/2044	Interest Rate Swap			68703P-AE-9	Palmer Square CLO 2018-1--PLMRS 2018-1A B	1	3,900,000	3,779,732
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	36,000,000	128,986,581	12/16/2014	12/16/2044	Interest Rate Swap	90,580,229		39808C-AA-3	Gridiron Fdg LLC Sr Secd Nt	2	36,000,000	38,406,352
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,900,000	25,250,195	12/16/2014	12/16/2044	Interest Rate Swap			14307P-AE-5	Carlyle Global Market St--SERIES C17A CLASS A1BR	1	25,900,000	25,250,195
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,500,000	23,500,423	12/16/2014	12/16/2044	Interest Rate Swap			05618D-AL-8	BABSON CLO LTD--BABS 2014-1A A2R	1	23,500,000	23,500,423

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STATEMENT AS OF SEPTEMBER 30, 2020 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*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,100,000	22,616,979	12/16/2014	12/16/2044	Interest Rate Swap				83610K-AA-1	SOUND POINT GLO LTD-SERIES 2017-2A CLASS A	1	23,100,000	22,616,979
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,800,000	23,835,735	12/16/2014	12/16/2044	Interest Rate Swap				57542Z-AO-7	MASSMUTUAL ASSET FIN LLC SR SECD REV NT	3	22,800,000	23,835,735
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,000,000	27,000,000	12/16/2014	12/16/2044	Interest Rate Swap				500798-MQ-9	KREF Lending VII 2018-5 Term Loan	1	27,000,000	27,000,000
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,777,561	13,719,538	12/16/2014	12/16/2044	Interest Rate Swap				92917A-AA-4	VOYA 2018-1A A1	1	13,777,561	13,719,538
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	19,848,320	12/16/2014	12/16/2044	Interest Rate Swap				58806P-AC-2	MERCER FIELD CLO LP-MERCL 2017-1A A2	1	20,000,000	19,848,320
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,500,000	10,797,838	12/16/2014	12/16/2044	Interest Rate Swap				64034B-AB-7	Nelnet Student Loan Trus-NSLT 2018-5A B	1	11,500,000	10,797,838
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,395,771	22,119,345	12/16/2014	12/16/2044	Interest Rate Swap				94949J-AA-3	Wellfleet CLO 2018-2 Ltd-WELF 2018-2A A1	1	22,395,771	22,119,345
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,950,000	5,952,350	12/16/2014	12/16/2044	Interest Rate Swap				10302V-BG-9	BOWMAN PARK CLO LTD-BOWPK 2014-1A CR	1	5,950,000	5,952,350
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,483,305	8,434,763	12/16/2014	12/16/2044	Interest Rate Swap				03328Q-AN-1	ANCHORAGE CAPITAL CLO LT-SERIES 2015-6A CLASS AR	1	8,483,305	8,434,763
57629*CIW9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,100,000	10,890,399	12/16/2014	12/16/2044	Interest Rate Swap				12481Q-AE-5	Cam 2018-5 Ltd-SERIES 18-5A CLASS B1	1	11,100,000	10,890,399
57629*CUJ	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	328,073,426	432,505,801	12/16/2014	12/16/2044	Interest Rate Swap	89,528,991			57542Z-AO-7	MASSMUTUAL ASSET FIN LLC SR SECD REV NT	3	328,073,426	342,976,810
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	16,866,806	87,950,859	12/16/2014	12/16/2044	Interest Rate Swap		71,180,566		03328Q-AN-1	ANCHORAGE CAPITAL CLO LT-SERIES 2015-6A CLASS AR	1	16,866,806	16,770,293
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,915,915	12/16/2014	12/16/2044	Interest Rate Swap				94950J-AC-5	Wellfleet CLO Ltd-SERIES 18-1A CLASS B	1	5,000,000	4,915,915
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,780,000	6,702,477	12/16/2014	12/16/2044	Interest Rate Swap				33882G-AB-4	FLATIRON CLO LTD-FLAT 2017-1A B GALLATIN CLO LTD-SERIES 17-1A CLASS B	1	6,780,000	6,702,477
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,750,000	9,681,506	12/16/2014	12/16/2044	Interest Rate Swap				36361U-AC-4	OHA Credit Funding 1 LTD-SERIES 18-1A CLASS A2	1	9,750,000	9,681,506
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,400,000	10,295,397	12/16/2014	12/16/2044	Interest Rate Swap				67115W-AE-0	Dryden 58 Clo Ltd-DRSLF 2018-58A A1	1	10,400,000	10,295,397
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,662,507	21,676,182	12/16/2014	12/16/2044	Interest Rate Swap				26245R-AA-8	BENEFIT STREET PARTNERS -SERIES 2017-12A CLASS A1	1	21,662,507	21,676,182
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,675,000	9,561,503	12/16/2014	12/16/2044	Interest Rate Swap				08179H-AA-8	BENEFIT STREET PARTNERS -SERIES 2017-12A CLASS A1	1	9,675,000	9,561,503
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,500,000	8,420,984	12/16/2014	12/16/2044	Interest Rate Swap				78109Q-AE-8	RR 2 LTD-SERIES 17-2A CLASS A2	1	8,500,000	8,420,984
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,000,000	30,031,200	12/16/2014	12/16/2044	Interest Rate Swap				48661W-AA-6	KAYNE CLO-SERIES 19-3A CLASS A Carlyle US CLO 2013-3 Re Term Loan	1	30,000,000	30,031,200
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		18,983,719	18,645,809	12/16/2014	12/16/2044	Interest Rate Swap				14315J-NN-5	MASSMUTUAL ASSET FIN LLC SR SECD REV NT	3	18,983,719	18,645,809
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		56,000,000	58,543,911	12/16/2014	12/16/2044	Interest Rate Swap				57542Z-AO-7	AIMCO CLO Series 2015-A-SERIES 15-AA CLASS BR	1	56,000,000	58,543,911
57629*CV1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,400,000	6,322,163	12/16/2014	12/16/2044	Interest Rate Swap				00900L-AH-7	CIFC Funding 2017-IV Ltd-SERIES 17-4A CLASS B	1	6,400,000	6,322,163
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	4,952,382	37,787,362	02/06/2017	02/05/2045	Interest Rate Swap		32,881,407		12551J-AG-1	MANUF & TRADERS TRUST CO-SUBORDINATED NOTE	1	4,952,382	4,905,955
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,506,830	10,486,371	02/06/2017	02/05/2045	Interest Rate Swap				564759-QB-7	TC1-CENT CLO 2016-1 LTD-SERIES 17-1A CLASS A2	1	10,506,830	10,486,371
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,500,000	13,452,669	02/06/2017	02/05/2045	Interest Rate Swap				87806L-AE-6	BABSON CLO LTD-SERIES 17-1A CLASS B1	1	13,500,000	13,452,669
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,500,000	13,500,014	02/06/2017	02/05/2045	Interest Rate Swap				06760B-AE-2	NAVSL 2019-2A B	1	13,500,000	13,500,014
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,600,000	8,890,760	02/06/2017	02/05/2045	Interest Rate Swap				63941R-AC-4	HIGHBRIDGE LOAN MANAGEMEN-SERIES 2014 CLAS A2R	1	9,600,000	8,890,760
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,700,000	12,502,185	02/06/2017	02/05/2045	Interest Rate Swap				40436X-AE-7	BAIN CAPITAL CREDIT CLO -SERIES 17-1A CLASS A1	1	12,700,000	12,502,185
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,200,000	11,109,011	02/06/2017	02/05/2045	Interest Rate Swap				05682Q-AC-0	BlueMountain CLO 2015-3 -BLUEM 2015-3A A2R	1	11,200,000	11,109,011
57629*CV5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,900,000	13,487,392	02/06/2017	02/05/2045	Interest Rate Swap				09628J-AN-1	BlueMountain CLO 2015-3 -BLUEM 2015-3A A2R	1	13,900,000	13,487,392

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STATEMENT AS OF SEPTEMBER 30, 2020 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*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,831,367	7,831,915	02/06/2017	02/05/2045	Interest Rate Swap				053633-AH-6	AVERY POINT CLO LTD-SERIES 13-3A CLASS B1R	1	7,831,367	7,831,915
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,006,615	4,812,644	02/06/2017	02/05/2045	Interest Rate Swap				784170-ZZ-8	SFR FTTH SAS Term Loan Madison Park Funding Ltd-SERIES 18-30A CLASS B	3	5,006,615	4,812,644
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,400,000	7,217,368	02/06/2017	02/05/2045	Interest Rate Swap				55821T-AC-1	Tryon Park CLO Ltd-TPCLO 2013-1A	1	7,400,000	7,217,368
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,085,000	1,063,457	02/06/2017	02/05/2045	Interest Rate Swap				89852T-AN-8	ATJR OHA Credit Partners XIV -OAKC 2017-14A B FLOATING COUP	1	1,085,000	1,063,457
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,515,422	12,504,703	02/06/2017	02/05/2045	Interest Rate Swap				67706X-AG-8	Flatiron CLO Ltd-SERIES 19-1A CLASS C	1	12,515,422	12,504,703
57629*CY5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,000,000	1,970,180	02/06/2017	02/05/2045	Interest Rate Swap				33883J-AD-3		1	2,000,000	1,970,180
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	5,280,000	37,937,445	02/06/2017	02/05/2045	Interest Rate Swap		32,657,640		00900C-AE-4	AIMCO-AIMCO 2017-AA C TOP DLF VIII 2018 CLO, LLC - Class A	1	5,280,000	5,279,805
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,180,328	3,155,521	02/06/2017	02/05/2045	Interest Rate Swap				87289B-AA-2		1	3,180,328	3,155,521
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		32,100,000	32,103,082	02/06/2017	02/05/2045	Interest Rate Swap				05363U-AU-7	AVERY POINT IV CLO LTD-SERIES 14-1A CLASS BR	1	32,100,000	32,103,082
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,255,654	23,030,742	02/06/2017	02/05/2045	Interest Rate Swap				66704J-AY-4	NORTHSTAR EDUCATION FINA-SERIES 2004-1 CLASS B1	1	25,255,654	23,030,742
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,000,000	26,526,312	02/06/2017	02/05/2045	Interest Rate Swap				75887X-AA-5	Regatta Funding Ltd.-REG11 2018-1A	1	27,000,000	26,526,312
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,900,000	11,667,760	02/06/2017	02/05/2045	Interest Rate Swap				449258-AA-0	10G US CLO 2018-1 LTD-SERIES 2018-1A CLASS A1	1	11,900,000	11,667,760
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,941,180	02/06/2017	02/05/2045	Interest Rate Swap				64132M-AC-2	Neuberger Berman CLO Ltd-NEUB 2018-30A A2	1	10,000,000	9,941,180
57629*CZ2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,200,000	11,131,803	02/06/2017	02/05/2045	Interest Rate Swap				17181T-AC-5	CIFC Funding 2018-IV Ltd-SERIES 18-4A CLASS A2	1	11,200,000	11,131,803
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	4,208,186	36,900,117	02/06/2017	02/05/2045	Interest Rate Swap		32,854,968		784170-ZZ-8	SFR FTTH SAS Term Loan Madison Park Funding XIV-MDPK 2014-14A BRR	3	4,208,186	4,045,149
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,761,170	02/06/2017	02/05/2045	Interest Rate Swap				55818R-BA-3	Atlas Senior Loan Fund X-ATCLO	1	15,000,000	14,761,170
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,600,000	11,214,984	02/06/2017	02/05/2045	Interest Rate Swap				04942J-AE-1	2018-10A B CIFC Funding 2018-I Ltd-CIFC 2018-1A A	1	11,600,000	11,214,984
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,145,120	23,136,104	02/06/2017	02/05/2045	Interest Rate Swap				12551R-AA-6	ARES XLVII CLO Ltd-SERIES 18-47A CLASS A2	1	23,145,120	23,136,104
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,900,000	25,357,343	02/06/2017	02/05/2045	Interest Rate Swap				04016V-AC-9	OCF CLO 2017-14 Ltd-SERIES 17-14A CLASS A2	1	25,900,000	25,357,343
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,400,000	11,185,942	02/06/2017	02/05/2045	Interest Rate Swap				67097Q-AE-5	Benefit Street Partners -SERIES 18-14A CLASS A2	1	11,400,000	11,185,942
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,400,000	12,975,126	02/06/2017	02/05/2045	Interest Rate Swap				08179L-AC-5	Wellfleet CLO Ltd-SERIES 18-1A CLASS B	1	13,400,000	12,975,126
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,915,915	02/06/2017	02/05/2045	Interest Rate Swap				94950J-AC-5	Carlyle Global Market St-SERIES 18-4A CLASS A2	1	5,000,000	4,915,915
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,929,566	02/06/2017	02/05/2045	Interest Rate Swap				14315R-AE-1	ATLAS SENIOR LOAN FUND L-SERIES 17-8A CLASS C	1	7,000,000	6,929,566
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,100,000	2,963,271	02/06/2017	02/05/2045	Interest Rate Swap				04943A-AG-4	Flatiron CLO Ltd-SERIES 19-1A CLASS B	1	3,100,000	2,963,271
57629*DA6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,501,635	02/06/2017	02/05/2045	Interest Rate Swap				33883J-AC-5		1	7,500,000	7,501,635
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	45,000,000	77,328,397	02/05/2015	02/05/2045	Interest Rate Swap		32,492,197		05683H-AC-9	BAIN CAPITAL CREDIT CLO -SERIES 2017-2A CLASS AR	1	45,000,000	44,836,200
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,325,000	7,324,465	02/05/2015	02/05/2045	Interest Rate Swap				55954K-AC-9	MAGNETITE CLO LTD-SERIES 17-19A CLASS B	1	7,325,000	7,324,465
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,200,000	7,112,887	02/05/2015	02/05/2045	Interest Rate Swap				92915Q-AG-8	VOYA CLO LTD-SERIES 2017-3A CLASS A2	1	7,200,000	7,112,887
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,750,000	12,615,016	02/05/2015	02/05/2045	Interest Rate Swap				40436Q-AN-2	HPS Loan Management 9-20-HLM 9A-2016 A2R	1	12,750,000	12,615,016
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,000,000	24,763,875	02/05/2015	02/05/2045	Interest Rate Swap				87249Q-AA-8	TICP CLO Ltd-TICP 2018-11A A Babson CLO Ltd 2013-I-SERIES 2013-1A CLASS AR	1	25,000,000	24,763,875
57629*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,397,689	14,297,930	02/05/2015	02/05/2045	Interest Rate Swap				06760E-AA-4		1	14,397,689	14,297,930

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STATEMENT AS OF SEPTEMBER 30, 2020 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*DB4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,120,937	23,427,034	02/05/2015	02/05/2045	Interest Rate Swap			24820R-AA-6	Statoil ASA-SENIOR UNSECURED NOTE	1	21,120,937	23,427,034
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	14,026,814	58,416,129	12/05/2016	12/05/2046	Interest Rate Swap	44,305,911		78449F-AC-5	SMB PRIVATE ED LN TR 2016-A NT	1	14,026,814	14,110,218
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		22,420,000	22,803,386	12/05/2016	12/05/2046	Interest Rate Swap			63940F-AC-1	NAVIENT STUDENT LOAN TRU-SERIES 16-2 CLASS A3	1	22,420,000	22,803,386
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,324,110	9,370,211	12/05/2016	12/05/2046	Interest Rate Swap			26827X-AA-1	ECMC GROUP STUDENT LOAN -SERIES 2016-1A CLASS A	1	9,324,110	9,370,211
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,351,950	22,956,368	12/05/2016	12/05/2046	Interest Rate Swap			04941T-AS-9	Atlas Senior Loan Fund V-SERIES 16-7A CLASS A1R	1	23,351,950	22,956,368
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,500,000	11,271,426	12/05/2016	12/05/2046	Interest Rate Swap			92916M-AB-7	VOYA CLO LTD-VOYA 2017-1A A2	1	11,500,000	11,271,426
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,828,750	12/05/2016	12/05/2046	Interest Rate Swap			67109Y-AN-4	Oak Hill Credit Partners-SERIES 15-12A CLASS A2R	1	10,000,000	9,828,750
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,200,000	3,962,578	12/05/2016	12/05/2046	Interest Rate Swap			08180X-AU-6	Benefit Street Partners -BSP 2015-8A BR	1	4,200,000	3,962,578
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,380,000	6,121,227	12/05/2016	12/05/2046	Interest Rate Swap			22616C-AE-3	CRESTLINE DENALI CLO XV -SERIES 17-1A CLASS C	1	6,380,000	6,121,227
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,900,160	12/05/2016	12/05/2046	Interest Rate Swap			04965L-AE-8	ATRIUM XIV LLC-ATRM 14A A2A	1	10,000,000	9,900,160
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	5,007,105	12/05/2016	12/05/2046	Interest Rate Swap			03328W-AL-2	Anchorage Capital CLO 9 -SERIES 16-9A CLASS BR	1	5,000,000	5,007,105
57629*DK4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,400,000	9,405,828	12/05/2016	12/05/2046	Interest Rate Swap			08186P-AC-7	Benefit Street Partners CLO X	1	9,400,000	9,405,828
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	13,875,000	58,210,500	12/05/2016	12/05/2046	Interest Rate Swap	44,335,500		70163F-AA-0	Parliament Funding I LLC-Variable Funding Notes	2	13,875,000	13,875,000
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,600,000	5,112,118	12/05/2016	12/05/2046	Interest Rate Swap			64034N-AB-1	NSLT 2019-2A B	1	5,600,000	5,112,118
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,000,000	30,000,000	12/05/2016	12/05/2046	Interest Rate Swap			500798-MN-6	KREF Lending VII 2018-2 Term Loan	1	30,000,000	30,000,000
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,860,362	11,973,991	12/05/2016	12/05/2046	Interest Rate Swap			78448Q-AD-0	SMB PRIVATE EDUCATION LO-SMB 2015-B A3	1	11,860,362	11,973,991
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,718,729	8,686,936	12/05/2016	12/05/2046	Interest Rate Swap			10620N-AX-6	BRAZOS HIGHER EDUCATION -SER 2006-2 STUDENT LN REV NT	1	8,718,729	8,686,936
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	5,000,800	12/05/2016	12/05/2046	Interest Rate Swap			88322U-AN-9	THACHER PARK CLO-THRPK 2014-1A CR	1	5,000,000	5,000,800
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,000,000	12,814,048	12/05/2016	12/05/2046	Interest Rate Swap			75887X-AC-1	Regatta Funding Ltd. -REG11 2018-1A B	1	13,000,000	12,814,048
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,359,982	7,431,184	12/05/2016	12/05/2046	Interest Rate Swap			38138L-AC-2	Goldentree Loan Managem-SERIES 20-7A CLASS B	1	7,359,982	7,431,184
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,350,000	7,184,993	12/05/2016	12/05/2046	Interest Rate Swap			12551R-AC-2	CIFC Funding 2018-I Ltd-SERIES 18-1A CLASS B	1	7,350,000	7,184,993
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,922,525	12/05/2016	12/05/2046	Interest Rate Swap			88434H-AE-3	THL Credit Wind River 20-SERIES 18-2A CLASS A2	1	5,000,000	4,922,525
57629*DJ7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,333,333	19,953,066	12/05/2016	12/05/2046	Interest Rate Swap			87289B-AJ-3	TCP DLF VIII 2018 CLO Combo Note	2	21,333,333	19,953,066
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	16,090,542	58,644,514	12/05/2016	12/05/2046	Interest Rate Swap	43,947,893		MXP001-TT-1	AEROVIAS DE MEXICO SA USD TERM LN	1	16,090,542	14,696,621
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		65,300,000	65,867,921	12/05/2016	12/05/2046	Interest Rate Swap			63940L-AC-8	NAVIENT STUDENT LOAN TRU-SERIES 2016-6A CLASS A3	1	65,300,000	65,867,921
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,000,000	24,004,008	12/05/2016	12/05/2046	Interest Rate Swap			38137Y-AE-1	Goldentree Loan Managem-GLM 2019-4A AJ	1	24,000,000	24,004,008
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,900,160	12/05/2016	12/05/2046	Interest Rate Swap			04965L-AE-8	ATRIUM XIV LLC-ATRM 14A A2A	1	10,000,000	9,900,160
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		105,764	106,639	12/05/2016	12/05/2046	Interest Rate Swap			78442G-EW-2	SLM STUDENT LOAN TRUST-SERIES 2002-7 CLASS A10	1	105,764	106,639
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,814,093	1,828,942	12/05/2016	12/05/2046	Interest Rate Swap			429827-AK-4	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS A10	1	1,814,093	1,828,942
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,203,881	1,231,019	12/05/2016	12/05/2046	Interest Rate Swap			429827-AP-3	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS A14	1	1,203,881	1,231,019
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,131,359	1,139,465	12/05/2016	12/05/2046	Interest Rate Swap			429827-AB-4	HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS A2	1	1,131,359	1,139,465

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STATEMENT AS OF SEPTEMBER 30, 2020 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*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,862,265	1,878,919	12/05/2016	12/05/2046	Interest Rate Swap				83715A-AJ-8	SOUTH CAROLINA STUDENT L-SR UNSECURED	1	1,862,265	1,878,919
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,731,604	1,679,922	12/05/2016	12/05/2046	Interest Rate Swap				640330-AC-3	MELNET STUDENT LOAN TRUS-SERIES 2015-2A CLASS B	1	1,731,604	1,679,922
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		897,889	875,281	12/05/2016	12/05/2046	Interest Rate Swap				709163-GJ-2	PENNSYLVANIA ST HGR EDU -SERIES 2006 CL B	1	897,889	875,281
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		959,027	940,514	12/05/2016	12/05/2046	Interest Rate Swap				17284L-AB-0	CIT EDUCATION LOAN TRUST-SERIES 2007-1 CLASS B	1	959,027	940,514
57629*DH1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,275,000	7,835,895	12/05/2016	12/05/2046	Interest Rate Swap				056162-AS-9	Babson CLO Ltd 2015-1-BABSN 2015-1A CR	1	8,275,000	7,835,895
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	13,651,423	56,419,653	12/05/2016	12/05/2046	Interest Rate Swap		43,950,851		MXP001-TT-1	AEROVIAS DE MEXICO SA USD TERM LN SMB PRIVATE ED LN TR 2015-C LN BOK	1	13,651,423	12,468,802
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,281,233	6,411,138	12/05/2016	12/05/2046	Interest Rate Swap				78448R-AD-8	NT CL A-3	1	6,281,233	6,411,138
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,535,575	5,643,427	12/05/2016	12/05/2046	Interest Rate Swap				78448P-AD-2	SMB PRIVATE ED LOAN TR 2015-A LN BACKED NT A-3	1	5,535,575	5,643,427
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		31,052,260	31,052,260	12/05/2016	12/05/2046	Interest Rate Swap				500798-MN-6	KREF Lending VII 2018-2 Term Loan -Benefit Street Partners -BSP 2017-	1	31,052,260	31,052,260
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,600,000	11,465,208	12/05/2016	12/05/2046	Interest Rate Swap				08179C-AQ-4	11A A2R FLOATING	1	11,600,000	11,465,208
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,514,104	5,403,619	12/05/2016	12/05/2046	Interest Rate Swap				00432C-CW-9	ACCESS GROUP INC-SERIES 2005-B CLASS A3	1	5,514,104	5,403,619
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,002,606	10,668,932	12/05/2016	12/05/2046	Interest Rate Swap				28148W-AC-7	EDUCATIONAL FUNDING OF T-SERIES 2011-1 CLASS B	1	10,002,606	10,668,932
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		614,011	603,444	12/05/2016	12/05/2046	Interest Rate Swap				462592-AD-8	IOWA STUDENT LOAN LIQUID-SERIES 2005-1 CLASS B	1	614,011	603,444
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,220,119	8,565,974	12/05/2016	12/05/2046	Interest Rate Swap				78442G-QA-7	SLM STUDENT LOAN TRUST-SERIES 2005-6 CLASS B	1	9,220,119	8,565,974
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,676,645	1,689,154	12/05/2016	12/05/2046	Interest Rate Swap				38021F-AB-7	GOAL CAPITAL FUNDING TRU-SERIES 2015-1 CLASS B	2	1,676,645	1,689,154
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,696,677	1,711,657	12/05/2016	12/05/2046	Interest Rate Swap				28138J-AB-0	EDUCATIONAL SERVICES OF -SERIES 15-2 CLASS B	1	1,696,677	1,711,657
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,996,630	1,839,733	12/05/2016	12/05/2046	Interest Rate Swap				78442G-GM-2	SLM STUDENT LOAN TRUST 2003-4 LN BKD CTF CL B	2	1,996,630	1,839,733
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,363,869	1,326,713	12/05/2016	12/05/2046	Interest Rate Swap				28090A-AB-5	EDUCATIONAL SERVICES OF -2014-4 SERIES B	1	1,363,869	1,326,713
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,200,000	7,062,120	12/05/2016	12/05/2046	Interest Rate Swap				03767M-AE-8	Apidos CLO-SERIES 18-29A CLASS A1B	1	7,200,000	7,062,120
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,800,000	8,608,996	12/05/2016	12/05/2046	Interest Rate Swap				39729R-AC-2	Greenwood Park CLO Ltd-SERIES 18-1A CLASS B	1	8,800,000	8,608,996
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,948,420	12/05/2016	12/05/2046	Interest Rate Swap				13876J-AE-2	Canyon Capital CLO Ltd-CANVC 2012-1RA B	1	5,000,000	4,948,420
57629*DG3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	5,005,845	12/05/2016	12/05/2046	Interest Rate Swap				03768R-AG-1	Apidos CLO Series 19-32A-APID 2019-32A B1	1	5,000,000	5,005,845
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	7,547,061	49,340,649	12/06/2016	12/06/2046	Interest Rate Swap		42,474,652		281397-AP-4	EDUCATION LOAN ASSET-BAC-SERIES 2003-2 CLASS 2A1	1	7,547,061	6,865,997
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,913,969	10,881,864	12/06/2016	12/06/2046	Interest Rate Swap				MXP001-TT-1	AEROVIAS DE MEXICO SA USD TERM LN NORTHSTAR EDUCATION FINA-NEF 2016-1A	1	11,913,969	10,881,864
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,008,972	2,053,697	12/06/2016	12/06/2046	Interest Rate Swap				66705R-AA-7	EDUCATION LOAN ASSET-BAC-SERIES 2003-1 CLASS A2	1	2,008,972	2,053,697
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,647,781	6,068,536	12/06/2016	12/06/2046	Interest Rate Swap				281397-AB-5	MELNET STUDENT LOAN TRUS-SERIES 2005-4 CLASS A4R1	1	6,647,781	6,068,536
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,638,203	6,693,240	12/06/2016	12/06/2046	Interest Rate Swap				64031Q-CK-5	BRAZOS TX HGR EDU AUTH REVENUE BOND	2	6,638,203	6,693,240
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,491,143	5,001,865	12/06/2016	12/06/2046	Interest Rate Swap				106238-LJ-5	EDL INC STUDENT LOAN FUND-SERIES 2012-1 CLASS B	1	4,491,143	5,001,865
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,837,476	5,780,500	12/06/2016	12/06/2046	Interest Rate Swap				28108Q-AB-0	EDUCATION LOAN ASSET-BAC-SERIES 2003-2 CLASS 2A2	1	5,837,476	5,780,500
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,450,000	3,994,220	12/06/2016	12/06/2046	Interest Rate Swap				281397-AQ-2	GOAL CAPITAL FUNDING TR 2010-1	1	4,450,000	3,994,220
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,886,173	1,881,125	12/06/2016	12/06/2046	Interest Rate Swap				38021E-AA-2	STUDENT LN BKD NT	1	1,886,173	1,881,125

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STATEMENT AS OF SEPTEMBER 30, 2020 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

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

1	Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9	10	11	12	13	14	15	16	
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value	
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,395,029	3,925,085	12/06/2016	12/06/2046	Interest Rate Swap			64031Q-CM-1	NELNET STUDENT LOAN TRUS-SERIES 2005-4 CLASS A4R2	2	3,395,029	3,925,085	
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,982,085	14,252,523	12/06/2016	12/06/2046	Interest Rate Swap			83149E-AG-2	SLM STUDENT LN TR 2006-5-NOTE CL B Dryden 64 CLO Ltd-DRSLF 2018-64A B	1	14,982,085	14,252,523	
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,900,000	13,604,486	12/06/2016	12/06/2046	Interest Rate Swap			26251L-AE-4	DRB PRIME STUDENT LOAN T-SERIES	1	13,900,000	13,604,486	
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,256,345	1,271,356	12/06/2016	12/06/2046	Interest Rate Swap			23341K-AA-3	2015-D CLASS A1	1	1,256,345	1,271,356	
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,897,764	8,261,992	12/06/2016	12/06/2046	Interest Rate Swap			64031C-AB-8	NELNET STUDENT LOAN TRUS-SERIES 2012-2A CLASS B	1	8,897,764	8,261,992	
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,103,609	7,769,732	12/06/2016	12/06/2046	Interest Rate Swap			78442G-PS-9	SLM STUDENT LOAN TRUST-SERIES 2005-5 CLASS B	1	8,103,609	7,769,732	
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,275,000	15,920,091	12/06/2016	12/06/2046	Interest Rate Swap			04623T-AA-3	ASSURANT CLO I LTD-ASRNT 2018-1A A	1	16,275,000	15,920,091	
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,000,000	2,940,435	12/06/2016	12/06/2046	Interest Rate Swap			89852T-AN-8	Tryon Park CLO Ltd-TPCLO 2013-1A A1JR	1	3,000,000	2,940,435	
57629*DF5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,000,000	4,962,905	12/06/2016	12/06/2046	Interest Rate Swap			06744N-AG-2	BARDOT CLO, LTD	1	5,000,000	4,962,905	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	10,921,138	52,775,195	12/06/2016	12/06/2046	Interest Rate Swap		42,800,153	MXP001-TT-1	AEROVIAS DE MEXICO SA USD TERM LN SOUTH CAROLINA STUDENT L-SERIES	1	10,921,138	9,975,042	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,625,947	9,303,834	12/06/2016	12/06/2046	Interest Rate Swap			83715R-AG-7	2014-1 CLASS B	1	9,625,947	9,303,834	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,375,874	7,072,739	12/06/2016	12/06/2046	Interest Rate Swap			784420-AE-1	SLC STUDENT LOAN TRUST-SERIES 2005-1 CLASS B	1	7,375,874	7,072,739	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,588,203	4,388,353	12/06/2016	12/06/2046	Interest Rate Swap			78442G-OT-6	SLM STUDENT LOAN TRUST-SERIES 2005-8 CLASS B	1	4,588,203	4,388,353	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,300,000	18,729,685	12/06/2016	12/06/2046	Interest Rate Swap			15033E-AC-2	Cedar Funding IX CLO Ltd-SERIES 18-9A CLASS A2	1	19,300,000	18,729,685	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		824,258	806,804	12/06/2016	12/06/2046	Interest Rate Swap			49326B-AU-0	KEYCORP STUDENT LOAN TRU-SERIES 1999-B CLASS CTF5	1	824,258	806,804	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,955,000	6,083,116	12/06/2016	12/06/2046	Interest Rate Swap			63938E-AE-4	NAVIENT STUDENT LOAN TRU-SERIES 2014-1 CLASS B	1	6,955,000	6,083,116	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,892,574	3,525,877	12/06/2016	12/06/2046	Interest Rate Swap			64031A-AJ-5	NELNET STUDENT LOAN TRUS-SERIES 2006-3 CLASS B	1	3,892,574	3,525,877	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,241,287	6,257,253	12/06/2016	12/06/2046	Interest Rate Swap			63939L-AC-1	NAVIENT STUDENT LOAN TRU-SERIES 2015-3 CLASS B	1	6,241,287	6,257,253	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,412,856	5,174,520	12/06/2016	12/06/2046	Interest Rate Swap			64033J-AB-1	NELNET STUDENT LOAN TRUS-SERIES 2014-1A CLASS B	1	5,412,856	5,174,520	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,849,500	2,729,031	12/06/2016	12/06/2046	Interest Rate Swap			194266-AE-2	COLLEGE LOAN CORPORATION-SERIES 2005-2 CLASS B	1	2,849,500	2,729,031	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,516,445	4,342,392	12/06/2016	12/06/2046	Interest Rate Swap			64033N-AB-2	NELNET STUDENT LOAN TRUS-SERIES 2014-5A CLASS B	1	4,516,445	4,342,392	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,285,031	2,197,455	12/06/2016	12/06/2046	Interest Rate Swap			78442G-LJ-3	SLM STUDENT LOAN TRUST-SERIES 2004-3 CLASS B	1	2,285,031	2,197,455	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,650,000	3,274,869	12/06/2016	12/06/2046	Interest Rate Swap			64032A-AB-1	NELNET STUDENT LOAN TRUS-SERIES 2012-1A CLASS B	1	3,650,000	3,274,869	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,267,244	3,258,345	12/06/2016	12/06/2046	Interest Rate Swap			64032F-AH-7	NELNET STUDENT LOAN TRUS-SERIES 2007-2A CLASS A4A2	1	3,267,244	3,258,345	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,297,363	3,080,542	12/06/2016	12/06/2046	Interest Rate Swap			64033L-AD-2	NAVIENT STUDENT LOAN TRU-SERIES 2014-2A CLASS B	1	3,297,363	3,080,542	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,240,000	2,962,580	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	2,962,580	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,750,000	14,530,328	12/06/2016	12/06/2046	Interest Rate Swap			03767M-AG-3	Apidos CLO-SERIES 18-29A CLASS A2	1	14,750,000	14,530,328	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,500,000	4,385,012	12/06/2016	12/06/2046	Interest Rate Swap			55952Y-AT-4	Magnetite VIII Ltd-MAGNE 2014-8A CR2	1	4,500,000	4,385,012	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,700,000	6,546,985	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	6,546,985	
57629*DE8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,000,000	2,948,622	12/06/2016	12/06/2046	Interest Rate Swap			48250R-BN-5	KKR CLO 12 Ltd-KKR 12 BR2	1	3,000,000	2,948,622	
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	15,000,000	57,267,569	12/06/2016	12/06/2046	Interest Rate Swap		42,371,084	48251B-AL-4	KKR CLO 16 Ltd-SERIES 16 CLASS A1R	1	15,000,000	14,896,485	

STATEMENT AS OF SEPTEMBER 30, 2020 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*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,300,000	11,323,210	12/06/2016	12/06/2046	Interest Rate Swap				29001L-AC-5	Elmwood CLO 11 Ltd-ELMW2 2019-2A B	1	11,300,000	11,323,210
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		992,831	906,822	12/06/2016	12/06/2046	Interest Rate Swap				MXP001-TT-1	AEROVIAS DE MEXICO SA USD TERM LN	1	992,831	906,822
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,841,115	9,799,670	12/06/2016	12/06/2046	Interest Rate Swap				92917A-AA-4	VOYA 2018-1A A1	1	9,841,115	9,799,670
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,500,000	1,484,526	12/06/2016	12/06/2046	Interest Rate Swap				13876J-AE-2	Canyon Capital CLO Ltd-CANVC 2012-1RA B	1	1,500,000	1,484,526
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,050,000	11,050,144	12/06/2016	12/06/2046	Interest Rate Swap				03331J-AJ-1	Anchorage Capital CLO Lt-ANCHC 2018-10A B	1	11,050,000	11,050,144
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,575,000	12,411,751	12/06/2016	12/06/2046	Interest Rate Swap				056162-AN-0	Babson CLO Ltd 2015-1-BABS 2015-1A AR	1	12,575,000	12,411,751
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,250,000	7,240,213	12/06/2016	12/06/2046	Interest Rate Swap				40439D-AE-8	Highbridge Loan Managem-HLM 15A-19 B	1	7,250,000	7,240,213
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,900,000	5,864,889	12/06/2016	12/06/2046	Interest Rate Swap				87250R-AB-0	TICP CLO XV Ltd-TICP 2020-15A B	1	5,900,000	5,864,889
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,400,000	5,402,819	12/06/2016	12/06/2046	Interest Rate Swap				87250C-AE-7	TICP CLO Ltd KEYCORP STUDENT LOAN TRU-SERIES	1	5,400,000	5,402,819
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,396,152	1,216,180	12/06/2016	12/06/2046	Interest Rate Swap				493268-BW-5	2004-A CLASS 1B HIGHER EDUCATION FUNDING-SERIES	1	1,396,152	1,216,180
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		606,747	592,420	12/06/2016	12/06/2046	Interest Rate Swap				429827-AR-9	2004-1 CLASS B1 HIGHER EDUCATION FUNDING-SERIES	1	606,747	592,420
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,032,207	1,946,612	12/06/2016	12/06/2046	Interest Rate Swap				429827-AS-7	2004-1 CLASS B2 HIGHER EDUCATION FUNDING-SERIES	1	2,032,207	1,946,612
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,972,348	1,964,560	12/06/2016	12/06/2046	Interest Rate Swap				64033T-AB-9	2015-3A CLASS B COLLEGE FUNDING SERVI-SERIES	1	1,972,348	1,964,560
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,268,574	1,107,153	12/06/2016	12/06/2046	Interest Rate Swap				19458L-BD-1	2005-A CLASS B ACCESS GROUP INC-SERIES 2015-1	1	1,268,574	1,107,153
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,899,784	1,901,675	12/06/2016	12/06/2046	Interest Rate Swap				00435T-AB-7	CLASS B SLM STUDENT LOAN TRUST-SERIES 2006-2 CLASS B	1	1,899,784	1,901,675
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,496,639	2,332,898	12/06/2016	12/06/2046	Interest Rate Swap				78442G-RY-4	COLLEGE LOAN CORPORATION-SERIES	1	2,496,639	2,332,898
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,222	3,497,452	12/06/2016	12/06/2046	Interest Rate Swap				194267-AN-2	2007-1 CLASS B2 WACHOVIA STUDENT LOAN TR-SERIES	1	3,200,222	3,497,452
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,903,831	1,743,252	12/06/2016	12/06/2046	Interest Rate Swap				92978J-AH-6	2006-1 CLASS B SOUTH CAROLINA STUDENT L-SERIES 15-	1	1,903,831	1,743,252
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		1,395,063	1,441,023	12/06/2016	12/06/2046	Interest Rate Swap				83715R-AH-5	A CLASS A EDUCATIONAL SERVICES OF -SERIES	1	1,395,063	1,441,023
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,497,845	2,353,457	12/06/2016	12/06/2046	Interest Rate Swap				28137T-AB-9	2014-2 CLASS B EDUCATIONAL SERVICES OF -SERIES	1	2,497,845	2,353,457
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,166,661	2,028,752	12/06/2016	12/06/2046	Interest Rate Swap				281378-AB-5	2015-1 CLASS B ACCESS GROUP-STUDENT LN REVENUE NT	1	2,166,661	2,028,752
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		513,155	547,796	12/06/2016	12/06/2046	Interest Rate Swap				00432C-AR-2	NAVIENT STUDENT LOAN TRUST 2014-8 CL B	1	513,155	547,796
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,802,914	10,803,968	12/06/2016	12/06/2046	Interest Rate Swap				63939D-AD-7	Palmer Square CLO 2014-1-SERIES	1	11,802,914	10,803,968
57629*DD0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,900,000	9,729,661	12/06/2016	12/06/2046	Interest Rate Swap				69688X-AU-5	2014-1A CLASS A2RR Vibrant CLO Ltd-SERIES 18-9A CLASS	1	9,900,000	9,729,661
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	23,500,000	65,178,582	12/06/2016	12/06/2046	Interest Rate Swap		42,377,002		92558V-AC-8	A2 Wellfleet CLO 2018-2 Ltd-WELF 2018-	1	23,500,000	22,801,580
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,800,000	10,682,971	12/06/2016	12/06/2046	Interest Rate Swap				94949J-AC-9	2A A2 ARES XXXI IR CLO LTD-SERIES 14-32RA CLASS A1B	1	10,800,000	10,682,971
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,569,558	13,209,642	12/06/2016	12/06/2046	Interest Rate Swap				04017E-AE-2	Magnetite VII Ltd-MAGNE 2012-7A	1	13,569,558	13,209,642
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,790,000	8,562,866	12/06/2016	12/06/2046	Interest Rate Swap				55951P-BC-0	A2R2 SLM STUDENT LOAN TRUST-SERIES 2005-4 CLASS B	1	8,790,000	8,562,866
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,099,109	12,298,172	12/06/2016	12/06/2046	Interest Rate Swap				78442G-PL-4	SBF 2016-2A A1R LOM LTD PARTNERSHIP-SERIES 25A CLASS C2	1	13,099,109	12,298,172
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,963,300	7,944,536	12/06/2016	12/06/2046	Interest Rate Swap				79410U-AN-1		1	7,963,300	7,944,536
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,500,000	2,390,295	12/06/2016	12/06/2046	Interest Rate Swap				50189P-AN-2		1	2,500,000	2,390,295

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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*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,562,029	21,272,087	12/06/2016	12/06/2046	Interest Rate Swap			24702F-ZZ-3	Dell Conduit Funding-B L.L.C. - Revolver	2	21,562,029	21,272,087
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,046,401	14,818,769	12/06/2016	12/06/2046	Interest Rate Swap			66704J-AJ-7	Norhtstar Education Fina-REVENUE BONDS	1	16,046,401	14,818,769
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,750,000	6,645,436	12/06/2016	12/06/2046	Interest Rate Swap			77341D-AE-7	Rockford Tower CLO 2017--SERIES 17-3A CLASS B	1	6,750,000	6,645,436
57629*DC2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,168,707	3,228,659	12/06/2016	12/06/2046	Interest Rate Swap			40638T-AE-2	Halsey Point CLO Ltd-SERIES 20-2A CLASS B	1	3,168,707	3,228,659
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	10,737,473	91,975,167	09/15/2017	09/15/2047	Interest Rate Swap		80,186,752	03073E-AM-7	AmerisourceBergen Corp--SENIOR UNSECURED	2	10,737,473	11,788,415
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		28,519,276	36,012,161	09/15/2017	09/15/2047	Interest Rate Swap			055450-AH-3	BHP Billiton Finance USA--DEBTURE	1	28,519,276	36,012,161
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,512,158	13,589,810	09/15/2017	09/15/2047	Interest Rate Swap			12572Q-AG-0	OME GROUP INC--SR UNSECURED	1	12,512,158	13,589,810
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,646,385	21,634,630	09/15/2017	09/15/2047	Interest Rate Swap			29364N-AS-7	ENTERGY MISSISSIPPI INC--SECURED NOTE	1	19,646,385	21,634,630
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,638,817	32,218,541	09/15/2017	09/15/2047	Interest Rate Swap			313747-AF-4	FEDERAL REALTY INVESTMEN-NOTE REID	1	25,638,817	32,218,541
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		439,318	460,007	09/15/2017	09/15/2047	Interest Rate Swap			375558-AW-3	GILEAD SCIENCES INC--SENIOR UNSECURED NOTE	1	439,318	460,007
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		28,517,040	31,235,770	09/15/2017	09/15/2047	Interest Rate Swap			75972Y-AA-9	RENAISSANCE RE FINANCE--SR UNSECURED	1	28,517,040	31,235,770
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,362,255	5,644,603	09/15/2017	09/15/2047	Interest Rate Swap			884315-AG-7	THOMAS & BETTS CORP--NOTE	1	5,362,255	5,644,603
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,131,371	19,573,885	09/15/2017	09/15/2047	Interest Rate Swap			958587-BJ-5	WEST MASS ELECTRIC CO--SENIOR UNSECURED NOTE	1	19,131,371	19,573,885
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,200,000	2,965,299	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	2,965,299
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,902,840	09/15/2017	09/15/2047	Interest Rate Swap			67104L-AG-2	QHA Loan Funding 2013-2 -QHAF 2013-2A CR	1	8,000,000	7,902,840
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,932,821	09/15/2017	09/15/2047	Interest Rate Swap			38862E-AB-0	GRIFFEN PARK CLO LTD-SERIES 17-1A CLASS B	1	7,000,000	6,932,821
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,685,922	7,019,309	09/15/2017	09/15/2047	Interest Rate Swap			05348E-AR-0	UNSECURED NOTE REID	1	6,685,922	7,019,309
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,044,098	16,077,344	09/15/2017	09/15/2047	Interest Rate Swap			907818-DG-0	UNION PACIFIC CORP--SENIOR UNSECURED NOTE	2	16,044,098	16,077,344
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,295,366	12,178,740	09/15/2017	09/15/2047	Interest Rate Swap			00206R-GL-0	AT&T Inc--SENIOR UNSECURED	2	10,295,366	12,178,740
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,083,942	23,999,565	09/15/2017	09/15/2047	Interest Rate Swap			00928Q-AQ-4	AIRCADLE LTD--SENIOR UNSECURED	2	24,083,942	23,999,565
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,353,562	25,171,637	09/15/2017	09/15/2047	Interest Rate Swap			28365T-AF-1	Entergy Texas Inc--SECURED	2	23,353,562	25,171,637
57629*DMO	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,362,556	17,730,941	09/15/2017	09/15/2047	Interest Rate Swap			90933J-AA-9	UNITED AIRLINES 2016-2 C--FIRST LIEN	2	23,362,556	17,730,941
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	250,000,000	1,492,195	82,353,733	09/15/2017	09/15/2047	Interest Rate Swap		80,641,842	031162-CJ-7	AMGEN INC--SENIOR UNSECURED	2	1,492,195	1,711,891
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		33,286,795	36,358,144	09/15/2017	09/15/2047	Interest Rate Swap			445658-CD-7	JOB HUNT TRANSPRT SVCS--SENIOR UNSECURED NOTE	2	33,286,795	36,358,144
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		34,703,846	40,328,317	09/15/2017	09/15/2047	Interest Rate Swap			456866-AM-4	INGERSOLL-RAND CO--DEBTURE	2	34,703,846	40,328,317
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		28,918,517	30,355,737	09/15/2017	09/15/2047	Interest Rate Swap			664397-AK-2	EVERSOURCE ENERGY--UNSECURED NOTE	2	28,918,517	30,355,737
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		19,302,846	19,938,166	09/15/2017	09/15/2047	Interest Rate Swap			760759-AP-5	Republic Services Inc--SENIOR UNSECURED NOTE	2	19,302,846	19,938,166
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		37,919,475	41,638,446	09/15/2017	09/15/2047	Interest Rate Swap			94106L-BA-6	Waste Management Inc--SR UNSECURED	2	37,919,475	41,638,446
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		29,936,992	30,565,172	09/15/2017	09/15/2047	Interest Rate Swap			A05830-4I-6	SPARC EM SPC PANAMA METR--SECURED	2	29,936,992	30,565,172
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		22,905,627	26,792,368	09/15/2017	09/15/2047	Interest Rate Swap			25389J-AQ-9	DIGITAL REALTY TRUST LP--SENIOR UNSECURED	2	22,905,627	26,792,368
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		1,824,742	2,029,518	09/15/2017	09/15/2047	Interest Rate Swap			465077-AK-1	ISRAEL ELECTRIC CORP LTD--SECURED NOTE	2	1,824,742	2,029,518

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STATEMENT AS OF SEPTEMBER 30, 2020 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*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,157,060	15,982,490	09/15/2017	09/15/2047	Interest Rate Swap			919794-AB-3	VALLEY NATIONAL BANCORP-SUBORDINATED NOTE	2	15,157,060	15,982,490
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		15,650,344	19,169,210	09/15/2017	09/15/2047	Interest Rate Swap			042735-AK-6	Arrow Electronics Inc-DEBENTURE	2	15,650,344	19,169,210
57629*DL2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		20,191,410	21,364,140	09/15/2017	09/15/2047	Interest Rate Swap			586054-AD-0	Memorial Sloan-Kettering-UNSECURED	1	20,191,410	21,364,140
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	250,000,000	6,761,590	88,014,995	09/15/2017	09/15/2047	Interest Rate Swap		80,884,556	00287Y-AL-3	AbbVie Inc-SENIOR UNSECURED NOTE	2	6,761,590	7,130,439
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		4,646,645	4,881,236	09/15/2017	09/15/2047	Interest Rate Swap			04352E-AA-3	Ascension Health-SENIOR UNSECURED	1	4,646,645	4,881,236
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		6,779,883	7,570,490	09/15/2017	09/15/2047	Interest Rate Swap			195869-AP-7	COLONIAL PIPELINE CO-SR UNSECURED DISCOVER FINANCIAL SVS-SENIOR	1	6,779,883	7,570,490
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		53,766,424	60,525,005	09/15/2017	09/15/2047	Interest Rate Swap			254709-AM-0	UNSECURED	2	53,766,424	60,525,005
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		11,508,722	12,119,161	09/15/2017	09/15/2047	Interest Rate Swap			444859-BA-9	Humana Inc-SENIOR UNSECURED NOTE	2	11,508,722	12,119,161
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		8,997,347	9,154,604	09/15/2017	09/15/2047	Interest Rate Swap			61945C-AA-1	MOSAIC CO/THE-SENIOR UNSECURED NOTE	2	8,997,347	9,154,604
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		24,549,885	25,912,266	09/15/2017	09/15/2047	Interest Rate Swap			718549-AB-4	PHILLIPS 66 PARTNERS LP-SENIOR UNSECURED	2	24,549,885	25,912,266
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		26,517,480	27,841,352	09/15/2017	09/15/2047	Interest Rate Swap			756109-AN-4	REALTHY INCOME CORP-SENIOR UNSECURED NOTE REID	1	26,517,480	27,841,352
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		5,334,469	5,565,159	09/15/2017	09/15/2047	Interest Rate Swap			09247X-AJ-0	BlackRock Inc-SENIOR UNSECURED NOTE	1	5,334,469	5,565,159
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		19,405,767	20,044,475	09/15/2017	09/15/2047	Interest Rate Swap			780759-AP-5	Republic Services Inc-SENIOR UNSECURED NOTE	2	19,405,767	20,044,475
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		8,800,000	8,552,245	09/15/2017	09/15/2047	Interest Rate Swap			05683L-AC-0	Bain Capital Credit CLO -BCC 2018-1A A2	1	8,800,000	8,552,245
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		14,840,417	16,527,912	09/15/2017	09/15/2047	Interest Rate Swap			224044-CG-0	COX COMMUNICATIONS INC-SENIOR UNSECURED	2	14,840,417	16,527,912
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		22,477,060	25,064,733	09/15/2017	09/15/2047	Interest Rate Swap			709599-AZ-7	Penske Truck Leasing Co -SENIOR UNSECURED	2	22,477,060	25,064,733
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		21,742,210	25,744,441	09/15/2017	09/15/2047	Interest Rate Swap			98389B-AV-2	Xcel Energy Inc-SENIOR UNSECURED	2	21,742,210	25,744,441
57629*DP3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		17,394,143	19,063,253	09/15/2017	09/15/2047	Interest Rate Swap			00185A-AF-1	Aon PLC-SENIOR UNSECURED NOTE	2	17,394,143	19,063,253
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	250,000,000	21,171,784	99,785,705	09/15/2017	09/15/2047	Interest Rate Swap		80,338,449	00774M-AB-1	AERCAP IRELAND CAPITAL D-SENIOR UNSECURED	2	21,171,784	19,447,256
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		21,893,407	24,043,872	09/15/2017	09/15/2047	Interest Rate Swap			378272-AL-2	GLENORE FUNDING LLC-SR UNSECURED	2	21,893,407	24,043,872
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		22,890,522	23,634,197	09/15/2017	09/15/2047	Interest Rate Swap			45167R-AF-1	IDEX Corp-SENIOR UNSECURED NOTE	2	22,890,522	23,634,197
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		67,630,175	69,345,127	09/15/2017	09/15/2047	Interest Rate Swap			191216-CY-4	Coca-Cola Co/The-SENIOR UNSECURED	1	67,630,175	69,345,127
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		23,125,456	25,772,650	09/15/2017	09/15/2047	Interest Rate Swap			09778P-AA-3	Bon Secours Mercy Health-SECURED	1	23,125,456	25,772,650
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		21,574,614	24,562,656	09/15/2017	09/15/2047	Interest Rate Swap			67103H-AF-4	O'REILLY AUTOMOTIVE INC-SENIOR UNSECURED	2	21,574,614	24,562,656
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		23,629,848	25,228,585	09/15/2017	09/15/2047	Interest Rate Swap			92343V-BR-4	Verizon Communications I-SENIOR UNSECURED NOTE	2	23,629,848	25,228,585
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		1,658,245	1,850,378	09/15/2017	09/15/2047	Interest Rate Swap			806851-AG-6	SCHLUMBERGER HLDGS CORP-SR UNSECURED	2	1,658,245	1,850,378
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		10,954,326	10,636,920	09/15/2017	09/15/2047	Interest Rate Swap			98310W-AL-2	WYNDHAM WORLDWIDE CORP-SENIOR UNSECURED NOTE	3	10,954,326	10,636,920
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		19,299,332	21,325,720	09/15/2017	09/15/2047	Interest Rate Swap			75625Q-AD-1	Reckitt Benckiser Treasu-SENIOR UNSECURED	1	19,299,332	21,325,720
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		23,113,394	25,707,228	09/15/2017	09/15/2047	Interest Rate Swap			465077-AK-1	ISRAEL ELECTRIC CORP LTD-SECURED NOTE	2	23,113,394	25,707,228
57629*DN8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		1,977,434	1,962,603	09/15/2017	09/15/2047	Interest Rate Swap			72403Z-NK-6	PIONEERS GATE LLC 2019-5 KABB NOTE	1	1,977,434	1,962,603
57629*FSS	Sovereign Bond of Brazil	2Z	5,000,000	10,539,049	13,102,442	06/22/2020	12/20/2025	5 Yr Credit Default Swap	(257,400)	(356,933)	912810-PP-5	US TREAS N/B-NOTE	1	10,796,449	13,459,375
57629*FSS	Sovereign Bond of Mexico	2Z	20,000,000	22,646,469	25,371,497	06/22/2020	12/20/2025	5 Yr Credit Default Swap	(281,305)	(508,659)	912833-LL-2	US TREASURY-STRIP COUPON RECEIPT	1	22,927,774	25,880,156

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STATEMENT AS OF SEPTEMBER 30, 2020 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*FR7	Sovereign Bond of Peru	3Z	5,000,000	20,046,152	27,168,219	06/22/2020	12/20/2025	5 Yr Credit Default Swap	57,581	58,843	912810-RV-2	US TREASURY N/B-UNSECURED	1	19,988,571	27,109,376
Need to File with the NAIC	Sovereign Bond of Columbia	1Z	30,000,000	34,543,081	46,678,325	06/22/2020	06/20/2025	5 Yr Credit Default Swap	(436,919)	(763,083)	912810-RV-2	US TREASURY N/B-UNSECURED	1	34,980,000	47,441,408
Need to File with the NAIC	Sovereign Bond of India	2Z	40,000,000	30,782,223	41,699,707	03/20/2020	06/20/2025	5 Yr Credit Default Swap	(200,063)	(319,826)	912810-RV-2	US TREASURY N/B-UNSECURED	1	30,982,286	42,019,533
Need to File with the NAIC	Sovereign Bond of India	2Z		14,879,619	19,860,938	03/20/2020	06/20/2025	5 Yr Credit Default Swap			912810-RU-4	US TREASURY N/B-UNSECURED	1	14,879,619	19,860,938
57629*DZ1	Evergreen Basket of Floating Rate Corporate Bonds	1	130,000,000	33,282,072	(31,684,430)	11/07/2018	11/07/2048	Interest Rate Swap		(73,051,438)	873050-CM-1	TTX CO-SENIOR UNSECURED	1	33,282,072	41,367,008
57629*DZ1	Evergreen Basket of Floating Rate Corporate Bonds	1		44,099,450	55,136,490	11/07/2018	11/07/2048	Interest Rate Swap			341081-FR-3	Florida Power & Light Co-SECURED Intercontinental Exchang-SENIOR UNSECURED	1	44,099,450	55,136,490
57629*DZ1	Evergreen Basket of Floating Rate Corporate Bonds	1		37,673,754	44,376,066	11/07/2018	11/07/2048	Interest Rate Swap			45866F-AH-7	UNSECURED	2	37,673,754	44,376,066
57629*DZ1	Evergreen Basket of Floating Rate Corporate Bonds	1		26,432,250	33,720,489	11/07/2018	11/07/2048	Interest Rate Swap			010392-FS-2	Alabama Power Co-SENIOR UNSECURED	1	26,432,250	33,720,489
57629*DZ1	Evergreen Basket of Floating Rate Corporate Bonds	1		27,128,655	32,509,020	11/07/2018	11/07/2048	Interest Rate Swap			976843-BJ-0	WISCONSIN PUBLIC SERVICE-SECURED	1	27,128,655	32,509,020
57629*DZ1	Evergreen Basket of Floating Rate Corporate Bonds	1		10,796,505	13,370,775	11/07/2018	11/07/2048	Interest Rate Swap			235851-AR-3	DANAHER CORP-SR UNSECURED	2	10,796,505	13,370,775
57629*DZ1	Evergreen Basket of Floating Rate Corporate Bonds	1		29,148,564	44,524,267	11/07/2018	11/07/2048	Interest Rate Swap			91324P-BK-7	UnitedHealth Group Inc-BOND	1	29,148,564	44,524,267
57629*DY4	Evergreen Basket of Floating Rate Corporate Bonds	1	170,000,000	44,667,343	(41,030,231)	11/07/2018	11/07/2048	Interest Rate Swap		(95,742,532)	45174X-AA-0	IHC Health Services Inc-SECURED UNIVERSITY OF CHICAGO-UNSECURED BOND	1	44,667,343	54,712,301
57629*DY4	Evergreen Basket of Floating Rate Corporate Bonds	1		41,500,041	45,127,266	11/07/2018	11/07/2048	Interest Rate Swap			91412N-AK-6	BOND	1	41,500,041	45,127,266
57629*DY4	Evergreen Basket of Floating Rate Corporate Bonds	1		40,939,599	51,153,064	11/07/2018	11/07/2048	Interest Rate Swap			906548-CN-0	Union Electric Co-SECURED MASS INSTITUTE OF TECH-UNSECURED BOND	1	40,939,599	51,153,064
57629*DY4	Evergreen Basket of Floating Rate Corporate Bonds	1		41,557,642	56,024,415	11/07/2018	11/07/2048	Interest Rate Swap			575718-AB-7	BOND	1	41,557,642	56,024,415
57629*DY4	Evergreen Basket of Floating Rate Corporate Bonds	1		33,936,063	42,943,779	11/07/2018	11/07/2048	Interest Rate Swap			391380-AC-9	GREAT-WEST LIFE CO FINANC-SENIOR UNSECURED	1	33,936,063	42,943,779
57629*DY4	Evergreen Basket of Floating Rate Corporate Bonds	1		31,229,982	41,386,669	11/07/2018	11/07/2048	Interest Rate Swap			717081-CY-7	Pfizer Inc-SENIOR UNSECURED NOTE	1	31,229,982	41,386,669
57629*DY4	Evergreen Basket of Floating Rate Corporate Bonds	1		24,338,277	29,828,949	11/07/2018	11/07/2048	Interest Rate Swap			12189L-AZ-4	BURLINGTON NORTH SANTA FE-SENIOR UNSECURED	1	24,338,277	29,828,949
57629*DX6	Evergreen Basket of Floating Rate Corporate Bonds	1	200,000,000	55,270,962	(41,813,177)	11/07/2018	11/07/2048	Interest Rate Swap		(112,487,406)	882508-BD-5	Texas Instruments Inc-SENIOR UNSECURED	1	55,270,962	70,674,229
57629*DX6	Evergreen Basket of Floating Rate Corporate Bonds	1		50,438,938	63,637,885	11/07/2018	11/07/2048	Interest Rate Swap			745332-CG-9	PUGET SOUND ENERGY INC-SECURED Securian Financial Group-SENIOR UNSECURED	1	50,438,938	63,637,885
57629*DX6	Evergreen Basket of Floating Rate Corporate Bonds	1		48,658,135	57,596,669	11/07/2018	11/07/2048	Interest Rate Swap			81373P-AA-1	UNSECURED	1	48,658,135	57,596,669
57629*DX6	Evergreen Basket of Floating Rate Corporate Bonds	1		54,935,547	68,505,272	11/07/2018	11/07/2048	Interest Rate Swap			92826C-AF-9	VISA INC-SR UNSECURED	1	54,935,547	68,505,272
57629*DX6	Evergreen Basket of Floating Rate Corporate Bonds	1		30,084,415	38,637,061	11/07/2018	11/07/2048	Interest Rate Swap			049560-AP-0	Atmos Energy Corp-SENIOR UNSECURED	1	30,084,415	38,637,061
57629*DX6	Evergreen Basket of Floating Rate Corporate Bonds	1		41,881,132	54,244,503	11/07/2018	11/07/2048	Interest Rate Swap			670346-AH-8	NUCOR CORP-SENIOR UNSECURED NOTE	2	41,881,132	54,244,503
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1	300,000,000	57,242,731	(91,709,852)	11/08/2018	11/08/2048	Interest Rate Swap		(167,674,150)	125720-AH-8	QME Group Inc-SENIOR UNSECURED	1	57,242,731	75,964,298
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		59,130,646	71,994,110	11/08/2018	11/08/2048	Interest Rate Swap			00440E-AH-7	ACE INA HOLDINGS-SR UNSECURED EXXON MOBIL CORPORATION-SR UNSECURED	1	59,130,646	71,994,110
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		54,097,892	62,877,118	11/08/2018	11/08/2048	Interest Rate Swap			30231G-AH-2	UNSECURED	1	54,097,892	62,877,118
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		60,986,497	77,416,738	11/08/2018	11/08/2048	Interest Rate Swap			037833-BX-7	APPLE INC-SENIOR UNSECURED UNITEDHEALTH GROUP INC-SR UNSECURED	1	60,986,497	77,416,738
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		58,549,288	68,442,938	11/08/2018	11/08/2048	Interest Rate Swap			91324P-CR-1	UNSECURED	1	58,549,288	68,442,938
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		80,391,319	94,412,786	11/08/2018	11/08/2048	Interest Rate Swap			023135-AQ-9	AMAZON.COM INC-SR UNSECURED	1	80,391,319	94,412,786
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		11,195,161	14,255,131	11/08/2018	11/08/2048	Interest Rate Swap			438516-BS-4	Honeywell International -SENIOR UNSECURED	1	11,195,161	14,255,131
57629*DIW8	Evergreen Basket of Floating Rate Corporate Bonds	1		20,780,583	24,048,546	11/08/2018	11/08/2048	Interest Rate Swap			20825C-AQ-7	ConocoPhillips-NOTE	1	20,780,583	24,048,546

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STATEMENT AS OF SEPTEMBER 30, 2020 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*DI8	Evergreen Basket of Floating Rate Corporate Bonds	1		34,292,526	34,036,774	11/08/2018	11/08/2048	Interest Rate Swap				26875P-AQ-4	EOG RESOURCES INC-SENIOR UNSECURED	1	34,292,526	34,036,774
57629*DVO	Evergreen Basket of Floating Rate Corporate Bonds	1	320,000,000	101,940,256	(47,028,969)	11/08/2018	11/08/2048	Interest Rate Swap		(179,174,277)		82620K-AT-0	SIEMENS FINANCIERINGSMAT-SENIOR UNSECURED	1	101,940,256	132,145,308
57629*DVO	Evergreen Basket of Floating Rate Corporate Bonds	1		81,540,815	97,777,272	11/08/2018	11/08/2048	Interest Rate Swap				585055-BU-9	MEDTRONIC INC-SR UNSECURED	1	81,540,815	97,777,272
57629*DVO	Evergreen Basket of Floating Rate Corporate Bonds	1		67,955,292	87,309,896	11/08/2018	11/08/2048	Interest Rate Swap				141781-BF-0	CARGILL INC-SR UNSECURED	1	67,955,292	87,309,896
57629*DVO	Evergreen Basket of Floating Rate Corporate Bonds	1		45,952,742	62,537,584	11/08/2018	11/08/2048	Interest Rate Swap				023135-BM-7	Amazon.com Inc-SENIOR UNSECURED	1	45,952,742	62,537,584
57629*DVO	Evergreen Basket of Floating Rate Corporate Bonds	1		48,402,048	57,709,537	11/08/2018	11/08/2048	Interest Rate Swap				899043-AA-1	TUFTS UNIVERSITY-UNSECURED BOND	1	48,402,048	57,709,537
57629*DVO	Evergreen Basket of Floating Rate Corporate Bonds	1		18,884,139	25,629,439	11/08/2018	11/08/2048	Interest Rate Swap				40728T-AA-1	HAMILTON COLLEGE-UNSECURED	1	18,884,139	25,629,439
57629*DVO	Evergreen Basket of Floating Rate Corporate Bonds	1		34,417,190	41,895,142	11/08/2018	11/08/2048	Interest Rate Swap				438516-BB-1	HONEYWELL INTERNATIONAL - SENIOR UNSECURED NOTE	1	34,417,190	41,895,142
57629*DVO	Evergreen Basket of Floating Rate Corporate Bonds	1		32,700,350	39,021,290	11/08/2018	11/08/2048	Interest Rate Swap				11271L-AB-8	BROCKFIELD FINANCE INC-SENIOR UNSECURED	1	32,700,350	39,021,290
57629*DVO	Evergreen Basket of Floating Rate Corporate Bonds	1		34,150,320	39,807,863	11/08/2018	11/08/2048	Interest Rate Swap				26442C-AT-1	DUKE ENERGY CAROLINAS LL-SECURED MASSACHUSETTS ELECTRIC-SENIOR UNSECURED	1	34,150,320	39,807,863
57629*DQ1	Evergreen Basket of Floating Rate Corporate Bonds	1	160,000,000	40,363,152	(40,880,714)	11/08/2018	11/08/2048	Interest Rate Swap		(89,667,601)		575634-AT-7	UNSECURED	1	40,363,152	48,786,887
57629*DQ1	Evergreen Basket of Floating Rate Corporate Bonds	1		36,219,943	41,834,022	11/08/2018	11/08/2048	Interest Rate Swap				45138L-BD-4	IDAHO POWER CORP-SECURED NOTE	1	36,219,943	41,834,022
57629*DQ1	Evergreen Basket of Floating Rate Corporate Bonds	1		29,320,426	36,767,677	11/08/2018	11/08/2048	Interest Rate Swap				292460-AB-1	Empresa de Transporte de-SENIOR UNSECURED	1	29,320,426	36,767,677
57629*DQ1	Evergreen Basket of Floating Rate Corporate Bonds	1		28,342,183	38,536,107	11/08/2018	11/08/2048	Interest Rate Swap				771196-BH-4	ROCHE HOLDING INC-SENIOR UNSECURED NOTE	1	28,342,183	38,536,107
57629*DQ1	Evergreen Basket of Floating Rate Corporate Bonds	1		30,878,960	37,752,887	11/08/2018	11/08/2048	Interest Rate Swap				437076-BH-4	Home Depot Inc/The-SENIOR UNSECURED	1	30,878,960	37,752,887
57629*DQ1	Evergreen Basket of Floating Rate Corporate Bonds	1		28,275,000	36,869,610	11/08/2018	11/08/2048	Interest Rate Swap				578454-AD-2	MAYO CLINIC-UNSECURED	1	28,275,000	36,869,610
57629*DQ1	Evergreen Basket of Floating Rate Corporate Bonds	1		17,623,422	19,807,746	11/08/2018	11/08/2048	Interest Rate Swap				571676-AH-8	Mars Inc-SENIOR UNSECURED	1	17,623,422	19,807,746
57629*DQ1	Evergreen Basket of Floating Rate Corporate Bonds	1		42,596,409	57,849,156	11/08/2018	11/08/2048	Interest Rate Swap				641423-BP-2	NEVADA POWER CO-SECURED NOTE	1	42,596,409	57,849,156
57629*DR9	Evergreen Basket of Floating Rate Corporate Bonds	1	320,000,000	60,067,156	(110,716,821)	11/08/2018	11/08/2048	Interest Rate Swap		(179,174,277)		009279-AC-4	AIRBUS SE-SENIOR UNSECURED	1	60,067,156	68,457,456
57629*DR9	Evergreen Basket of Floating Rate Corporate Bonds	1		68,704,916	82,038,109	11/08/2018	11/08/2048	Interest Rate Swap				701094-AL-8	Parker-Hannifin Corp-SENIOR UNSECURED	2	68,704,916	82,038,109
57629*DR9	Evergreen Basket of Floating Rate Corporate Bonds	1		61,814,333	74,750,331	11/08/2018	11/08/2048	Interest Rate Swap				23338V-AE-6	DTE Electric Co-SECURED	1	61,814,333	74,750,331
57629*DR9	Evergreen Basket of Floating Rate Corporate Bonds	1		64,845,726	76,249,490	11/08/2018	11/08/2048	Interest Rate Swap				66989H-AH-1	NOVARTIS CAPITAL CORP-SR UNSECURED	1	64,845,726	76,249,490
57629*DR9	Evergreen Basket of Floating Rate Corporate Bonds	1		42,234,948	60,223,292	11/08/2018	11/08/2048	Interest Rate Swap				594918-CB-8	MICROSOFT CORP-SENIOR UNSECURED	1	42,234,948	60,223,292
57629*DR9	Evergreen Basket of Floating Rate Corporate Bonds	1		23,619,692	29,808,098	11/08/2018	11/08/2048	Interest Rate Swap				69351U-AV-5	PPL Electric Utilities C-SECURED	1	23,619,692	29,808,098
57629*DR9	Evergreen Basket of Floating Rate Corporate Bonds	1		23,938,410	30,634,454	11/08/2018	11/08/2048	Interest Rate Swap				084664-CO-2	Berkshire Hathaway Finan-SENIOR UNSECURED	1	23,938,410	30,634,454
57629*DR9	Evergreen Basket of Floating Rate Corporate Bonds	1		21,484,300	28,100,495	11/08/2018	11/08/2048	Interest Rate Swap				110122-AX-6	Bristol-Myers Squibb Co-SR UNSECURED	1	21,484,300	28,100,495
57629*DR9	Evergreen Basket of Floating Rate Corporate Bonds	1		15,929,811	20,035,684	11/08/2018	11/08/2048	Interest Rate Swap				594918-BT-0	MICROSOFT CORP-SENIOR UNSECURED	1	15,929,811	20,035,684
57629*DR9	Evergreen Basket of Floating Rate Corporate Bonds	1		30,461,855	45,181,314	11/08/2018	11/08/2048	Interest Rate Swap				693506-BC-0	PPG INDUSTRIES INC-SENIOR UNSECURED BOND	2	30,461,855	45,181,314
57629*DR9	Evergreen Basket of Floating Rate Corporate Bonds	1		31,516,117	38,143,782	11/08/2018	11/08/2048	Interest Rate Swap				30251B-AC-2	FHR LLC-SR UNSECURED	1	31,516,117	38,143,782
57629*DR9	Evergreen Basket of Floating Rate Corporate Bonds	1		31,265,212	38,150,596	11/08/2018	11/08/2048	Interest Rate Swap				115637-AT-7	Brown-Forman Corp-SENIOR UNSECURED	1	31,265,212	38,150,596
57629*DS7	Evergreen Basket of Floating Rate Corporate Bonds	1	140,000,000	38,197,546	(23,770,016)	12/03/2018	12/03/2048	Interest Rate Swap		(73,248,100)		039483-BM-3	ARCHER-DANIELS-MIDLAND C-SENIOR UNSECURED	1	38,197,546	49,478,084

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STATEMENT AS OF SEPTEMBER 30, 2020 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*DS7	Evergreen Basket of Floating Rate Corporate Bonds	1		28,229,390	35,163,838	12/03/2018	12/03/2048	Interest Rate Swap			00401M-AB-2	ABU DHABI CRUDE OIL PIPE-SECURED	1	28,229,390	35,163,838
57629*DS7	Evergreen Basket of Floating Rate Corporate Bonds	1		31,349,671	38,806,515	12/03/2018	12/03/2048	Interest Rate Swap			207597-EH-4	Connecticut Light & Powe-SECURED	1	31,349,671	38,806,515
57629*DS7	Evergreen Basket of Floating Rate Corporate Bonds	1		28,832,769	33,996,871	12/03/2018	12/03/2048	Interest Rate Swap			29736R-AG-5	ESTEE LAUDER CO INC-SENIOR UNSECURED	1	28,832,769	33,996,871
57629*DS7	Evergreen Basket of Floating Rate Corporate Bonds	1		26,243,472	37,828,214	12/03/2018	12/03/2048	Interest Rate Swap			04351L-AA-8	ASCENSION HEALTH-UNSECURED BOND	1	26,243,472	37,828,214
57629*DS7	Evergreen Basket of Floating Rate Corporate Bonds	1		10,098,164	12,829,262	12/03/2018	12/03/2048	Interest Rate Swap			00115A-AJ-8	AEP Transmission Co LLC-SENIOR UNSECURED	1	10,098,164	12,829,262
57629*DS7	Evergreen Basket of Floating Rate Corporate Bonds	1		15,967,931	20,716,878	12/03/2018	12/03/2048	Interest Rate Swap			91481C-AA-8	UNIVERSITY OF PENNSYLVAN-SENIOR UNSECURED NOTE	1	15,967,931	20,716,878
57629*DS7	Evergreen Basket of Floating Rate Corporate Bonds	1		37,067,570	51,593,180	12/03/2018	12/03/2048	Interest Rate Swap			582839-AF-3	MEAD JOHNSON NUTRITION C-SENIOR UNSECURED NOTE	1	37,067,570	51,593,180
57629*DT5	Evergreen Basket of Floating Rate Corporate Bonds	1	160,000,000	38,242,575	(36,817,705)	12/03/2018	12/03/2048	Interest Rate Swap		(83,429,932)	02361D-AR-1	Ameren Illinois Co-SECURED	1	38,242,575	46,612,227
57629*DT5	Evergreen Basket of Floating Rate Corporate Bonds	1		38,323,250	45,832,337	12/03/2018	12/03/2048	Interest Rate Swap			468223-AT-9	Jackson Laboratory/The-UNSECURED	1	38,323,250	45,832,337
57629*DT5	Evergreen Basket of Floating Rate Corporate Bonds	1		38,026,433	47,504,351	12/03/2018	12/03/2048	Interest Rate Swap			743315-AS-2	PROGRESSIVE CORP-SENIOR UNSECURED	1	38,026,433	47,504,351
57629*DT5	Evergreen Basket of Floating Rate Corporate Bonds	1		38,546,267	46,143,487	12/03/2018	12/03/2048	Interest Rate Swap			17858P-AB-7	City of Hope-SENIOR UNSECURED	1	38,546,267	46,143,487
57629*DT5	Evergreen Basket of Floating Rate Corporate Bonds	1		36,530,375	34,388,133	12/03/2018	12/03/2048	Interest Rate Swap			44107H-AE-2	NY Society for Relief of-SECURED	1	36,530,375	34,388,133
57629*DT5	Evergreen Basket of Floating Rate Corporate Bonds	1		12,168,618	14,936,723	12/03/2018	12/03/2048	Interest Rate Swap			458140-AV-2	INTEL CORP-SENIOR UNSECURED	1	12,168,618	14,936,723
57629*DT5	Evergreen Basket of Floating Rate Corporate Bonds	1		10,327,893	13,437,366	12/03/2018	12/03/2048	Interest Rate Swap			87612E-BG-0	Target Corp-SENIOR UNSECURED	1	10,327,893	13,437,366
57629*DT5	Evergreen Basket of Floating Rate Corporate Bonds	1		33,020,696	37,432,568	12/03/2018	12/03/2048	Interest Rate Swap			110122-AQ-1	Bristol-Myers Squibb Co-NOTE	1	33,020,696	37,432,568
57629*DU2	Evergreen Basket of Floating Rate Corporate Bonds	1	160,000,000	38,733,861	(35,037,302)	12/10/2018	12/10/2048	Interest Rate Swap		(76,701,572)	828807-CZ-8	SIMON PROPERTY GROUP LP-SENIOR UNSECURED	1	38,733,861	41,664,270
57629*DU2	Evergreen Basket of Floating Rate Corporate Bonds	1		34,858,254	44,510,296	12/10/2018	12/10/2048	Interest Rate Swap			12189L-BB-6	BURLINGTON NORTH SANTA FE-SENIOR UNSECURED	1	34,858,254	44,510,296
57629*DU2	Evergreen Basket of Floating Rate Corporate Bonds	1		33,989,039	41,266,761	12/10/2018	12/10/2048	Interest Rate Swap			391382-AB-4	GREAT WEST LIFE CO FINANC-SENIOR UNSECURED	1	33,989,039	41,266,761
57629*DU2	Evergreen Basket of Floating Rate Corporate Bonds	1		14,691,303	19,235,459	12/10/2018	12/10/2048	Interest Rate Swap			038222-AM-7	APPLIED MATERIALS INC-SENIOR UNSECURED	1	14,691,303	19,235,459
57629*DU2	Evergreen Basket of Floating Rate Corporate Bonds	1		47,149,280	56,535,388	12/10/2018	12/10/2048	Interest Rate Swap			210518-DB-9	Consumers Energy Co-SECURED	1	47,149,280	56,535,388
57629*DU2	Evergreen Basket of Floating Rate Corporate Bonds	1		32,628,603	39,906,570	12/10/2018	12/10/2048	Interest Rate Swap			455434-BR-0	INDIANAPOLIS PWR & LIGHT-SECURED BOND	1	32,628,603	39,906,570
57629*DU2	Evergreen Basket of Floating Rate Corporate Bonds	1		58,782,864	77,225,622	12/10/2018	12/10/2048	Interest Rate Swap			002824-BH-2	ABBOTT LABORATORIES-SENIOR UNSECURED	1	58,782,864	77,225,622
57629*EK3	Evergreen Basket of Floating Rate Corporate Bonds	1	200,000,000	106,124,587	70,092,483	01/07/2019	01/07/2049	Interest Rate Swap		(82,867,944)	931142-CS-0	WAL-MART STORES INC-SENIOR NOTE	1	106,124,587	152,960,427
57629*EK3	Evergreen Basket of Floating Rate Corporate Bonds	1		44,163,522	61,260,987	01/07/2019	01/07/2049	Interest Rate Swap			873050-CB-5	TTX CO-UNSECURED NOTE	1	44,163,522	61,260,987
57629*EK3	Evergreen Basket of Floating Rate Corporate Bonds	1		25,746,531	30,114,943	01/07/2019	01/07/2049	Interest Rate Swap			438516-AT-3	HONEYWELL INTERNATIONAL -SENIOR NOTE	1	25,746,531	30,114,943
57629*EK3	Evergreen Basket of Floating Rate Corporate Bonds	1		22,115,683	23,796,040	01/07/2019	01/07/2049	Interest Rate Swap			68233J-BB-9	ONCOR ELECTRIC DELIVERY -FIRST LIEN	1	22,115,683	23,796,040
57629*EK3	Evergreen Basket of Floating Rate Corporate Bonds	1		22,546,833	28,822,135	01/07/2019	01/07/2049	Interest Rate Swap			458140-BM-1	Intel Corp-SENIOR UNSECURED	1	22,546,833	28,822,135
57629*EL1	Evergreen Basket of Floating Rate Corporate Bonds	1	250,000,000	75,541,745	(6,765,617)	01/07/2019	01/07/2049	Interest Rate Swap		(102,984,857)	458140-AK-6	INTEL CORP-SENIOR UNSECURED NOTE	1	75,541,745	96,219,240
57629*EL1	Evergreen Basket of Floating Rate Corporate Bonds	1		94,583,840	126,748,035	01/07/2019	01/07/2049	Interest Rate Swap			437076-AS-1	Home Depot Inc/The-SENIOR UNSECURED NOTE	1	94,583,840	126,748,035
57629*EL1	Evergreen Basket of Floating Rate Corporate Bonds	1		50,050,513	62,286,928	01/07/2019	01/07/2049	Interest Rate Swap			341081-FG-7	FLORIDA POWER & LIGHT CO-SECURED BOND	1	50,050,513	62,286,928
57629*EL1	Evergreen Basket of Floating Rate Corporate Bonds	1		60,093,011	79,145,835	01/07/2019	01/07/2049	Interest Rate Swap			038222-AG-0	APPLIED MATERIALS INC-SENIOR UNSECURED NOTE	1	60,093,011	79,145,835

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STATEMENT AS OF SEPTEMBER 30, 2020 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*EL1	Evergreen Basket of Floating Rate Corporate Bonds	1		42,061,960	58,079,075	01/07/2019	01/07/2049	Interest Rate Swap			20030N-AM-3	Comcast Corp-NOTE	1	42,061,960	58,079,075
57629*EM9	Evergreen Basket of Floating Rate Corporate Bonds	1	175,000,000	93,922,255	34,481,695	01/31/2019	01/31/2049	Interest Rate Swap		(79,057,269)	055451-AV-0	BHP Billiton Finance USA-SR UNSECURED	1	93,922,255	113,538,964
57629*EM9	Evergreen Basket of Floating Rate Corporate Bonds	1		68,675,150	82,816,652	01/31/2019	01/31/2049	Interest Rate Swap			478165-AG-8	JOHNSON (S.C.) & SON INC-SENIOR UNSECURED NOTE	1	68,675,150	82,816,652
57629*EM9	Evergreen Basket of Floating Rate Corporate Bonds	1		54,503,160	77,553,676	01/31/2019	01/31/2049	Interest Rate Swap			78409V-AB-0	S&P GLOBAL INC-SENIOR UNSECURED NOTE	1	54,503,160	77,553,676
57629*EM9	Evergreen Basket of Floating Rate Corporate Bonds	1		27,992,406	34,402,028	01/31/2019	01/31/2049	Interest Rate Swap			141781-BJ-2	Cargill Inc-SENIOR UNSECURED	1	27,992,406	34,402,028
57629*EN7	Evergreen Basket of Floating Rate Corporate Bonds	1	150,000,000	47,197,167	(10,600,317)	02/04/2019	02/04/2049	Interest Rate Swap		(65,443,247)	057224-AZ-0	BAKER HUGHES INC-SENIOR NOTE	1	47,197,167	54,842,930
57629*EN7	Evergreen Basket of Floating Rate Corporate Bonds	1		53,325,474	61,789,280	02/04/2019	02/04/2049	Interest Rate Swap			891160-MJ-9	Toronto-Dominion Bank/Th-SUBORDINATED	1	53,325,474	61,789,280
57629*EN7	Evergreen Basket of Floating Rate Corporate Bonds	1		71,407,574	86,467,407	02/04/2019	02/04/2049	Interest Rate Swap			278865-AM-2	Ecolab Inc-SENIOR UNSECURED NOTE	2	71,407,574	86,467,407
57629*EN7	Evergreen Basket of Floating Rate Corporate Bonds	1		18,820,139	23,722,803	02/04/2019	02/04/2049	Interest Rate Swap			532457-BR-8	ELI LILLY & CO-SENIOR UNSECURED	1	18,820,139	23,722,803
57629*EN7	Evergreen Basket of Floating Rate Corporate Bonds	1		48,034,778	61,469,223	02/04/2019	02/04/2049	Interest Rate Swap			17275R-AF-9	Cisco Systems Inc-BOND	1	48,034,778	61,469,223
57629*EP2	Evergreen Basket of Floating Rate Corporate Bonds	1	165,000,000	63,282,689	8,836,581	02/04/2019	02/04/2049	Interest Rate Swap		(72,906,776)	68389X-AM-7	ORACLE CORP-SENIOR UNSECURED NOTE	1	63,282,689	81,743,357
57629*EP2	Evergreen Basket of Floating Rate Corporate Bonds	1		68,234,378	83,657,794	02/04/2019	02/04/2049	Interest Rate Swap			149123-CB-5	Caterpillar Inc-SENIOR UNSECURED BOND	1	68,234,378	83,657,794
57629*EP2	Evergreen Basket of Floating Rate Corporate Bonds	1		74,270,428	95,063,872	02/04/2019	02/04/2049	Interest Rate Swap			377372-AE-7	GLAXOSMITHKLINE CAP INC-SR UNSECURED	1	74,270,428	95,063,872
57629*EP2	Evergreen Basket of Floating Rate Corporate Bonds	1		23,677,467	29,830,767	02/04/2019	02/04/2049	Interest Rate Swap			983024-AN-0	Wyeth LLC-NOTE	1	23,677,467	29,830,767
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	302,882,965	62,555,219	69,018,980	07/29/2020	07/29/2021	TRS Bond Index		(16,160,549)	539830-AW-9	Lockheed Martin Corp-SENIOR UNSECURED NOTE	1	62,555,219	85,179,529
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		17,440,866	19,050,010	07/29/2020	07/29/2021	TRS Bond Index			133131-AV-4	CAMDEN PROPERTY TRUST-SENIOR UNSECURED NOTE REID	1	17,440,866	19,050,010
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		16,203,069	13,338,586	07/29/2020	07/29/2021	TRS Bond Index			023770-AA-8	AMER AIRLN 15-1 A PTT-SECURED Total Capital Internatio-SENIOR	2	16,203,069	13,338,586
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		15,623,936	16,126,730	07/29/2020	07/29/2021	TRS Bond Index			89153V-AB-5	UNSECURED NOTE	1	15,623,936	16,126,730
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		1,489,249	1,587,417	07/29/2020	07/29/2021	TRS Bond Index			485134-BN-9	KANSAS CITY POWER & LT-SENIOR UNSECURED NOTE	1	1,489,249	1,587,417
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		16,859,561	19,820,789	07/29/2020	07/29/2021	TRS Bond Index			521070-AJ-4	Lazard Group LLC-SENIOR UNSECURED	2	16,859,561	19,820,789
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		16,820,000	16,999,643	07/29/2020	07/29/2021	TRS Bond Index			78403D-AL-4	SBA TOWER TRUST-FIRST LIEN	1	16,820,000	16,999,643
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		15,879,731	20,056,771	07/29/2020	07/29/2021	TRS Bond Index			767201-AD-8	RIO TINTO FIN USA LTD-SENIOR UNSECURED NOTE	1	15,879,731	20,056,771
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		18,858,246	20,670,833	07/29/2020	07/29/2021	TRS Bond Index			12189L-AW-1	BURLINGTON NORTH SANTA FE-SENIOR UNSECURED	1	18,858,246	20,670,833
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,986,301	9,510,831	07/29/2020	07/29/2021	TRS Bond Index			278265-AD-5	Eaton Vance Corp-SENIOR UNSECURED NOTE	1	8,986,301	9,510,831
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		15,706,439	16,960,705	07/29/2020	07/29/2021	TRS Bond Index			03076C-AH-9	Ameriprise Financial Inc-SENIOR UNSECURED	1	15,706,439	16,960,705
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		15,359,477	15,861,569	07/29/2020	07/29/2021	TRS Bond Index			929280-AE-8	WEA Finance LLC-SENIOR UNSECURED	2	15,359,477	15,861,569
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		11,657,094	12,817,767	07/29/2020	07/29/2021	TRS Bond Index			373298-CF-3	GEORGIA-PACIFIC LLC-SENIOR UNSECURED NOTE	1	11,657,094	12,817,767
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		14,878,135	16,238,220	07/29/2020	07/29/2021	TRS Bond Index			45866F-AA-2	INTERCONTINENTALEXCHANGE-SENIOR UNSECURED NOTE	1	14,878,135	16,238,220
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,937,070	6,977,252	07/29/2020	07/29/2021	TRS Bond Index			828807-CX-3	Simon Property Group LP-SENIOR UNSECURED	1	6,937,070	6,977,252
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,839,099	4,906,652	07/29/2020	07/29/2021	TRS Bond Index			908906-AC-4	MUFG AMERICAS HLDGS CORP-SENIOR UNSECURED NOTE	1	4,839,099	4,906,652
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,689,750	4,819,255	07/29/2020	07/29/2021	TRS Bond Index			74460D-AB-5	Public Storage-SENIOR UNSECURED	1	4,689,750	4,819,255

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STATEMENT AS OF SEPTEMBER 30, 2020 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		4,681,939	4,801,623	07/29/2020	07/29/2021	TRS Bond Index				064159-JG-2	Bank of Nova Scotia/The-SENIOR UNSECURED	1	4,681,939	4,801,623
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,684,275	4,855,157	07/29/2020	07/29/2021	TRS Bond Index				585055-AZ-9	Medtronic Inc-SENIOR UNSECURED	1	4,684,275	4,855,157
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,633,561	4,795,670	07/29/2020	07/29/2021	TRS Bond Index				68389X-AP-0	ORACLE CORP-SENIOR UNSECURED NOTE	1	4,633,561	4,795,670
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,698,586	4,927,755	07/29/2020	07/29/2021	TRS Bond Index				023135-AZ-9	Amazon.com Inc-SENIOR UNSECURED	1	4,698,586	4,927,755
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,675,660	4,926,963	07/29/2020	07/29/2021	TRS Bond Index				94988J-SR-4	Wells Fargo Bank NA-SENIOR UNSECURED	1	4,675,660	4,926,963
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,645,887	4,780,553	07/29/2020	07/29/2021	TRS Bond Index				92826C-AC-6	Visa Inc-SENIOR UNSECURED	1	4,645,887	4,780,553
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,694,054	4,820,414	07/29/2020	07/29/2021	TRS Bond Index				020002-AZ-4	ALLSTATE CORP-SR UNSECURED	1	4,694,054	4,820,414
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,669,569	4,853,281	07/29/2020	07/29/2021	TRS Bond Index				12189L-AQ-4	Burlington Northern Sant-SENIOR UNSECURED	1	4,669,569	4,853,281
Need to File with the NAIC	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,645,682	4,840,536	07/29/2020	07/29/2021	TRS Bond Index				002824-BE-9	ABBOTT LABORATORIES-SENIOR UNSECURED	1	4,645,682	4,840,536
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	315,468,750	22,287,649	45,881,387	06/08/2020	06/08/2021	TRS Bond Index		23,652,099		143658-BA-9	CARNIVAL CORP-SENIOR UNSECURED NOTE	3	22,287,649	22,229,288
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		17,157,535	19,332,606	06/08/2020	06/08/2021	TRS Bond Index				571748-AZ-5	Marsh & McLennan Cos Inc-SR UNSECURED	2	17,157,535	19,332,606
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		19,897,643	23,525,976	06/08/2020	06/08/2021	TRS Bond Index				524671-AA-2	LEGRAND FRANCE SA-SENIOR UNSECURED NOTE	1	19,897,643	23,525,976
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		20,118,167	22,609,841	06/08/2020	06/08/2021	TRS Bond Index				69353R-EQ-7	PNC Bank NA-SENIOR UNSECURED	1	20,118,167	22,609,841
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		17,207,836	18,342,088	06/08/2020	06/08/2021	TRS Bond Index				10373Q-AL-4	BP Capital Markets Ameri-SENIOR UNSECURED	1	17,207,836	18,342,088
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,582,189	4,144,427	06/08/2020	06/08/2021	TRS Bond Index				00440E-AV-9	ACE INA HOLDINGS-SR UNSECURED	1	3,582,189	4,144,427
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		19,387,100	21,372,461	06/08/2020	06/08/2021	TRS Bond Index				521070-AG-0	LAZARD GROUP LLC-SENIOR UNSECURED	2	19,387,100	21,372,461
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		11,865,760	13,264,614	06/08/2020	06/08/2021	TRS Bond Index				808513-AX-3	Charles Schwab Corp/The-SENIOR UNSECURED	1	11,865,760	13,264,614
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		18,739,821	21,437,401	06/08/2020	06/08/2021	TRS Bond Index				780082-AD-5	Royal Bank of Canada-SUBORDINATED	1	18,739,821	21,437,401
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		18,601,153	20,021,250	06/08/2020	06/08/2021	TRS Bond Index				00830Y-AB-7	Africa Finance Corp-SENIOR UNSECURED	1	18,601,153	20,021,250
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		18,110,762	18,450,486	06/08/2020	06/08/2021	TRS Bond Index				65557F-AA-4	Nordea Bank AB-UNSECURED NOTE	1	18,110,762	18,450,486
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		18,412,604	21,626,356	06/08/2020	06/08/2021	TRS Bond Index				74340X-BH-3	Prologis LP-SENIOR UNSECURED	1	18,412,604	21,626,356
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		12,445,863	13,445,432	06/08/2020	06/08/2021	TRS Bond Index				845743-BP-7	SOUTHWESTERN PUBLIC SERV-SECURED	1	12,445,863	13,445,432
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		17,494,854	19,331,977	06/08/2020	06/08/2021	TRS Bond Index				084670-BS-6	BERKSHIRE HATHAWAY INC-SENIOR UNSECURED	1	17,494,854	19,331,977
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		29,848,896	36,670,249	06/08/2020	06/08/2021	TRS Bond Index				911312-AJ-5	UNITED PARCEL SERVICE IN-SENIOR UNSECURED NOTE	1	29,848,896	36,670,249
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		25,000,000	25,012,300	06/08/2020	06/08/2021	TRS Bond Index				65558T-ZC-2	Nordea Bank Abp/New York-SENIOR UNSECURED	1	25,000,000	25,012,300
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		22,500,000	23,326,695	06/08/2020	06/08/2021	TRS Bond Index				06654D-AB-3	Banner Health-UNSECURED	1	22,500,000	23,326,695
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,049,266	3,373,230	06/08/2020	06/08/2021	TRS Bond Index				06051G-GA-1	BANK OF AMERICA CORP-SENIOR UNSECURED	1	3,049,266	3,373,230
57629*FG1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		2,992,232	3,223,264	06/08/2020	06/08/2021	TRS Bond Index				88579Y-AV-3	3M Co-SENIOR UNSECURED	1	2,992,232	3,223,264
57629*EE7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	85,885,850	155,939,282	07/31/2019	07/31/2049	Interest Rate Swap		70,053,432		90139P-AB-5	Twin Brook Capital Funding I WSPV, LLC	1	85,885,850	85,885,850
57629*EE7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		84,025,210	84,025,210	07/31/2019	07/31/2049	Interest Rate Swap				90139Q-AB-3	Twin Brook Capital Funding II WSPV, LLC	1	84,025,210	84,025,210
57629*EE7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,700,000	19,662,570	07/31/2019	07/31/2049	Interest Rate Swap				72403Z-NL-4	PIONEERS GATE LLC 2019-6 AXIS Note	1	19,700,000	19,662,570

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STATEMENT AS OF SEPTEMBER 30, 2020 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*EE7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,000,000	25,083,425	07/31/2019	07/31/2049	Interest Rate Swap			69701H-AA-7	Palmer Square CLO Ltd	1	25,000,000	25,083,425
57629*EE7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		21,292,673	21,195,173	07/31/2019	07/31/2049	Interest Rate Swap			05682V-AA-3	BAIN CAPITAL CREDIT CLO -SERIES 18-2A CLASS A1	1	21,292,673	21,195,173
57629*EE7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,927,631	12,132,482	07/31/2019	07/31/2049	Interest Rate Swap			78110F-AA-7	RR 9 Ltd-RRAN 2020-9A A1L	1	11,927,631	12,132,482
57629*EE7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,430,000	3,295,204	07/31/2019	07/31/2049	Interest Rate Swap			48275P-AJ-0	KREF 2018-FL1 LTD-KREF 2018-FL1 D	1	3,430,000	3,295,204
57629*EF4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	81,983,333	152,377,939	07/31/2019	07/31/2049	Interest Rate Swap		70,599,564	72403Z-NH-3	PIONEERS GATE LLC 2019-2 MPOF Note	1	81,983,333	81,778,375
57629*EF4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		68,000,000	68,070,720	07/31/2019	07/31/2049	Interest Rate Swap			48661W-AA-6	KAYNE CLO-SERIES 19-3A CLASS A	1	68,000,000	68,070,720
57629*EF4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		85,390,625	84,989,289	07/31/2019	07/31/2049	Interest Rate Swap			72403Z-NI-1	PIONEERS GATE LLC 2019-3 BWCNA Note	1	85,390,625	84,989,289
57629*EF4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,625,000	7,624,962	07/31/2019	07/31/2049	Interest Rate Swap			48250E-AE-5	KKR CLO 30 Ltd-KKR 30A B1	1	7,625,000	7,624,962
57629*EF4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	7,018,172	07/31/2019	07/31/2049	Interest Rate Swap			38136N-AE-6	Goldentree Loan Managemen-GLM 2020-8A C	1	7,000,000	7,018,172
57629*EF4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,000	30,000	07/31/2019	07/31/2049	Interest Rate Swap			05616Z-AL-4	Babson CLO Ltd 2015-1-BABS 2015-1A XR	1	30,000	30,000
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	275,000,000	28,136,111	108,984,316	08/01/2019	08/01/2049	Interest Rate Swap		77,140,230	22822R-BH-2	Crown Castle Towers LLC-SECURED	1	28,136,111	31,844,086
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,098,672	31,424,350	08/01/2019	08/01/2049	Interest Rate Swap			448814-EJ-8	HYDRO-QUEBEC-NOTE	1	27,098,672	31,424,350
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,245,210	23,640,870	08/01/2019	08/01/2049	Interest Rate Swap			756250-AE-9	Reckitt Benckiser Treasu-SENIOR UNSECURED	1	20,245,210	23,640,870
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,964,689	33,021,800	08/01/2019	08/01/2049	Interest Rate Swap			244199-AW-5	Deere & Co-BOND	1	24,964,689	33,021,800
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,304,622	16,148,123	08/01/2019	08/01/2049	Interest Rate Swap			854502-AD-3	STANLEY BLACK & DECKER-SENIOR UNSECURED NOTE	2	15,304,622	16,148,123
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,946,277	28,767,490	08/01/2019	08/01/2049	Interest Rate Swap			11271L-AC-6	Brookfield Finance Inc-SENIOR UNSECURED	1	24,946,277	28,767,490
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,204,615	10,725,908	08/01/2019	08/01/2049	Interest Rate Swap			80687P-AA-4	Schneider Electric SE-SENIOR UNSECURED NOTE	1	10,204,615	10,725,908
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,173,026	25,003,006	08/01/2019	08/01/2049	Interest Rate Swap			00830Y-AC-5	Africa Finance Corp-SENIOR UNSECURED	1	23,173,026	25,003,006
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,095,089	26,669,621	08/01/2019	08/01/2049	Interest Rate Swap			11271L-AA-0	BROOKFIELD FINANCE INC-SENIOR UNSECURED	1	23,095,089	26,669,621
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,051,536	15,035,325	08/01/2019	08/01/2049	Interest Rate Swap			16876B-AB-8	Children's Hospital Corp-SENIOR UNSECURED	1	15,051,536	15,035,325
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,551,472	13,050,906	08/01/2019	08/01/2049	Interest Rate Swap			437076-AZ-5	Home Depot Inc/The-SENIOR UNSECURED	1	12,551,472	13,050,906
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,842,175	10,103,460	08/01/2019	08/01/2049	Interest Rate Swap			02665W-BF-7	American Honda Finance C-SENIOR UNSECURED	1	9,842,175	10,103,460
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,998,288	5,082,440	08/01/2019	08/01/2049	Interest Rate Swap			751277-AN-4	NESTLE PURINA PETCARE CO-DEBENTURE	1	4,998,288	5,082,440
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,507,368	4,679,878	08/01/2019	08/01/2049	Interest Rate Swap			38141G-WT-7	GOLDMAN SACHS GROUP INC/-SENIOR UNSECURED	1	4,507,368	4,679,878
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,026,944	4,715,617	08/01/2019	08/01/2049	Interest Rate Swap			89236T-EH-3	Toyota Motor Credit Corp-SENIOR UNSECURED	1	4,026,944	4,715,617
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,335,131	4,520,361	08/01/2019	08/01/2049	Interest Rate Swap			85771P-AN-2	Equinor ASA-SENIOR UNSECURED	1	4,335,131	4,520,361
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,095,946	4,510,485	08/01/2019	08/01/2049	Interest Rate Swap			375558-AZ-6	GILEAD SCIENCES INC-SENIOR UNSECURED	1	4,095,946	4,510,485
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,172,884	4,204,161	08/01/2019	08/01/2049	Interest Rate Swap			20162R-AB-8	Marine Corps Community S-UNSECURED BOND	1	4,172,884	4,204,161
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,071,136	4,151,534	08/01/2019	08/01/2049	Interest Rate Swap			30231G-BB-7	Exxon Mobil Corp-SENIOR UNSECURED	1	4,071,136	4,151,534
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,005,539	4,024,996	08/01/2019	08/01/2049	Interest Rate Swap			55608P-AV-6	MACQUARIE BANK LTD-SENIOR UNSECURED	1	4,005,539	4,024,996
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,989,473	4,024,074	08/01/2019	08/01/2049	Interest Rate Swap			806854-AB-1	Schlumberger Investment -SENIOR UNSECURED	1	3,989,473	4,024,074

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STATEMENT AS OF SEPTEMBER 30, 2020 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*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,950,258	4,046,402	08/01/2019	08/01/2049	Interest Rate Swap				055650-CZ-9	BP CAPITAL MARKETS PLC-SR UNSECURED	1	3,950,258	4,046,402
57629*FH9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,040,162	4,268,942	08/01/2019	08/01/2049	Interest Rate Swap				341081-FM-4	FLORIDA POWER & LIGHT CO-SECURED	1	4,040,162	4,268,942
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	5,652,894	75,754,925	08/01/2019	08/01/2049	Interest Rate Swap		69,999,009		00038A-AB-9	ABB TREASURY CENTER USA-SENIOR UNSECURED NOTE	1	5,652,894	5,755,916
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,373,056	17,435,825	08/01/2019	08/01/2049	Interest Rate Swap				207597-EJ-0	Connecticut Light & Powe-SECURED	1	15,373,056	17,435,825
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,504,263	11,810,863	08/01/2019	08/01/2049	Interest Rate Swap				38141G-GS-7	Goldman Sachs Group Inc/-SENIOR UNSECURED NOTE	2	11,504,263	11,810,863
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,649,424	9,584,747	08/01/2019	08/01/2049	Interest Rate Swap				771196-BK-7	ROCHE HOLDING INC-SR UNSECURED	1	8,649,424	9,584,747
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,162,948	9,475,991	08/01/2019	08/01/2049	Interest Rate Swap				313747-AS-6	FEDERAL REALTY INVESTMEN-SENIOR UNSECURED NOTE REID	1	9,162,948	9,475,991
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,333,148	3,382,815	08/01/2019	08/01/2049	Interest Rate Swap				022650-AA-6	Amal Ltd Ex Im Bk Gtd Sr Nt Advocate Health & Hospit-UNSECURED	1	3,333,148	3,382,815
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,300,000	12,009,810	08/01/2019	08/01/2049	Interest Rate Swap				007589-AE-4	Simon Property Group LP-SENIOR UNSECURED	1	11,300,000	12,009,810
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,944,578	5,010,833	08/01/2019	08/01/2049	Interest Rate Swap				17252M-AK-6	CINTAS CORPORATION NO. 2-SENIOR UNSECURED NOTE	1	4,944,578	5,010,833
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,016,400	6,926,008	08/01/2019	08/01/2049	Interest Rate Swap				78409V-AD-6	S&P GLOBAL INC-SR UNSECURED	1	6,016,400	6,926,008
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,431,454	13,502,886	08/01/2019	08/01/2049	Interest Rate Swap				78409V-AM-6	S&P Global Inc-SENIOR UNSECURED	1	11,431,454	13,502,886
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,061,136	11,885,180	08/01/2019	08/01/2049	Interest Rate Swap				67080L-AA-3	Nuveen LLC-SENIOR UNSECURED	1	11,061,136	11,885,180
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,483,287	4,520,231	08/01/2019	08/01/2049	Interest Rate Swap				02377A-AA-6	AMER AIRLN 14-1 A PTT-SECURED NOTE	2	5,483,287	4,520,231
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,943,643	11,792,670	08/01/2019	08/01/2049	Interest Rate Swap				12572Q-AJ-4	CME Group Inc-SENIOR UNSECURED	1	10,943,643	11,792,670
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,657,331	2,814,963	08/01/2019	08/01/2049	Interest Rate Swap				133131-AT-9	CAMDEN PROPERTY TRUST-SENIOR UNSECURED NOTE REID	1	2,657,331	2,814,963
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,454,753	10,707,340	08/01/2019	08/01/2049	Interest Rate Swap				828807-DE-4	Simon Property Group LP-SENIOR UNSECURED	1	10,454,753	10,707,340
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,065,716	10,146,780	08/01/2019	08/01/2049	Interest Rate Swap				250847-EG-1	DTE Electric Co-SECURED BOND	1	10,065,716	10,146,780
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,160,801	13,387,560	08/01/2019	08/01/2049	Interest Rate Swap				039483-AN-2	Archer-Daniels-Midland C-NOTE	1	10,160,801	13,387,560
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,074,053	11,315,616	08/01/2019	08/01/2049	Interest Rate Swap				369550-BG-2	General Dynamics Corp-SENIOR UNSECURED	1	10,074,053	11,315,616
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,420,000	08/01/2019	08/01/2049	Interest Rate Swap				05580M-80-1	B. Riley Financial Inc-SENIOR UNSECURED	2	10,000,000	9,420,000
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,011,707	10,974,550	08/01/2019	08/01/2049	Interest Rate Swap				448814-DX-8	HYDRO-QUEBEC-DEBENTURE	1	10,011,707	10,974,550
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,276,642	4,657,456	08/01/2019	08/01/2049	Interest Rate Swap				46625H-KC-3	JPMorgan Chase & Co-SR UNSECURED	1	4,276,642	4,657,456
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,629,857	10,655,318	08/01/2019	08/01/2049	Interest Rate Swap				33829T-AA-4	FIVE CORNERS FUNDING TRS-UNSECURED NOTE	1	9,629,857	10,655,318
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,447,080	3,797,160	08/01/2019	08/01/2049	Interest Rate Swap				009363-AQ-5	AIRGAS INC-SENIOR UNSECURED NOTE	1	3,447,080	3,797,160
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,746,035	6,367,537	08/01/2019	08/01/2049	Interest Rate Swap				29364W-AM-0	ENTERGY LOUISIANA LLC 1ST MTD BD	1	5,746,035	6,367,537
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,979,347	9,270,134	08/01/2019	08/01/2049	Interest Rate Swap				89788J-AB-5	Truist Bank-SENIOR UNSECURED	1	8,979,347	9,270,134
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,998,788	7,176,869	08/01/2019	08/01/2049	Interest Rate Swap				06406R-AM-9	Bank of New York Mellon -SENIOR UNSECURED	1	6,998,788	7,176,869
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,817,205	6,876,194	08/01/2019	08/01/2049	Interest Rate Swap				233851-CH-5	Dainler Finance North Am-SENIOR UNSECURED	2	6,817,205	6,876,194
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,100,483	4,182,020	08/01/2019	08/01/2049	Interest Rate Swap				05723K-AD-2	Baker Hughes a GE Co LLC-SENIOR UNSECURED	1	4,100,483	4,182,020
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,939,964	4,036,765	08/01/2019	08/01/2049	Interest Rate Swap				20826F-AA-4	CONCOPHILLIPS COMPANY-SR UNSECURED	1	3,939,964	4,036,765

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STATEMENT AS OF SEPTEMBER 30, 2020 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*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,712,806	3,803,837	08/01/2019	08/01/2049	Interest Rate Swap			055451-AQ-1	BHP BILLITON FIN USA LTD-SR UNSECURED	1	3,712,806	3,803,837
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,724,630	3,807,872	08/01/2019	08/01/2049	Interest Rate Swap			48730P-AC-4	KEENAN DEV ASSOCS TENN LLC LEASE REV BD 2005	1	3,724,630	3,807,872
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,842,002	4,129,024	08/01/2019	08/01/2049	Interest Rate Swap			931142-EE-9	Walmart Inc-SENIOR UNSECURED	1	3,842,002	4,129,024
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,298,947	3,507,534	08/01/2019	08/01/2049	Interest Rate Swap			66989H-AJ-7	NOVARTIS CAPITAL CORP-SR UNSECURED	1	3,298,947	3,507,534
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,056,514	3,061,058	08/01/2019	08/01/2049	Interest Rate Swap			89417E-AG-4	Travelers Cos Inc/The-SENIOR UNSECURED NOTE	1	3,056,514	3,061,058
57629*E00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,281,828	3,502,248	08/01/2019	08/01/2049	Interest Rate Swap			88579Y-BC-4	3M Co-SENIOR UNSECURED	1	3,281,828	3,502,248
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	12,570,388	54,610,030	08/01/2019	08/01/2049	Interest Rate Swap		41,941,593	72403*-AK-8	PIONEERS GATE LLC 2017 2 GSCF 2011-2A-1	1	12,570,388	12,668,437
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,268,346	14,234,102	08/01/2019	08/01/2049	Interest Rate Swap			72403*-BA-9	PIONEERS GATE LLC 2019-1 ONDK Note	1	14,268,346	14,234,102
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,706,045	12,735,269	08/01/2019	08/01/2049	Interest Rate Swap			72403Z-MY-7	PIONEERS GATE LLC 2017-4 Alkali Term Loan	1	12,706,045	12,735,269
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	20,055,440	08/01/2019	08/01/2049	Interest Rate Swap			55954Y-AA-3	Magnetite CLO Ltd-MAGNE 2020-26A A	1	20,000,000	20,055,440
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		20,000,000	20,028,180	08/01/2019	08/01/2049	Interest Rate Swap			670881-AA-9	CCP CLO Ltd-SERIES 20-19A CLASS A1	1	20,000,000	20,028,180
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,820,134	15,923,424	08/01/2019	08/01/2049	Interest Rate Swap			12550T-AN-5	CIFC Funding 2015-IV Ltd-CIFC 2015-4A A1R	1	15,820,134	15,923,424
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,994,211	7,093,440	08/01/2019	08/01/2049	Interest Rate Swap			448814-CP-6	HYDRO-QUEBEC-DEBENTURE	1	4,994,211	7,093,440
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,980,061	5,452,830	08/01/2019	08/01/2049	Interest Rate Swap			751277-AQ-7	NESTLE PURINA PETCARE CO-DEBENTURE	1	4,980,061	5,452,830
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,923,694	5,205,515	08/01/2019	08/01/2049	Interest Rate Swap			254687-FK-7	Walt Disney Co/The-SENIOR UNSECURED	1	4,923,694	5,205,515
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,963,622	5,686,891	08/01/2019	08/01/2049	Interest Rate Swap			002824-BM-1	ABBOTT LABORATORIES-SENIOR UNSECURED	1	4,963,622	5,686,891
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,907,101	5,428,764	08/01/2019	08/01/2049	Interest Rate Swap			44107H-AC-6	NY Society for Relief of-SECURED ONCOR ELECTRIC DELIVERY-SENIOR	1	4,907,101	5,428,764
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,915,199	5,085,683	08/01/2019	08/01/2049	Interest Rate Swap			68233J-AR-5	SECURED NOTE	1	4,915,199	5,085,683
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,753,784	4,946,978	08/01/2019	08/01/2049	Interest Rate Swap			82620K-AK-9	Siemens Financier Ingma-SENIOR UNSECURED	1	4,753,784	4,946,978
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,841,904	5,015,746	08/01/2019	08/01/2049	Interest Rate Swap			717081-DH-3	PFIZER INC-SR UNSECURED	1	4,841,904	5,015,746
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,792,864	4,994,502	08/01/2019	08/01/2049	Interest Rate Swap			58933Y-AF-2	MERCK & CO INC-SENIOR UNSECURED NOTE	1	4,792,864	4,994,502
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,777,313	4,922,084	08/01/2019	08/01/2049	Interest Rate Swap			26442C-AQ-7	Duke Energy Carolinas LL-SECURED	1	4,777,313	4,922,084
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,784,938	4,883,263	08/01/2019	08/01/2049	Interest Rate Swap			341081-FJ-1	FLORIDA POWER & LIGHT CO-SECURED	1	4,784,938	4,883,263
57629*ET4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,810,090	5,045,809	08/01/2019	08/01/2049	Interest Rate Swap			71344B-CM-8	PEPSICO INC-SR UNSECURED	1	4,810,090	5,045,809
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	3,528,266	73,952,935	08/01/2019	08/01/2049	Interest Rate Swap		69,999,009	45866F-AD-6	INTERCONTINENTAL EXCHANGE-SENIOR UNSECURED	1	3,528,266	3,953,926
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,430,154	10,984,313	08/01/2019	08/01/2049	Interest Rate Swap			64952W-CX-9	New York Life Global Fun-SECURED	1	9,430,154	10,984,313
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,667,448	11,424,612	08/01/2019	08/01/2049	Interest Rate Swap			927804-FZ-2	Virginia Electric & Powe-SENIOR UNSECURED	1	9,667,448	11,424,612
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,223,453	10,272,717	08/01/2019	08/01/2049	Interest Rate Swap			907818-DV-7	UNION PACIFIC CORP-SENIOR UNSECURED NOTE	2	9,223,453	10,272,717
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,190,267	10,511,060	08/01/2019	08/01/2049	Interest Rate Swap			559222-AR-5	Magna International Inc-SR UNSECURED	1	9,190,267	10,511,060
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,995,531	9,595,467	08/01/2019	08/01/2049	Interest Rate Swap			857477-AL-7	State Street Corp-SUBORDINATED NOTE	1	8,995,531	9,595,467
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,992,662	7,108,514	08/01/2019	08/01/2049	Interest Rate Swap			254687-CK-0	Walt Disney Co/The-SENIOR UNSECURED	1	6,992,662	7,108,514

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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*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,914,151	9,872,516	08/01/2019	08/01/2049	Interest Rate Swap				05348E-AU-3	AVALONBAY COMMUNITIES IN-SR UNSECURED	1	8,914,151	9,872,516
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,702,370	11,635,151	08/01/2019	08/01/2049	Interest Rate Swap				863871-AM-1	STUDENT LOAN MKTG ASSOC-ZERO CPN BND	3	9,702,370	11,635,151
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,456,219	7,476,098	08/01/2019	08/01/2049	Interest Rate Swap				91159H-HR-4	US Bancorp-SENIOR UNSECURED Old National Bancorp/IN-SENIOR UNSECURED NOTE	1	6,456,219	7,476,098
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,700,000	9,127,205	08/01/2019	08/01/2049	Interest Rate Swap				680033-AC-1	COSTCO WHOLESALE CORP-SENIOR UNSECURED	1	8,700,000	9,127,205
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,714,705	6,624,437	08/01/2019	08/01/2049	Interest Rate Swap				22160K-AM-7	COSTCO WHOLESALE CORP-SENIOR UNSECURED	1	5,714,705	6,624,437
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,308,946	13,487,180	08/01/2019	08/01/2049	Interest Rate Swap				594918-BE-3	MICROSOFT CORP-SR UNSECURED	1	11,308,946	13,487,180
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,843,267	12,433,670	08/01/2019	08/01/2049	Interest Rate Swap				594918-CA-0	Microsoft Corp-SENIOR UNSECURED	1	11,843,267	12,433,670
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,487,554	4,702,417	08/01/2019	08/01/2049	Interest Rate Swap				70109H-AK-1	Parker-Hannifin Corp-NOTE	2	4,487,554	4,702,417
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,429,652	9,196,536	08/01/2019	08/01/2049	Interest Rate Swap				0010EP-AN-8	AEP TEXAS CENTRAL CO-SR UNSECURED John Deere Capital Corp-SENIOR UNSECURED NOTE	1	8,429,652	9,196,536
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,243,945	8,383,253	08/01/2019	08/01/2049	Interest Rate Swap				24422E-RE-1	UNSECURED NOTE	1	8,243,945	8,383,253
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,041,874	8,950,476	08/01/2019	08/01/2049	Interest Rate Swap				448814-CS-0	HYDRO-QUEBEC-DEBENTURE	1	8,041,874	8,950,476
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,876,625	9,122,287	08/01/2019	08/01/2049	Interest Rate Swap				69353R-FG-8	PNC Bank NA-SENIOR UNSECURED	1	7,876,625	9,122,287
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,996,467	6,612,687	08/01/2019	08/01/2049	Interest Rate Swap				92826C-AD-4	VISA INC-SR UNSECURED Intercontinental Exchang-SENIOR UNSECURED	1	5,996,467	6,612,687
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,842,480	9,117,537	08/01/2019	08/01/2049	Interest Rate Swap				45866F-AF-1	EOG Resources Inc-SENIOR UNSECURED NOTE	2	7,842,480	9,117,537
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,021,871	11,073,363	08/01/2019	08/01/2049	Interest Rate Swap				26875P-AG-6	NOTE	1	11,021,871	11,073,363
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,434,852	8,211,928	08/01/2019	08/01/2049	Interest Rate Swap				94974B-GH-7	Wells Fargo & Co-SR UNSECURED	2	7,434,852	8,211,928
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,846,981	4,326,387	08/01/2019	08/01/2049	Interest Rate Swap				74460D-AC-3	Public Storage-SENIOR UNSECURED GLAYOSMI THKLINE CAP LTD-SR UNSECURED	1	3,846,981	4,326,387
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,276,585	7,590,686	08/01/2019	08/01/2049	Interest Rate Swap				377373-AD-7	JOHNS HOPKINS HEALTH SYS-SENIOR UNSECURED NOTE	1	7,276,585	7,590,686
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,082,914	7,402,446	08/01/2019	08/01/2049	Interest Rate Swap				478111-AB-3	UNSECURED NOTE	1	7,082,914	7,402,446
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,789,538	6,188,475	08/01/2019	08/01/2049	Interest Rate Swap				037833-CR-9	Apple Inc-SENIOR UNSECURED	1	5,789,538	6,188,475
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,141,548	4,336,709	08/01/2019	08/01/2049	Interest Rate Swap				09681L-AJ-9	BOC Aviation Ltd-SENIOR UNSECURED Camden Property Trust-SENIOR UNSECURED	1	4,141,548	4,336,709
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,894,721	6,924,281	08/01/2019	08/01/2049	Interest Rate Swap				131311-AW-2	UNSECURED	1	5,894,721	6,924,281
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,899,306	6,535,591	08/01/2019	08/01/2049	Interest Rate Swap				57174B-AX-0	Marsh & McLennan Cos Inc-SENIOR UNSECURED NOTE	2	5,899,306	6,535,591
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,296,098	3,412,576	08/01/2019	08/01/2049	Interest Rate Swap				90363B-AA-8	USTA National Tennis Cen Senior Secured	1	3,296,098	3,412,576
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,071,856	2,986,766	08/01/2019	08/01/2049	Interest Rate Swap				247358-FG-4	EAI V Delta MSN 15200 KAYNE ANDERSON MID/ENERGY-SR UNSEC SER C	1	3,071,856	2,986,766
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,060,000	3,176,041	08/01/2019	08/01/2049	Interest Rate Swap				48661E-AF-5	UNSECURED	1	3,060,000	3,176,041
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,167,543	3,448,194	08/01/2019	08/01/2049	Interest Rate Swap				018522-E*-9	ALLETE Inc. First Mortgage HEB Grocery Co. L.P. Senior Note Ser	1	3,167,543	3,448,194
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,000,000	3,391,077	08/01/2019	08/01/2049	Interest Rate Swap				42251F-AM-6	UNSECURED	1	3,000,000	3,391,077
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,908,063	2,835,914	08/01/2019	08/01/2049	Interest Rate Swap				247358-EE-0	EAI V Delta MSN 15187	1	2,908,063	2,835,914
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,907,878	2,929,524	08/01/2019	08/01/2049	Interest Rate Swap				84615F-AA-5	Space Florida Non-Recourse No	1	2,907,878	2,929,524
57629*EX5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,900,936	2,828,964	08/01/2019	08/01/2049	Interest Rate Swap				247358-MT-8	EAI V Delta MSN 15186	1	2,900,936	2,828,964

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STATEMENT AS OF SEPTEMBER 30, 2020 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*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	150,000,000	24,499,274	36,731,677	08/30/2019	08/30/2034	Interest Rate Swap		10,919,698	443510-AF-9	Hubbell Inc-SENIOR UNSECURED NOTE	2	24,499,274	25,811,979
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		25,854,750	26,557,721	08/30/2019	08/30/2034	Interest Rate Swap			489170-AC-4	Kenametal Inc-SENIOR UNSECURED NOTE	2	25,854,750	26,557,721
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		25,375,000	25,628,750	08/30/2019	08/30/2034	Interest Rate Swap			03666H-AA-9	Antares Holdings LP-SENIOR UNSECURED	2	25,375,000	25,628,750
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		13,615,847	14,183,971	08/30/2019	08/30/2034	Interest Rate Swap			445658-CE-5	JB HUNT TRANSPRT SVCS-SR UNSECURED	2	13,615,847	14,183,971
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		16,593,809	19,013,154	08/30/2019	08/30/2034	Interest Rate Swap			708696-BY-4	Pennsylvania Electric Co-SENIOR UNSECURED	2	16,593,809	19,013,154
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		24,402,651	26,958,547	08/30/2019	08/30/2034	Interest Rate Swap			806851-AK-7	Schlumberger Holdings Co-SENIOR UNSECURED	2	24,402,651	26,958,547
57629*ERB	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		24,044,150	26,784,107	08/30/2019	08/30/2034	Interest Rate Swap			10510K-AC-1	BRAMBLES USA INC-SR UNSECURED	2	24,044,150	26,784,107
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	200,000,000	20,924,342	40,958,716	08/30/2019	08/30/2039	Interest Rate Swap		16,241,386	883556-BX-9	Thermo Fisher Scientific-SENIOR UNSECURED	2	20,924,342	24,717,330
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		18,181,325	18,980,707	08/30/2019	08/30/2039	Interest Rate Swap			683304-AY-3	PECO Energy Co-SECURED	1	18,181,325	18,980,707
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		20,940,153	24,635,748	08/30/2019	08/30/2039	Interest Rate Swap			579780-AN-7	MCCORMICK & CO INC/MID-SENIOR UNSECURED	2	20,940,153	24,635,748
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		30,232,738	22,282,140	08/30/2019	08/30/2039	Interest Rate Swap			90932K-AA-7	United Airlines 2019-2 C-FIRST LIEN UNSECURED	2	30,232,738	22,282,140
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		29,749,051	33,894,609	08/30/2019	08/30/2039	Interest Rate Swap			22822V-AE-1	CROWN CASTLE INTL CORP-SENIOR UNSECURED	2	29,749,051	33,894,609
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		29,457,251	31,731,354	08/30/2019	08/30/2039	Interest Rate Swap			378272-AF-5	GLENCORE FUNDING LLC-SENIOR UNSECURED NOTE	2	29,457,251	31,731,354
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		29,397,534	27,640,300	08/30/2019	08/30/2039	Interest Rate Swap			05369A-AA-9	Aviation Capital Group L-SENIOR UNSECURED	2	29,397,534	27,640,300
57629*EY3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		28,775,000	31,751,572	08/30/2019	08/30/2039	Interest Rate Swap			592688-B8-3	Mettler-Toledo Internati Senior Note Ser	2	28,775,000	31,751,572
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2	200,000,000	46,129,762	74,124,683	08/30/2019	08/30/2049	Interest Rate Swap		20,357,825	984851-AF-2	Yara International ASA-SENIOR UNSECURED	2	46,129,762	53,766,858
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		36,149,350	43,282,675	08/30/2019	08/30/2049	Interest Rate Swap			28176E-AD-0	Edwards Lifesciences Cor-SENIOR UNSECURED	2	36,149,350	43,282,675
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		37,029,238	42,993,915	08/30/2019	08/30/2049	Interest Rate Swap			361448-BC-6	GATX Corp-SENIOR UNSECURED	2	37,029,238	42,993,915
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		35,700,791	39,570,465	08/30/2019	08/30/2049	Interest Rate Swap			120568-AX-8	BUNGE LTD FINANCE CORP-SENIOR UNSECURED	2	35,700,791	39,570,465
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		34,042,695	28,501,585	08/30/2019	08/30/2049	Interest Rate Swap			00908P-AC-1	Air Canada 2017-1 Class -SECURED	2	34,042,695	28,501,585
57629*EU1	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	2		22,654,552	26,392,388	08/30/2019	08/30/2049	Interest Rate Swap			171340-AN-2	CHURCH & DWIGHT CO INC-SENIOR UNSECURED	2	22,654,552	26,392,388
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	306,000,000	100,000,000	149,861,254	09/03/2019	09/03/2049	Interest Rate Swap		34,280,154	30290Y-AC-5	FS Global Credit Opportu-FS GLOBAL CREDIT	1	100,000,000	115,581,100
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		36,364,626	42,666,377	09/03/2019	09/03/2049	Interest Rate Swap			801060-AD-6	Sanofi-SENIOR UNSECURED	1	36,364,626	42,666,377
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,380,478	8,439,857	09/03/2019	09/03/2049	Interest Rate Swap			00108W-AH-3	AEP Texas Inc-SENIOR UNSECURED	1	7,380,478	8,439,857
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		27,800,000	32,566,282	09/03/2019	09/03/2049	Interest Rate Swap			892331-AD-1	Toyota Motor Corp-SENIOR UNSECURED	1	27,800,000	32,566,282
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,541,470	36,116,093	09/03/2019	09/03/2049	Interest Rate Swap			79466L-AF-1	salesforce.com Inc-SENIOR UNSECURED	1	30,541,470	36,116,093
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,022,695	34,805,222	09/03/2019	09/03/2049	Interest Rate Swap			369550-BC-1	General Dynamics Corp-SENIOR UNSECURED	1	30,022,695	34,805,222
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		28,940,414	32,653,688	09/03/2019	09/03/2049	Interest Rate Swap			892330-AC-5	Toyota Industries Corp-SENIOR UNSECURED	1	28,940,414	32,653,688
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		28,229,094	29,140,104	09/03/2019	09/03/2049	Interest Rate Swap			22303Q-AN-0	COVIDIEN INTL FINANCE SA-SENIOR UNSECURED NOTE	1	28,229,094	29,140,104
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,046,626	7,569,121	09/03/2019	09/03/2049	Interest Rate Swap			313747-AU-1	Federal Realty Investmen-SENIOR UNSECURED	1	7,046,626	7,569,121
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,947,250	7,208,921	09/03/2019	09/03/2049	Interest Rate Swap			219868-BS-4	CORP ANDINA DE FOMENTO-SENIOR UNSECURED NOTE	1	6,947,250	7,208,921

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STATEMENT AS OF SEPTEMBER 30, 2020 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*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,444,028	5,700,265	09/03/2019	09/03/2049	Interest Rate Swap			879240-AQ-2	COMCAST CABLE HOLDINGS-SENIOR UNSECURED NOTE	1	5,444,028	5,700,265
57629*FB2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,429,116	5,429,560	09/03/2019	09/03/2049	Interest Rate Swap			91324P-BP-6	UnitedHealth Group Inc-SENIOR UNSECURED NOTE	1	5,429,116	5,429,560
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	255,000,000	14,130,584	44,256,053	09/03/2019	09/03/2049	Interest Rate Swap		29,998,117	857477-AG-8	State Street Corp-SENIOR UNSECURED NOTE	1	14,130,584	14,257,936
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,991,339	11,676,324	09/03/2019	09/03/2049	Interest Rate Swap			06406R-AF-4	Bank of New York Mellon -SENIOR UNSECURED	1	9,991,339	11,676,324
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,099,979	8,111,494	09/03/2019	09/03/2049	Interest Rate Swap			982526-AQ-8	YM WIRIGLEY JR CO-SENIOR UNSECURED NOTE	1	8,099,979	8,111,494
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		16,313,898	16,098,737	09/03/2019	09/03/2049	Interest Rate Swap			90932P-AA-6	UNITED AIR 2014-1 A PTT-SECURED NOTE	1	16,313,898	16,098,737
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,815,793	15,990,407	09/03/2019	09/03/2049	Interest Rate Swap			606822-AV-6	Mitsubishi UFJ Financial-SENIOR UNSECURED	1	13,815,793	15,990,407
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,544,274	14,190,701	09/03/2019	09/03/2049	Interest Rate Swap			808513-AG-0	CHARLES SCHWAB CORP-SENIOR UNSECURED NOTE	1	13,544,274	14,190,701
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,047,000	13,047,000	09/03/2019	09/03/2049	Interest Rate Swap			010392-FC-7	ALABAMA POWER CO-SENIOR UNSECURED NOTE	1	13,047,000	13,047,000
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,777,993	10,456,250	09/03/2019	09/03/2049	Interest Rate Swap			143658-AF-9	CARNIVAL CORP-SENIOR UNSECURED NOTE	3	12,777,993	10,456,250
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,773,713	8,625,710	09/03/2019	09/03/2049	Interest Rate Swap			857477-AN-3	State Street Corp-SR UNSECURED	1	7,773,713	8,625,710
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,500,000	9,885,755	09/03/2019	09/03/2049	Interest Rate Swap			631005-BH-7	Narragansett Electric Co-SENIOR UNSECURED	1	8,500,000	9,885,755
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,545,138	14,195,940	09/03/2019	09/03/2049	Interest Rate Swap			532457-AZ-1	Eli Lilly & Co-SENIOR UNSECURED	1	12,545,138	14,195,940
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		4,318,057	4,343,581	09/03/2019	09/03/2049	Interest Rate Swap			064159-HM-1	BANK NOVA SCOTIA B C SR NT	1	4,318,057	4,343,581
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		3,328,181	3,470,332	09/03/2019	09/03/2049	Interest Rate Swap			06386R-JJ-5	BANK OF MONTREAL-SR UNSECURED	1	3,328,181	3,470,332
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,485,519	14,245,733	09/03/2019	09/03/2049	Interest Rate Swap			09062X-AF-0	BIOGEN INC-SR UNSECURED	1	12,485,519	14,245,733
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,658,250	13,724,863	09/03/2019	09/03/2049	Interest Rate Swap			46625H-JY-7	JPMorgan Chase & Co-SUBORDINATED NOTE	1	12,658,250	13,724,863
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,846,393	7,278,715	09/03/2019	09/03/2049	Interest Rate Swap			806854-AH-8	Schlumberger Investment -SR UNSECURED	1	6,846,393	7,278,715
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,970,190	9,286,637	09/03/2019	09/03/2049	Interest Rate Swap			452308-AX-7	Illinois Tool Works Inc-SENIOR UNSECURED	1	7,970,190	9,286,637
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,696,583	12,867,939	09/03/2019	09/03/2049	Interest Rate Swap			10112R-AS-3	BOSTON PROPERTIES LP-SENIOR UNSECURED NOTE REID	2	12,696,583	12,867,939
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		13,894,497	14,458,224	09/03/2019	09/03/2049	Interest Rate Swap			10112R-AU-8	BOSTON PROPERTIES LP-SENIOR UNSECURED NOTE REID	2	13,894,497	14,458,224
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,597,892	6,851,909	09/03/2019	09/03/2049	Interest Rate Swap			17252M-AL-4	CINTAS CORPORATION NO. 2-UNSECURED NOTE	1	6,597,892	6,851,909
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		17,076,640	19,310,509	09/03/2019	09/03/2049	Interest Rate Swap			254687-CP-9	Walt Disney Co/The-SENIOR UNSECURED	1	17,076,640	19,310,509
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,980,155	8,614,787	09/03/2019	09/03/2049	Interest Rate Swap			313747-AV-3	Federal Realty Investmen-SENIOR UNSECURED	1	7,980,155	8,614,787
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,044,672	9,708,123	09/03/2019	09/03/2049	Interest Rate Swap			477143-AJ-0	JetBlue 2019-1 Class A P-FIRST LIEN	2	11,044,672	9,708,123
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,493,063	7,569,257	09/03/2019	09/03/2049	Interest Rate Swap			670346-AP-0	Nucor Corp-SENIOR UNSECURED	2	6,493,063	7,569,257
57629*ES6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		2,905,415	2,920,540	09/03/2019	09/03/2049	Interest Rate Swap			91159H-HA-1	US BANCORP-SENIOR UNSECURED NOTE	1	2,905,415	2,920,540
57629*EG2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	89,000,000	75,000,000	85,199,571	09/03/2019	09/03/2049	Interest Rate Swap		10,454,571	72403Z-NM-2	PIONEERS GATE LLC 2019-7 CSWC Lev II Note	1	75,000,000	74,745,000
57629*EG2	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		41,071,075	41,030,004	09/03/2019	09/03/2049	Interest Rate Swap			72403Z-NM-0	Pioneers Gate 2019-8 OPTN	1	41,071,075	41,030,004
57629*EA5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	125,000,000	12,000,000	38,061,370	01/08/2020	01/08/2050	Interest Rate Swap		26,344,162	14312L-AN-7	Carlyle Global Market St-SERIES 2016-2A CLASS A2R	1	12,000,000	11,717,208
57629*EA5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		14,775,597	14,731,595	01/08/2020	01/08/2050	Interest Rate Swap			09626U-AU-2	BlueMountain CLO 2013-1 -SERIES 2013-1A CLASS A1R2	1	14,775,597	14,731,595

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STATEMENT AS OF SEPTEMBER 30, 2020 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*EA5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,955,840	01/08/2020	01/08/2050	Interest Rate Swap			501880-AJ-0	LCM XVIII LP-LCM 19A AR	1	15,000,000	14,955,840
57629*EA5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,000,000	14,729,010	01/08/2020	01/08/2050	Interest Rate Swap			22616T-AC-0	Crestline Denali CLO XVI-DEN17 2018-1A B	1	15,000,000	14,729,010
57629*EA5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,600,000	11,511,005	01/08/2020	01/08/2050	Interest Rate Swap			64130H-AN-1	Neuberger Berman Loan Ad-NEUB 2017-24A BR FLOATING	1	11,600,000	11,511,005
57629*EA5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,700,000	11,705,125	01/08/2020	01/08/2050	Interest Rate Swap			05683V-AJ-3	BCC 2019-1A B	1	11,700,000	11,705,125
57629*EA5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,600,000	11,427,148	01/08/2020	01/08/2050	Interest Rate Swap			88434H-AG-8	THL Credit Wind River 20-WINDR 2018-2A B	1	11,600,000	11,427,148
57629*EA5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,700,000	11,706,306	01/08/2020	01/08/2050	Interest Rate Swap			06759J-AG-3	Barings CLO Ltd 2019-I-SERIES 19-1A CLASS B	1	11,700,000	11,706,306
57629*EA5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,750,000	11,488,433	01/08/2020	01/08/2050	Interest Rate Swap			50200F-AE-9	LCM 26 Ltd-SERIES 26A CLASS B	1	11,750,000	11,488,433
57629*EA5	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,957,286	13,475,361	01/08/2020	01/08/2050	Interest Rate Swap			92917N-AJ-7	Voya CLO 2019-1 Ltd-VOYA 2019-1A AR	1	11,957,286	13,475,361
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	110,000,000	123,126,616	01/08/2020	01/08/2032	Interest Rate Swap		27,981,126	06761U-AF-6	Barings Middle Market CI-BMM 2019-11 COM1	2	110,000,000	95,145,490
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		55,000,000	55,198,605	01/08/2020	01/08/2032	Interest Rate Swap			03329F-AA-2	Anchorage Credit Funding-ANCHF 2020-15A A FLOATING COU	1	55,000,000	55,198,605
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		32,682,033	33,068,706	01/08/2020	01/08/2032	Interest Rate Swap			40638T-AA-0	Halsey Point CLO Ltd-SERIES 20-2A CLASS A1	1	32,682,033	33,068,706
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		30,000,000	30,066,690	01/08/2020	01/08/2032	Interest Rate Swap			83614X-AA-9	Sound Point CLO Ltd-SERIES 20-1A CLASS A1A	1	30,000,000	30,066,690
57629*EB3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,311,574	24,489,125	01/08/2020	01/08/2032	Interest Rate Swap			05875H-AA-1	Ballyrock CLO 2018-1 Ltd	1	24,311,574	24,489,125
57629*EW7	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	200,000,000	200,000,000	225,875,810	01/08/2020	01/08/2035	Interest Rate Swap		25,875,810	12499#-MM-8	COOF Onshore Co-Borrower Revolving Loan	1	200,000,000	200,000,000
57629*ED9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	150,000,000	40,936,903	64,845,207	01/08/2020	01/08/2040	Interest Rate Swap		23,551,877	033291-AA-3	Anchorage Capital Clo 13-ANCHC 2019-13A A	1	40,936,903	41,293,330
57629*ED9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		23,600,000	23,080,588	01/08/2020	01/08/2040	Interest Rate Swap			542798-AC-7	Long Point Park CLO Ltd-LNGPT 2017-1A A1B	1	23,600,000	23,080,588
57629*ED9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		34,905,930	34,841,946	01/08/2020	01/08/2040	Interest Rate Swap			282523-AH-2	1828 CLO Ltd-GUG64 2016-1A A1S1	1	34,905,930	34,841,946
57629*ED9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		25,000,000	24,708,675	01/08/2020	01/08/2040	Interest Rate Swap			14312J-AQ-5	CGMS 2015-5A A1R	1	25,000,000	24,708,675
57629*ED9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		24,000,000	23,763,984	01/08/2020	01/08/2040	Interest Rate Swap			48252R-AA-2	KKR 24 A1	1	24,000,000	23,763,984
57629*ED9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,400,000	12,316,821	01/08/2020	01/08/2040	Interest Rate Swap			124166-AE-9	Buttermilk Park CLO Ltd-BMILK 2018-1A B1	1	12,400,000	12,316,821
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	400,000,000	90,000,000	161,298,953	02/11/2020	02/11/2050	Interest Rate Swap		65,579,543	A3158#-AC-3	Hofer Financial Services Senior Note Ser	1	90,000,000	95,719,410
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		87,700,000	95,728,847	02/11/2020	02/11/2050	Interest Rate Swap			87278*-AD-4	TPF Equity REIT Operatin Gtd Senior Note	1	87,700,000	95,728,847
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		68,050,000	73,893,317	02/11/2020	02/11/2050	Interest Rate Swap			00458*-AB-5	AquaSure Finance Pty Ltd Gtd Senior Secu	1	68,050,000	73,893,317
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		67,400,000	73,461,215	02/11/2020	02/11/2050	Interest Rate Swap			G5147*-AD-8	Johnson Matthey PLC Senior Note Ser	1	67,400,000	73,461,215
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		67,300,000	73,332,974	02/11/2020	02/11/2050	Interest Rate Swap			786584-A#-9	Safran Senior Note Ser	2	67,300,000	73,332,974
57629*FA4	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		64,200,000	69,513,898	02/11/2020	02/11/2050	Interest Rate Swap			Q0832*-AD-8	Australia Pacific Airpor Gtd Senior Note	2	64,200,000	69,513,898
57629*EH0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	25,000,000	19,100,000	22,603,764	02/20/2020	02/20/2050	Interest Rate Swap		3,612,653	07090A-AA-1	BATLN 2019-14A A1	1	19,100,000	18,991,111
57629*EH0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,678,855	8,179,509	02/20/2020	02/20/2050	Interest Rate Swap			48253W-AA-0	KKR CLO 28 LTD-KKR 28A A	1	7,678,855	8,179,509
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	185,000,000	11,400,000	38,079,448	02/20/2020	02/20/2050	Interest Rate Swap		26,781,934	05683H-AE-5	BAIN CAPITAL CREDIT CLO -SERIES 17-2A CLASS BR	1	11,400,000	11,297,514
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,500,000	10,499,958	02/20/2020	02/20/2050	Interest Rate Swap			06759J-AE-8	Barings CLO Ltd 2019-I-SERIES 19-1A CLASS A2	1	10,500,000	10,499,958
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,400,000	12,273,346	02/20/2020	02/20/2050	Interest Rate Swap			38136F-AW-3	Goldentree Loan Management U	1	12,400,000	12,273,346

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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		11,500,000	11,402,377	02/20/2020	02/20/2050	Interest Rate Swap			282523-AM-1	1828 CLO Ltd-GUGG4 2016-1A A1JR	1	11,500,000	11,402,377
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,100,000	9,101,383	02/20/2020	02/20/2050	Interest Rate Swap			413717-AC-3	Harriman Park CLO LTD-HRPK 2020-1A B1	1	9,100,000	9,101,383
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,795,760	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	7,795,760
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,700,000	7,585,771	02/20/2020	02/20/2050	Interest Rate Swap			67113G-AG-2	Oak Hill Credit Partners-OAKC 2020-5A B	1	7,700,000	7,585,771
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,200,000	9,083,473	02/20/2020	02/20/2050	Interest Rate Swap			64129J-BG-4	Neuberger Berman CLO XIV-NEUB 2013-14A BR2	1	9,200,000	9,083,473
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,960,648	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	7,960,648
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,800,000	7,779,845	02/20/2020	02/20/2050	Interest Rate Swap			67592F-AE-9	OCTAGON INVESTMENT PARTNERS 41, LTD.	1	7,800,000	7,779,845
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,800,000	7,802,504	02/20/2020	02/20/2050	Interest Rate Swap			06761H-AE-8	Babson CLO Ltd/Cayman Is-SERIES 19-2A CLASS A2	1	7,800,000	7,802,504
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,300,000	6,234,537	02/20/2020	02/20/2050	Interest Rate Swap			14316B-AE-5	Carlyle Global Market St-SERIES 19-1A CLASS A2	1	6,300,000	6,234,537
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,300,000	6,300,599	02/20/2020	02/20/2050	Interest Rate Swap			290015-AC-0	Elmwood CLO I Ltd-EAM 2019-1A B	1	6,300,000	6,300,599
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,915,560	9,826,511	02/20/2020	02/20/2050	Interest Rate Swap			03328T-BC-8	Anchorage Capital CLO 7 -ANCHC 2015-7A BR2 FLOATING	1	9,915,560	9,826,511
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,000,000	7,953,368	02/20/2020	02/20/2050	Interest Rate Swap			74979V-AE-3	RR Ltd-RRAM 2018-5A A2	1	8,000,000	7,953,368
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,300,000	6,255,245	02/20/2020	02/20/2050	Interest Rate Swap			67582B-AE-8	Octagon Investment Partn-OCT40 2019-1A B	1	6,300,000	6,255,245
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,300,000	6,300,309	02/20/2020	02/20/2050	Interest Rate Swap			77342M-AE-6	Rockford Tower CLO 2019--ROCKT 2019-1A B1	1	6,300,000	6,300,309
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,300,000	6,283,702	02/20/2020	02/20/2050	Interest Rate Swap			67707E-AG-9	OAKC 2019-2A B1	1	6,300,000	6,283,702
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,300,000	6,279,607	02/20/2020	02/20/2050	Interest Rate Swap			12553D-AC-1	CIFC Funding 2019-I Ltd-CIFC 2019-1A B	1	6,300,000	6,279,607
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,000,000	9,861,740	02/20/2020	02/20/2050	Interest Rate Swap			55820C-AG-0	Madison Park Funding XXI-MDPK 2018-29A B	1	10,000,000	9,861,740
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,800,000	7,784,891	02/20/2020	02/20/2050	Interest Rate Swap			88433C-AE-5	WINDR 2019-1A B	1	7,800,000	7,784,891
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	6,974,506	02/20/2020	02/20/2050	Interest Rate Swap			50188Q-AL-5	LCM XVIII LP-LCM 19A BR	1	7,000,000	6,974,506
57629*EJ6	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,000,000	7,000,238	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	7,000,238
57629*F00	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	215,000,000	245,314,879	276,103,005	02/20/2020	02/20/2050	Interest Rate Swap		30,788,126	50079E-MS-5	KREF Lending VII LLC - Term Loan Series 2019-7	1	245,314,879	245,314,879
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	54,500,000	89,115,159	02/25/2020	02/25/2050	Interest Rate Swap		28,233,427	G5791F-AA-9	Manchester United Football Club, Ltd Senior Secu	1	54,500,000	60,881,732
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		51,700,000	55,856,525	02/25/2020	02/25/2050	Interest Rate Swap			G4445*-AB-4	High Speed Rail Finance Gtd Senior Secu	1	51,700,000	55,856,525
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		48,550,000	52,340,735	02/25/2020	02/25/2050	Interest Rate Swap			15678F-AJ-4	Cerner Corporation Senior Note Ser	1	48,550,000	52,340,735
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		47,000,000	49,436,668	02/25/2020	02/25/2050	Interest Rate Swap			Q396F-AK-7	Victoria Power Networks Gtd Senior Note	1	47,000,000	49,436,668
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,601,070	9,659,982	02/25/2020	02/25/2050	Interest Rate Swap			89148B-B*-1	Tortoise MLP Fund, Inc. Senior Note Ser	1	9,601,070	9,659,982
57629*EV9	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		45,041,000	50,449,703	02/25/2020	02/25/2050	Interest Rate Swap			46247E-AA-2	Iowa Interstate Railroad Senior Secured	1	45,041,000	50,449,703
57629*EZ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	45,000,000	80,506,558	02/25/2020	02/25/2050	Interest Rate Swap		29,016,928	Q3920F-AL-3	Fonterra Co-operative Gr Senior Unsecured Notes	1	45,000,000	51,489,630
57629*EZ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		45,000,000	50,012,910	02/25/2020	02/25/2050	Interest Rate Swap			838515-G*-9	South Jersey Gas Co. First Mortgage	1	45,000,000	50,012,910
57629*EZ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		44,200,000	45,746,204	02/25/2020	02/25/2050	Interest Rate Swap			23325P-A*-5	DNP Select Income Fund I Senior Secured	1	44,200,000	45,746,204
57629*EZ0	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		43,650,000	55,450,166	02/25/2020	02/25/2050	Interest Rate Swap			Q3535F-AD-8	Envestra Victoria Pty Lt Senior Secured	1	43,650,000	55,450,166

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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*E20	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		43,000,000	47,438,331	02/25/2020	02/25/2050	Interest Rate Swap				749868-AV-3	RREEF AMERICA REIT II INC SR UNSEC	1	43,000,000	47,438,331
57629*E20	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		42,400,000	46,108,007	02/25/2020	02/25/2050	Interest Rate Swap				Q3920F-AG-4	Fonterra Co-operative Gr Senior Note	1	42,400,000	46,108,007
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	42,100,000	67,998,840	02/26/2020	02/26/2050	Interest Rate Swap		21,323,707		06235F-AN-2	Mirvac Group Finance Ltd Senior Note	1	42,100,000	46,675,133
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		40,825,000	45,407,892	02/26/2020	02/26/2050	Interest Rate Swap				74979U-AA-3	RS 2018 Private, LLC Senior Secured	1	40,825,000	45,407,892
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		41,450,000	44,448,037	02/26/2020	02/26/2050	Interest Rate Swap				05565E-G8-8	BMW U.S. Capital LLC Gtd Senior Note	1	41,450,000	44,448,037
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		40,850,000	45,604,041	02/26/2020	02/26/2050	Interest Rate Swap				Q3189*-AC-3	DEXUS Funds Management L Senior Note Ser	1	40,850,000	45,604,041
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		40,000,000	43,537,120	02/26/2020	02/26/2050	Interest Rate Swap				D0003*-AC-7	ADM Germany GmbH Senior Note Ser	1	40,000,000	43,537,120
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		39,600,000	40,957,963	02/26/2020	02/26/2050	Interest Rate Swap				00003F-AB-9	A&E Television Networks, Senior Note Ser	1	39,600,000	40,957,963
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		37,000,000	40,744,807	02/26/2020	02/26/2050	Interest Rate Swap				74264*-AC-0	PRISA LHC Senior Note Ser	1	37,000,000	40,744,807
57629*FD8	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		36,450,000	38,139,895	02/26/2020	02/26/2050	Interest Rate Swap				48661E-B*-8	KAYNE ANDERSON MID/ENERGY-SR UNSEC SER D	1	36,450,000	38,139,895
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1	250,000,000	20,000,000	8,529,801	06/15/2020	06/15/2050	Interest Rate Swap		(11,515,199)		67576X-AA-8	Octagon Credit Investors-SERIES 20-1A CLASS A1	1	20,000,000	20,045,000
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,250,000	19,308,000	06/15/2020	06/15/2050	Interest Rate Swap				125550-AA-4	CIFC Funding Ltd	1	19,250,000	19,308,000
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		19,000,000	19,022,838	06/15/2020	06/15/2050	Interest Rate Swap				29003B-AA-9	Elmwood CLO V Ltd-ELMW5 2020-2A A1	1	19,000,000	19,022,838
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		15,987,008	16,006,192	06/15/2020	06/15/2050	Interest Rate Swap				29001L-AA-9	ELMWOOD CLO II LTD NT CL A	1	15,987,008	16,006,192
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,300,000	12,355,239	06/15/2020	06/15/2050	Interest Rate Swap				67576X-AE-0	Octagon Credit Investors-SERIES 20-1A CLASS B	1	12,300,000	12,355,239
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		12,060,609	12,289,170	06/15/2020	06/15/2050	Interest Rate Swap				86315R-AC-3	Stratus CLO 2020-1, Ltd.-STRAS 2020-1A B	1	12,060,609	12,289,170
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		11,750,000	11,806,600	06/15/2020	06/15/2050	Interest Rate Swap				04018B-AC-1	Ares LV CLO Ltd-SERIES 2020-55A CLASS B	1	11,750,000	11,806,600
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		10,050,000	10,089,165	06/15/2020	06/15/2050	Interest Rate Swap				38138L-AA-6	Goldentree Loan Managem-SERIES 20-7A CLASS A	1	10,050,000	10,089,165
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		9,200,000	9,058,964	06/15/2020	06/15/2050	Interest Rate Swap				39809G-AC-9	GREYWOLF CLO VI Ltd-GWOLF 2018-1A A2	1	9,200,000	9,058,964
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,650,000	8,539,055	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	8,539,055
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,878,750	8,194,291	06/15/2020	06/15/2050	Interest Rate Swap				124166-AA-7	Buttermilk Park CLO Ltd-BMILK 2018-1A A1	1	7,878,750	8,194,291
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		8,156,736	8,234,112	06/15/2020	06/15/2050	Interest Rate Swap				69701H-AC-3	Palmer Square CLO Ltd	1	8,156,736	8,234,112
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,500,000	7,334,385	06/15/2020	06/15/2050	Interest Rate Swap				22616T-AA-4	Crestline Denali CLO XVI-DEN17 2018-1A A	1	7,500,000	7,334,385
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,052,079	7,208,465	06/15/2020	06/15/2050	Interest Rate Swap				87250C-AA-5	TICP CLO Ltd	1	7,052,079	7,208,465
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		7,200,000	7,064,230	06/15/2020	06/15/2050	Interest Rate Swap				06759M-AE-1	Babson CLO Ltd 2016-I-BABSN 2016-1A A2R	1	7,200,000	7,064,230
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,900,000	6,779,229	06/15/2020	06/15/2050	Interest Rate Swap				67110U-AN-9	QHA Loan Funding 2016-1-QHALF 2016-1A B1R	1	6,900,000	6,779,229
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,900,000	6,891,002	06/15/2020	06/15/2050	Interest Rate Swap				92338B-AE-5	VERDE CLO-VERDE 2019-1A B	1	6,900,000	6,891,002
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,700,000	6,600,451	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	6,600,451
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,650,000	6,521,739	06/15/2020	06/15/2050	Interest Rate Swap				48275P-AE-1	KREF 2018-FL1 Ltd-KREF 2018-FL1 B	1	6,650,000	6,521,739
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		6,600,000	6,613,741	06/15/2020	06/15/2050	Interest Rate Swap				38137W-AE-5	Goldentree Loan Managem-SERIES 19-6A CLASS B1	1	6,600,000	6,613,741
57629*FF3	Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1		5,856,160	6,154,052	06/15/2020	06/15/2050	Interest Rate Swap				87250R-AA-2	TICP CLO XV Ltd-TICP 2020-15A A	1	5,856,160	6,154,052

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STATEMENT AS OF SEPTEMBER 30, 2020 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 Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		5,950,000	5,973,021	06/15/2020	06/15/2050	Interest Rate Swap			55954Y-AC-9	Magnetite CLO Ltd-MAGNE 2020-26A B FLOATING	1	5,950,000	5,973,021
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		5,800,000	5,765,536	06/15/2020	06/15/2050	Interest Rate Swap			29002G-AC-5	Elmwood CLO IV Ltd-ELMW4 2020-1A B	1	5,800,000	5,765,536
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		5,750,000	5,641,601	06/15/2020	06/15/2050	Interest Rate Swap			77340G-AL-5	Rockford Tower CLO 2017-2 Ltd	1	5,750,000	5,641,601
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		5,650,000	5,354,059	06/15/2020	06/15/2050	Interest Rate Swap			50200F-AG-4	LCM 26 Ltd-SERIES 26A CLASS C	1	5,650,000	5,354,059
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		5,451,885	5,519,055	06/15/2020	06/15/2050	Interest Rate Swap			13876L-AA-5	CANYC 2020-1A-A FLOATING COUP	1	5,451,885	5,519,055
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		5,400,000	5,396,522	06/15/2020	06/15/2050	Interest Rate Swap			13887T-AC-1	Canyon Capital CLO Ltd-SERIES 19-1A CLASS B	1	5,400,000	5,396,522
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		5,250,000	5,252,662	06/15/2020	06/15/2050	Interest Rate Swap			12555X-AG-6	CIFC Funding Ltd-CIFC 2019-6A C	1	5,250,000	5,252,662
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		4,850,000	4,845,378	06/15/2020	06/15/2050	Interest Rate Swap			64133K-AC-5	Neuberger Berman CLO Ltd-SERIES 2020-36A CLASS B	1	4,850,000	4,845,378
57629*FF3	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		5,400,000	5,400,000	06/15/2020	06/15/2050	Interest Rate Swap			87241F-AA-0	TCW Direct Lending Structured Solutions 2019 LLC - Class A Note	1	5,400,000	5,400,000
57629*FE6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1	300,000,000	55,596,569	46,485,042	06/29/2020	06/29/2050	Interest Rate Swap		(16,234,743)	149123-CJ-8	Caterpillar Inc-SENOR UNSECURED	1	55,596,569	62,719,785
57629*FE6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		50,538,385	53,646,200	06/29/2020	06/29/2050	Interest Rate Swap			91324P-EA-6	UnitedHealth Group Inc-SENOR UNSECURED	1	50,538,385	53,646,200
57629*FE6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		46,543,604	49,692,504	06/29/2020	06/29/2050	Interest Rate Swap			143499-AB-7	Carnegie Institution of -UNSECURED	1	46,543,604	49,692,504
57629*FE6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		40,631,931	46,886,427	06/29/2020	06/29/2050	Interest Rate Swap			355611-AA-2	Fred Hutchinson Cancer R-UNSECURED	1	40,631,931	46,886,427
57629*FE6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		36,189,106	38,288,631	06/29/2020	06/29/2050	Interest Rate Swap			29157T-AD-8	Emory University-UNSECURED	1	36,189,106	38,288,631
57629*FE6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		33,943,177	37,251,621	06/29/2020	06/29/2050	Interest Rate Swap			30231G-BM-3	Exxon Mobil Corp-SENOR UNSECURED	1	33,943,177	37,251,621
57629*FE6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		25,904,259	28,250,503	06/29/2020	06/29/2050	Interest Rate Swap			26442T-AH-0	Duke University-SECURED	1	25,904,259	28,250,503
57629*FE6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1		25,633,335	27,971,983	06/29/2020	06/29/2050	Interest Rate Swap			06654D-AC-1	Banner Health-UNSECURED	1	25,633,335	27,971,983
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1Z	191,608,278	17,600,000	12,043,495	07/13/2020	07/13/2021	TRS Bond Index		(7,966,684)	12656*-AD-4	CSLB Holdings, Inc. Gtd Senior Note	1	17,600,000	20,010,179
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1Z		17,550,000	18,797,945	07/13/2020	07/13/2021	TRS Bond Index			12656*-AC-6	CSLB Holdings, Inc. Gtd Senior Note	1	17,550,000	18,797,945
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1Z		17,500,000	19,532,100	07/13/2020	07/13/2021	TRS Bond Index			091948-AC-1	Transpower New Zealand L Senior Note Ser	1	17,500,000	19,532,100
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1Z		17,100,000	18,530,569	07/13/2020	07/13/2021	TRS Bond Index			674003-A*-9	Oaktree Capital Managem Senior Note Ser	1	17,100,000	18,530,569
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1Z		16,650,000	16,085,998	07/13/2020	07/13/2021	TRS Bond Index			02379*-AA-7	American Airlines Group Senior Secured Notes Class A	1	16,650,000	16,085,998
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1Z		15,900,000	16,003,668	07/13/2020	07/13/2021	TRS Bond Index			749868-AM-3	PRREEF America REIT II, I Senior Note Ser	1	15,900,000	16,003,668
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1Z		15,800,000	16,205,333	07/13/2020	07/13/2021	TRS Bond Index			12656*-AB-8	CSLB Holdings, Inc. Gtd Senior Note	1	15,800,000	16,205,333
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1Z		15,600,000	16,931,023	07/13/2020	07/13/2021	TRS Bond Index			486606-K#-2	KAYNE ANDERSON MLP INVNT CO-SR UNSECD SER KK	1	15,600,000	16,931,023
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1Z		15,000,000	16,337,835	07/13/2020	07/13/2021	TRS Bond Index			05616B-A*-1	BABSON CAPITAL PARTN INWS TR-SR CONV NT	1	15,000,000	16,337,835
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1Z		15,000,000	16,126,665	07/13/2020	07/13/2021	TRS Bond Index			74170*-AN-9	Prime Property Fund LLC Senior Note Ser	1	15,000,000	16,126,665
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1Z		14,900,000	16,085,831	07/13/2020	07/13/2021	TRS Bond Index			73020*-AK-9	PNG Companies LLC Senior Secured	1	14,900,000	16,085,831
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1Z		14,850,000	16,470,447	07/13/2020	07/13/2021	TRS Bond Index			05237*-AH-7	Austin Powder Holdings C Senior Note Ser	1	14,850,000	16,470,447
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1Z		14,825,000	16,610,983	07/13/2020	07/13/2021	TRS Bond Index			674003-A#-7	Oaktree Capital Managem Senior Note Ser	1	14,825,000	16,610,983
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds .	1Z	200,000,000	24,000,000	25,485,237	08/28/2020	09/02/2050	Interest Rate Swap		(485,667)	41242*-AY-8	Hardwood Funding LLC Senior Secured	1	24,000,000	25,970,904

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STATEMENT AS OF SEPTEMBER 30, 2020 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

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

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions								
1 Number	2 Description	3 NAIC Designation or Other Description	4 Notional Amount	5 Book/Adjusted Carrying Value	6 Fair Value	7 Effective Date	8 Maturity Date	Derivative Instrument(s) Open			Cash Instrument(s) Held					
								9 Description	10 Book/Adjusted Carrying Value	11 Fair Value	12 CUSIP	13 Description	14 NAIC Designation or Other Description	15 Book/Adjusted Carrying Value	16 Fair Value	
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		23,950,000	26,867,924	08/28/2020	09/02/2050	Interest Rate Swap				Q7795#-AA-0	QIC Finance (Shopping Ce Gtd Senior Note	1	23,950,000	26,867,924
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		23,600,000	26,169,780	08/28/2020	09/02/2050	Interest Rate Swap				G3144#-AF-7	Fenner International Ltd Gtd Senior Note	1	23,600,000	26,169,780
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		23,431,717	21,206,524	08/28/2020	09/02/2050	Interest Rate Swap				02376*-AA-0	American Airlines Group Senior Secured	1	23,431,717	21,206,524
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		23,400,000	25,771,309	08/28/2020	09/02/2050	Interest Rate Swap				05237*-AF-1	Austin Powder Holdings C Senior Note Ser	1	23,400,000	25,771,309
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		23,350,000	25,618,499	08/28/2020	09/02/2050	Interest Rate Swap				G2044#-BA-2	Compass Group PLC Senior Note Ser	1	23,350,000	25,618,499
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		23,193,304	23,384,208	08/28/2020	09/02/2050	Interest Rate Swap				929287-ZZ-6	WINGS Aviation 62696 USD Tranche A-1 Ln	1	23,193,304	23,384,208
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		23,000,000	24,335,518	08/28/2020	09/02/2050	Interest Rate Swap				12656*-AK-8	CSLB Holdings, Inc. Gtd Senior Note	1	23,000,000	24,335,518
57629*FJ5	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		22,500,000	24,047,708	08/28/2020	09/02/2050	Interest Rate Swap				G9850#-AC-7	YORKSHIRE WTR SERV BRADFORD-GTD SR SEC CL A	1	22,500,000	24,047,708
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	200,000,000	22,500,000	22,445,738	08/28/2020	09/02/2050	Interest Rate Swap		(300,142)		74264*-AA-4	PRISA LHC, LLC Senior Note Ser	1	22,500,000	22,745,880
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		22,000,000	24,915,396	08/28/2020	09/02/2050	Interest Rate Swap				74170*-AC-3	Prime Property Fund LLC Senior Note Ser	1	22,000,000	24,915,396
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		22,000,000	23,283,128	08/28/2020	09/02/2050	Interest Rate Swap				56081#-CA-6	Major League Baseball Tr Series 44 Term Note	1	22,000,000	23,283,128
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		21,821,600	22,093,431	08/28/2020	09/02/2050	Interest Rate Swap				47715*-AA-5	JetBlue Airways Corporat Pass Thru Certi	1	21,821,600	22,093,431
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		21,600,000	23,157,554	08/28/2020	09/02/2050	Interest Rate Swap				G2044#-AY-1	Compass Group PLC Senior Note Ser	1	21,600,000	23,157,554
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		20,800,000	23,234,453	08/28/2020	09/02/2050	Interest Rate Swap				41242*-AU-6	Hardwood Funding LLC Senior Note Ser	1	20,800,000	23,234,453
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		19,515,000	20,411,265	08/28/2020	09/02/2050	Interest Rate Swap				36198*-AA-4	G1 Manager L.P. Senior Secured Notes	1	19,515,000	20,411,265
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		19,000,000	20,189,932	08/28/2020	09/02/2050	Interest Rate Swap				41242*-AX-0	Hardwood Funding LLC Senior Secured	1	19,000,000	20,189,932
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		18,367,507	18,955,543	08/28/2020	09/02/2050	Interest Rate Swap				00114*-AA-1	AEP TRANSMISSION CO LLC SR NT SER A	1	18,367,507	18,955,543
57629*FLO	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		17,700,000	19,542,021	08/28/2020	09/02/2050	Interest Rate Swap				68233J-A8-3	Oncor Electric Delivery SR SECD NT SER B	1	17,700,000	19,542,021
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	200,000,000	28,000,000	29,897,571	08/28/2020	09/02/2050	Interest Rate Swap		(644,689)		00114*-AR-4	AEP Transmission Company Senior Note Ser	1	28,000,000	30,542,260
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		27,300,000	28,031,340	08/28/2020	09/02/2050	Interest Rate Swap				G9850#-AB-9	Yorkshire Water Services Gtd Senior Secu	1	27,300,000	28,031,340
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		27,000,000	31,259,466	08/28/2020	09/02/2050	Interest Rate Swap				G4622#-AB-5	Howard De Walden Estates Gtd Senior Note	1	27,000,000	31,259,466
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		26,900,000	29,009,444	08/28/2020	09/02/2050	Interest Rate Swap				G0646#-AN-9	Associated British Foods Senior Note Ser	1	26,900,000	29,009,444
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		25,200,000	27,933,066	08/28/2020	09/02/2050	Interest Rate Swap				57169*-AU-1	Mars, Inc. Senior Note Ser	1	25,200,000	27,933,066
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		25,000,000	28,033,875	08/28/2020	09/02/2050	Interest Rate Swap				06235#-AF-9	Mirvac Group Finance Ltd Gtd Senior Note	1	25,000,000	28,033,875
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		24,900,000	25,288,067	08/28/2020	09/02/2050	Interest Rate Swap				40447#-AJ-4	Hmshost Corporation Gtd Senior Note	1	24,900,000	25,288,067
57629*FIM8	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		24,650,000	26,356,421	08/28/2020	09/02/2050	Interest Rate Swap				25763#-AE-0	Donaldson Co Inc Senior Note Ser	1	24,650,000	26,356,421
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	150,000,000	9,404,532	9,532,344	08/28/2020	09/02/2050	Interest Rate Swap		(46,207)		G2044#-AX-3	Compass Group PLC Senior Note	1	9,404,532	9,578,551
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,300,000	10,153,684	08/28/2020	09/02/2050	Interest Rate Swap				74170*-AR-0	Prime Property Fund LLC Senior Note Ser	1	9,300,000	10,153,684
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,200,000	10,035,838	08/28/2020	09/02/2050	Interest Rate Swap				G1108#-AF-5	British Land Company PLC Senior Note Ser	1	9,200,000	10,035,838
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,000,000	9,850,005	08/28/2020	09/02/2050	Interest Rate Swap				41242*-BF-8	Hardwood Funding LLC Senior Secured	1	9,000,000	9,850,005
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,900,000	9,696,256	08/28/2020	09/02/2050	Interest Rate Swap				479142-E8-6	Johnson Matthey PLC Series A Senior Notes	1	8,900,000	9,696,256

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STATEMENT AS OF SEPTEMBER 30, 2020 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

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

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,786,488	8,282,618	08/28/2020	09/02/2050	Interest Rate Swap			05389L-AF-0	Avolon Aerospace Leasing Secured Note A3	1	8,786,488	8,282,618
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,750,000	9,324,884	08/28/2020	09/02/2050	Interest Rate Swap			151515-YY-3	Bridge Investment Group Senior Secured Notes	1	8,750,000	9,324,884
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,550,000	9,418,706	08/28/2020	09/02/2050	Interest Rate Swap			838515-F8-8	South Jersey Gas Co. Medium Term Note	1	8,550,000	9,418,706
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,394,153	8,864,343	08/28/2020	09/02/2050	Interest Rate Swap			184692-B8-9	Clearbridge Energy MLP F Senior Secured	1	8,394,153	8,864,343
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,394,153	9,187,980	08/28/2020	09/02/2050	Interest Rate Swap			184692-BF-7	Clearbridge Energy MLP Fd Inc-Senior Secured	1	8,394,153	9,187,980
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,300,774	7,939,292	08/28/2020	09/02/2050	Interest Rate Swap			05389L-AM-5	Avolon Aerospace Leasing Secured Note B7	1	8,300,774	7,939,292
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,201,750	7,699,647	08/28/2020	09/02/2050	Interest Rate Swap			05389L-AK-9	Avolon Aerospace Leasing Secured Note B7	1	8,201,750	7,699,647
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,200,000	8,478,349	08/28/2020	09/02/2050	Interest Rate Swap			G3144#-AE-0	Fenner International Ltd Gtd Senior Note	1	8,200,000	8,478,349
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,174,996	9,115,056	08/28/2020	09/02/2050	Interest Rate Swap			C1466#-AA-6	OPR Leasing Ltd Senior Secured	1	8,174,996	9,115,056
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		8,000,000	9,278,008	08/28/2020	09/02/2050	Interest Rate Swap			92203#-AR-9	Vanguard Group, Inc. Senior Notes Series D	1	8,000,000	9,278,008
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,900,000	8,319,221	08/28/2020	09/02/2050	Interest Rate Swap			92203#-AQ-1	Vanguard Group, Inc. Senior Notes Series C	1	7,900,000	8,319,221
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,713,322	7,269,752	08/28/2020	09/02/2050	Interest Rate Swap			05389L-AH-6	Avolon Aerospace Leasing Secured Note B7	1	7,713,322	7,269,752
57629*FN6	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,650,000	7,716,211	08/28/2020	09/02/2050	Interest Rate Swap			910637-Q#-7	United Illuminating Comp Senior Note Ser	1	7,650,000	7,716,211
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	150,000,000	13,864,000	14,604,620	08/28/2020	09/02/2050	Interest Rate Swap		490,491	78403D-AR-1	SBA Tower Trust-ASSET BACKED Major League Baseball Tr Senior Note Ser	1	13,864,000	14,114,129
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,605,702	7,810,729	08/28/2020	09/02/2050	Interest Rate Swap			56081#-AL-4	PREEF America REIT II, I Senior Note Ser	1	7,605,702	7,810,729
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,600,000	8,245,164	08/28/2020	09/02/2050	Interest Rate Swap			749868-AN-1	Avolon Aerospace Leasing Secured Note Ser	1	7,600,000	8,245,164
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,504,521	7,070,310	08/28/2020	09/02/2050	Interest Rate Swap			05389L-AA-1	Avolon Aerospace Leasing Secured Note A3	1	7,504,521	7,070,310
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,465,000	8,068,194	08/28/2020	09/02/2050	Interest Rate Swap			74170*-AD-1	Prime Property Fund LLC Senior Note Ser	1	7,465,000	8,068,194
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,451,124	7,023,832	08/28/2020	09/02/2050	Interest Rate Swap			05389L-AD-5	Avolon Aerospace Leasing Secured Note A3	1	7,451,124	7,023,832
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,373,863	7,145,804	08/28/2020	09/02/2050	Interest Rate Swap			05400F-AE-1	Avolon Aerospace Funding Senior Secured	1	7,373,863	7,145,804
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,345,414	7,144,245	08/28/2020	09/02/2050	Interest Rate Swap			05400F-AG-6	Avolon Aerospace Funding Senior Secured	1	7,345,414	7,144,245
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,195,714	7,426,869	08/28/2020	09/02/2050	Interest Rate Swap			89148H-B*-8	Tortoise Pipeline & Ener Senior Note Ser	1	7,195,714	7,426,869
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		7,100,000	7,191,931	08/28/2020	09/02/2050	Interest Rate Swap			450319-A8-7	ITC Midwest LLC First Mortgage	1	7,100,000	7,191,931
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,920,513	7,573,761	08/28/2020	09/02/2050	Interest Rate Swap			184692-B*-1	Clearbridge Energy MLP Fd Inc-Senior Secured	1	6,920,513	7,573,761
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,868,418	6,660,415	08/28/2020	09/02/2050	Interest Rate Swap			05400F-AC-5	Avolon Aerospace Funding Senior Secured	1	6,868,418	6,660,415
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,839,146	6,657,526	08/28/2020	09/02/2050	Interest Rate Swap			05400F-AJ-0	Avolon Aerospace Funding Senior Secured	1	6,839,146	6,657,526
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,778,699	6,890,515	08/28/2020	09/02/2050	Interest Rate Swap			90351D-AH-0	UBS Group AG-SENIOR UNSECURED	1	6,778,699	6,890,515
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,753,318	6,842,469	08/28/2020	09/02/2050	Interest Rate Swap			86562M-AH-3	Sumitomo Mitsui Financia-SENIOR UNSECURED	1	6,753,318	6,842,469
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,752,010	6,842,630	08/28/2020	09/02/2050	Interest Rate Swap			06051G-FZ-7	BANK OF AMERICA CORP-SENIOR UNSECURED	1	6,752,010	6,842,630
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,650,000	8,801,135	08/28/2020	09/02/2050	Interest Rate Swap			393154-L8-6	Green Mountain Power Cor First Mtg Bond	1	6,650,000	8,801,135
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,840,214	6,887,844	08/28/2020	09/02/2050	Interest Rate Swap			110122-CL-0	Bristol-Myers Squibb Co-SENIOR UNSECURED	1	6,840,214	6,887,844

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STATEMENT AS OF SEPTEMBER 30, 2020 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*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,766,697	6,899,555	08/28/2020	09/02/2050	Interest Rate Swap				06367W-JM-6	Bank of Montreal-SENIOR UNSECURED	1	6,766,697	6,899,555
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,769,803	6,815,015	08/28/2020	09/02/2050	Interest Rate Swap				04685A-2E-0	ATHENE GLOBAL FUNDING-SECURED	1	6,769,803	6,815,015
57629*FP1	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,720,304	6,843,493	08/28/2020	09/02/2050	Interest Rate Swap				74251V-AE-2	Principal Financial Grou-SENIOR UNSECURED	1	6,720,304	6,843,493
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	150,000,000	6,650,000	8,370,473	08/28/2020	09/02/2050	Interest Rate Swap		430,858		90312*-AC-8	UNS Gas, Inc. Gtd Senior Note	1	6,650,000	7,939,615
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,713,379	6,926,887	08/28/2020	09/02/2050	Interest Rate Swap				46625H-JE-1	JPMorgan Chase & Co-SR UNSECURED	1	6,713,379	6,926,887
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,703,387	6,816,232	08/28/2020	09/02/2050	Interest Rate Swap				404280-AN-9	HSBC Holdings PLC-SR UNSECURED	1	6,703,387	6,816,232
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,428,954	7,425,467	08/28/2020	09/02/2050	Interest Rate Swap				63080#-AA-5	NARA Caves Lease Trust Lease Backed Ce	1	6,428,954	7,425,467
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,000,000	6,755,598	08/28/2020	09/02/2050	Interest Rate Swap				479142-E#-4	Johnson Matthey PLC Series B Senior Notes	1	6,000,000	6,755,598
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		6,024,784	6,263,004	08/28/2020	09/02/2050	Interest Rate Swap				69349L-AG-3	PNC BANK NA-SUBORDINATED	1	6,024,784	6,263,004
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,837,614	5,980,495	08/28/2020	09/02/2050	Interest Rate Swap				05348E-AQ-2	AvalonBay Communities In-SENIOR UNSECURED	1	5,837,614	5,980,495
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,712,323	5,510,895	08/28/2020	09/02/2050	Interest Rate Swap				05400F-AA-9	Avolon Aerospace Funding Senior Secured	1	5,712,323	5,510,895
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,758,005	5,831,309	08/28/2020	09/02/2050	Interest Rate Swap				064159-SH-0	Bank of Nova Scotia/The-SENIOR UNSECURED	1	5,758,005	5,831,309
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,674,335	5,793,049	08/28/2020	09/02/2050	Interest Rate Swap				17252M-AM-2	Cintas Corp No 2-SENIOR UNSECURED	1	5,674,335	5,793,049
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,674,163	5,693,682	08/28/2020	09/02/2050	Interest Rate Swap				369550-BE-7	General Dynamics Corp-SENIOR UNSECURED	1	5,674,163	5,693,682
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,558,294	5,928,159	08/28/2020	09/02/2050	Interest Rate Swap				05577#-AN-0	BTMU Capital Corp. Equipment Note	1	5,558,294	5,928,159
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,490,304	5,710,146	08/28/2020	09/02/2050	Interest Rate Swap				709068-C#-9	Pennsylvania Power Co. First Mtg Serie	1	5,490,304	5,710,146
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,427,991	6,072,243	08/28/2020	09/02/2050	Interest Rate Swap				872540-AS-8	TJX Cos Inc/The-SENIOR UNSECURED	1	5,427,991	6,072,243
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,381,276	6,750,493	08/28/2020	09/02/2050	Interest Rate Swap				589331-AD-9	MEROCK SHARP & DOHIE CORP-DEBENTURE	1	5,381,276	6,750,493
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,130,535	5,782,027	08/28/2020	09/02/2050	Interest Rate Swap				05348E-AW-9	AVALONBAY COMMUNITIES IN-SR UNSECURED	1	5,130,535	5,782,027
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,000,000	5,600,790	08/28/2020	09/02/2050	Interest Rate Swap				74264*-AD-8	PRISA LHC LLC-SENIOR NOTE SER B	1	5,000,000	5,600,790
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,000,000	5,209,315	08/28/2020	09/02/2050	Interest Rate Swap				46513A-NC-0	ISRAEL STATE JUBILEE ISSUE BD 7TH SER	1	5,000,000	5,209,315
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,251,065	5,611,105	08/28/2020	09/02/2050	Interest Rate Swap				89236T-DR-3	Toyota Motor Credit Corp-SENIOR UNSECURED	1	5,251,065	5,611,105
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		5,086,835	5,292,450	08/28/2020	09/02/2050	Interest Rate Swap				91324P-CC-4	UNITEDHEALTH GROUP INC-SR UNSECURED	1	5,086,835	5,292,450
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,400,000	5,038,172	08/28/2020	09/02/2050	Interest Rate Swap				018522-D#-8	ALLETE Inc. First Mortgage	1	4,400,000	5,038,172
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,340,699	4,770,198	08/28/2020	09/02/2050	Interest Rate Swap				18469P-A#-7	Clearbridge Energy MLP Op Fd Inc-Senior Secured	1	4,340,699	4,770,198
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,238,245	4,282,440	08/28/2020	09/02/2050	Interest Rate Swap				05577#-AH-3	BTMU Capital Corp. Equipment Note	1	4,238,245	4,282,440
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		4,088,299	4,513,629	08/28/2020	09/02/2050	Interest Rate Swap				18469Q-A#-5	Clearbridge Energy MLP Fd Inc-Senior Secured	1	4,088,299	4,513,629
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,901,206	3,981,180	08/28/2020	09/02/2050	Interest Rate Swap				05577#-AG-5	BTMU Capital Corp. Equipment Note	1	3,901,206	3,981,180
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,617,379	3,784,666	08/28/2020	09/02/2050	Interest Rate Swap				486606-J#-6	Kayne Anderson MLP Inves Senior Note Ser	1	3,617,379	3,784,666
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		3,543,048	3,589,268	08/28/2020	09/02/2050	Interest Rate Swap				84519#-AF-1	Southwest Power Pool, In Senior Note Ser	1	3,543,048	3,589,268
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		2,847,509	2,782,993	08/28/2020	09/02/2050	Interest Rate Swap				247358-LL-6	EIAV Delta MSN 15176	1	2,847,509	2,782,993

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STATEMENT AS OF SEPTEMBER 30, 2020 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

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

Replication (Synthetic Asset) Transactions								Components of the Replication (Synthetic Asset) Transactions							
1	2	3	4	5	6	7	8	Derivative Instrument(s) Open			Cash Instrument(s) Held				
Number	Description	NAIC Designation or Other Description	Notional Amount	Book/Adjusted Carrying Value	Fair Value	Effective Date	Maturity Date	9	10	11	12	13	14	15	16
								Description	Book/Adjusted Carrying Value	Fair Value	CUSIP	Description	NAIC Designation or Other Description	Book/Adjusted Carrying Value	Fair Value
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		2,775,082	2,712,207	08/28/2020	09/02/2050	Interest Rate Swap			247358-VV-3	EAIV Delta MSN 15170	1	2,775,082	2,712,207
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		2,328,482	2,436,766	08/28/2020	09/02/2050	Interest Rate Swap			89838F-AA-5	Dartmouth College Senior Secured	1	2,328,482	2,436,766
57629*F09	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		2,121,541	2,246,521	08/28/2020	09/02/2050	Interest Rate Swap			18469Q-AA-7	Clearbridge Energy MLP TR Fd Inc-Senior Secured	1	2,121,541	2,246,521
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	300,000,000	136,121,158	123,154,565	08/28/2020	09/02/2050	Interest Rate Swap	(26,051,680)		228782-AA-6	CRUGER ISSUER TR PRIN UNIT TR CTF	1	136,121,158	149,206,245
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		128,495,490	128,495,490	08/28/2020	09/02/2050	Interest Rate Swap			749329-MM-7	RCC REAL ESTATE SPE 9 LLC - Term Loan	1	128,495,490	128,495,490
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		79,139,172	82,956,657	08/28/2020	09/02/2050	Interest Rate Swap			BCC2CC-GT-6	KKR Wolverine I Ltd Class A Senior	1	79,139,172	82,956,657
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	150,000,000	13,666,976	1,505,522	08/28/2020	09/02/2050	Interest Rate Swap	(13,798,172)		662325-BE-7	North Shore Gas Co. First Mtg Bond	1	13,666,976	15,303,694
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,800,000	16,208,293	08/28/2020	09/02/2050	Interest Rate Swap			G1108F-AG-3	British Land Company PLC Senior Note Ser	1	13,800,000	16,208,293
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,400,000	14,792,113	08/28/2020	09/02/2050	Interest Rate Swap			720186-F*-1	Piedmont Natural Gas Co. Senior Note Ser	1	13,400,000	14,792,113
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		13,000,000	13,223,470	08/28/2020	09/02/2050	Interest Rate Swap			486606-K*-4	KAYNE ANDERSON MLP INVT CO-SR UNSECD SER JJ	1	13,000,000	13,223,470
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		12,800,000	13,827,955	08/28/2020	09/02/2050	Interest Rate Swap			41242*-AT-9	Hardwood Funding LLC Senior Note Ser	1	12,800,000	13,827,955
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		12,050,000	12,207,518	08/28/2020	09/02/2050	Interest Rate Swap			40447*-AH-8	Hmshost Corporation Gtd Senior Note	1	12,050,000	12,207,518
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		12,015,385	12,752,168	08/28/2020	09/02/2050	Interest Rate Swap			48661E-C*-5	Kayne Anderson Midstream SER H SR UNSECD NT	1	12,015,385	12,752,168
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		11,423,077	12,556,726	08/28/2020	09/02/2050	Interest Rate Swap			48661E-C*-3	Kayne Anderson Midstream SER I SR UNSECD NT	1	11,423,077	12,556,726
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		11,250,000	11,862,214	08/28/2020	09/02/2050	Interest Rate Swap			151515-XX-6	Bridge Investment Group Senior Secured Notes	1	11,250,000	11,862,214
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		11,200,000	12,516,179	08/28/2020	09/02/2050	Interest Rate Swap			74170*-AE-9	Prime Property Fund LLC Senior Note Ser	1	11,200,000	12,516,179
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		11,000,000	11,764,929	08/28/2020	09/02/2050	Interest Rate Swap			57169*-AT-4	Mars, Inc. Senior Note Ser	1	11,000,000	11,764,929
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		10,750,000	11,455,060	08/28/2020	09/02/2050	Interest Rate Swap			003009-AA-6	Aberdeen Asia-Pacific In Senior Secured	1	10,750,000	11,455,060
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,770,000	10,532,080	08/28/2020	09/02/2050	Interest Rate Swap			05237*-AG-9	Austin Powder Holdings C Senior Note Ser	1	9,770,000	10,532,080
Need to File with the NAIC	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		9,527,760	9,686,438	08/28/2020	09/02/2050	Interest Rate Swap			607369-D*-3	Mobile Gas Service Corpo 1st Mtg Bond	1	9,527,760	9,686,438
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z	250,000,000	61,143,902	60,801,854	08/28/2020	09/02/2050	Interest Rate Swap	(342,048)		11702*-AA-4	Brunswick Asset Financing LLC - Term A Loan	1	61,143,902	61,143,902
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		36,000,000	37,253,556	08/28/2020	09/02/2050	Interest Rate Swap			Q3629F-AG-8	ETSA Utilities Finance P Gtd Senior Note	1	36,000,000	37,253,556
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		31,000,000	32,091,138	08/28/2020	09/02/2050	Interest Rate Swap			910200-AF-4	UNITED ENERGY DISTRIBUTION PTY-GTD SR NT SER A	1	31,000,000	32,091,138
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		30,000,000	33,543,510	08/28/2020	09/02/2050	Interest Rate Swap			576292-YY-6	Barings Corporate Invest Convertible Not	1	30,000,000	33,543,510
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		29,500,000	32,522,629	08/28/2020	09/02/2050	Interest Rate Swap			68233J-AA-5	Oncor Electric Delivery & Senior Secured	1	29,500,000	32,522,629
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		28,250,000	28,715,588	08/28/2020	09/02/2050	Interest Rate Swap			68228*-AG-7	Smith & Nephew plc Senior Note Ser	1	28,250,000	28,715,588
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		28,000,000	29,293,068	08/28/2020	09/02/2050	Interest Rate Swap			Q9194*-AF-4	Transpower New Zealand L Gtd Senior Note	1	28,000,000	29,293,068
57629*FK2	Evergreen Basked of Long Fixed Rate ABS Bank Loans and Corporate Bonds	1Z		15,000,000	16,076,835	08/28/2020	09/02/2050	Interest Rate Swap			Q1297F-AK-4	CSL Finance Pty Ltd Gtd Senior Note	1	15,000,000	16,076,835
999999999 - Totals				22,501,743,815	26,826,645,285	XXX	XXX	XXX	(1,118,106)	2,701,805,081	XXX	XXX	XXX	22,502,861,921	24,124,840,204

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STATEMENT AS OF SEPTEMBER 30, 2020 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	117	16,572,610,060	126	17,772,610,060	129	18,971,203,810		20,338,959,993	117	16,572,610,060
2. Add: Opened or Acquired Transactions	20	2,760,000,000	4	1,465,468,750	17	2,524,491,243			41	6,749,959,993
3. Add: Increases in Replication (Synthetic Asset) Transactions Statement Value	XXX		XXX		XXX		XXX		XXX	
4. Less: Closed or Disposed of Transactions	11	1,560,000,000	1	266,875,000	9	1,156,735,060			21	2,983,610,060
5. Less: Positions Disposed of for Failing Effectiveness Criteria										
6. Less: Decreases in Replication (Synthetic Asset) Transactions Statement Value	XXX		XXX		XXX		XXX		XXX	
7. Ending Inventory	126	17,772,610,060	129	18,971,203,810	137	20,338,959,993		20,338,959,993	137	20,338,959,993

STATEMENT AS OF SEPTEMBER 30, 2020 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.....	6,069,387,624
2.	Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance.....
3.	Total (Line 1 plus Line 2).....	6,069,387,624
4.	Part D, Section 1, Column 5.....	25,348,246,291
5.	Part D, Section 1, Column 6.....	(19,313,331,974)
6.	Total (Line 3 minus Line 4 minus Line 5).....	34,473,307
		Fair Value Check
7.	Part A, Section 1, Column 16.....	8,772,310,904
8.	Part B, Section 1, Column 13.....	(34,473,307)
9.	Total (Line 7 plus Line 8).....	8,737,837,597
10.	Part D, Section 1, Column 8.....	29,679,099,543
11.	Part D, Section 1, Column 9.....	(20,941,261,946)
12.	Total (Line 9 minus Line 10 minus Line 11).....
		Potential Exposure Check
13.	Part A, Section 1, Column 21.....	4,408,993,023
14.	Part B, Section 1, Column 20.....	229,073,650
15.	Part D, Section 1, Column 11.....	4,638,066,673
16.	Total (Line 13 plus Line 14 minus Line 15).....

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	2,428,048,838	3,695,132,944
2. Cost of cash equivalents acquired	201,477,557,406	96,638,059,768
3. Accrual of discount		
4. Unrealized valuation increase (decrease)	44,938,709	52,476,788
5. Total gain (loss) on disposals	(11,182,121)	72,598
6. Deduct consideration received on disposals	200,355,123,983	97,957,693,260
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)	3,584,238,849	2,428,048,838
11. Deduct total nonadmitted amounts		
12. Statement value at end of current period (Line 10 minus Line 11)	3,584,238,849	2,428,048,838